

ECONOMIC ISSUES AND POLICY



| 6e |

Jacqueline Murray Brux

Economic Issues and Policy

Economic Issues and Policy



Sixth Edition

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Australia • Brazil • Mexico • Singapore • United Kingdom • United States

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**Economic Issues and Policy,
Sixth Edition**

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Preface to the Instructor

Thank you for examining and/or choosing this new edition of my textbook. In each successive edition, aside from updating, I've tried to make the book superior to the previous edition. I've listened to students, instructors, and my own intuition. I hope you will be pleased with the textbook and the changes, and I also have some requests to make of you. But first let me tell you about the book.

About the Book

This text is intended for a nontechnical, issues-oriented economics course, usually a 100-level course at four-year universities. It is often a general education course. The book is also appropriate for two-year colleges and other institutions, as well as economic education programs for elementary and secondary teachers. Chapters are designed so that they can be taught in any order after Chapter 1. Each chapter includes references to other chapters that mention similar topics. Some of these references are provided in the “Roadmap” that begins each chapter.

I have over 25 years of experience teaching issues-oriented economics. Usually, my students have not been economics majors, although many have decided to major or minor in economics after taking this course. My goals in writing this book have always been to make students aware of social issues in the world around them and to facilitate their understanding of these issues and related policy options from an economic perspective. I have also always hoped that it would inspire students to become involved with the issues in order to make this a better world. Students are often unaware that the important issues of our day, even ones that directly affect them—the environment, our health care systems, our educational system, crime and drugs, and matters as weighty as war and peace—are rooted in economics. Furthermore, students often set aside as too complex the issues that *are* recognized as economic, such as unemployment and inflation or trade and budget deficits. They believe that these issues are better left for the experts. Students need to know that all of these issues are indeed relevant and within their ability to understand. They need to comprehend these issues to make sound choices and form intelligent opinions. Of course, before students are willing to commit themselves to the lifelong learning of economics, they first need to be convinced that it *is* relevant to their lives and that it *is* interesting!

The discussion of issues in this book is lively, relevant, and current. I have deliberately included and highlighted issues of gender, race, and ethnicity throughout the text, as well as issues that are international in scope. (Diversity issues are highlighted with a “Diversity” icon and are carefully discussed in Chapter 3, and international topics are highlighted with an “International” icon and are carefully discussed in the four international chapters.) Students are invited to broaden their sensitivity to global and multicultural issues through topics such as migrant farm workers, Colombian coca growers, immigrants to the United States, court rulings on affirmative action, the incidence of hate crimes, and others. Further, they are offered an understanding of the incredible poverty found in Africa, Asia, and Latin America, not to mention the poverty that takes place in the United States.

Economic theory is used to analyze social and economic issues and the implications of potential policies. The level of technicality is deliberately appropriate for an economic issues course with no prerequisites, unlike other issues texts that attempt to incorporate all relevant principles and theory into pages better focused on the issues themselves. The text is written in a clear and student-friendly manner. Graphs are straightforward and normally illustrate only one concept per graph. Except for the appendices, only two basic types of graphs are used in the text: production possibilities and demand and supply (and aggregate demand and supply). More technical material and additional examples are frequently placed in appendices.

This text generally presents economic theory in a straightforward, market-oriented framework, but the policy discussion is not limited to such a narrow context. Instead, diverse policy perspectives are offered. As a result, the book contains a more liberal orientation than one that would rely on market analysis only. *Indeed, the careful presentation of both economic conservative and liberal viewpoints is one of the unique characteristics of this book.* Students generally have opinions, and they often consider themselves to be either conservative or liberal, but they rarely have the sophistication to understand the economic meaning of these terms and how their viewpoints tie into one or the other general philosophy. The ViewPoint section at the end of each chapter clarifies these notions, giving students a framework within which to understand their own economic philosophies. *Please point out to your students the importance of reading the ViewPoint sections, which clarify the economic conservative and liberal views on the topics of the chapter.* Otherwise, as you know, students are inclined to skip the “boxes.” The ViewPoint section of Chapter 1 is especially important, insofar as it introduces students to what it means to be an economic conservative or an economic liberal. It sets the stage for further discussion of this topic in relation to the issues in chapters to come.

The Economic Toolbox at the beginning of each chapter lists the key economic concepts addressed in that chapter, providing instructors with a helpful course-planning tool and students with a proven effective pre-reading strategy. Additional Internet exercises are included in the “Discussion and Action Questions” at the end of each chapter to help students learn to use the Internet for data collection and research. The summaries at the end of each chapter, and the glossary and index at the end of the text will also be helpful to students.

The order of chapters has remained the same as the previous edition (though some sections have been added, deleted, or certainly updated). In Part I, Chapter 1 has always presented the introductory concepts of scarcity, production possibilities, and demand and supply. Also, one of the important features of this text—the economic conservative versus economic liberal viewpoint—is explained and emphasized, along with a basic explanation of the capitalist versus socialist economic model. Also, in Part I, Chapters 2 through 4 were chosen both for their interest to students and their order of presentation of economic concepts. Chapter 2 on crime and drugs presents an example of public good, that of crime prevention. Cost-benefit analysis is utilized, and elasticity is introduced. Pollution as a negative externality and education as a positive one are introduced in Chapters 3 and 4, respectively, and cost-benefit analysis is utilized once again.

Part II is entitled *The Economics of Social Issues*, contains Chapters 5 through 9, and covers the topics, in order, of discrimination, U.S. poverty, housing, health care, and social security.

Part III focuses on global topics, including Chapter 10 (World Poverty), Chapter 11 (Global Agriculture), and Chapter 12 (International Trade). While international content permeates through all of the chapters, these three chapters are interconnected in such a

way that makes the new ordering more appropriate. Chapter 17 focuses on the three separate regions of the world: the Western industrialized world, the Eastern industrialized world, and the developing world.

Part IV addresses efficiency and stability issues, with Chapter 13 covering market power, 14 addressing unemployment and inflation, 15 considering government macroeconomic policy, and 16 addressing taxes, borrowing, and the national debt. And finally, Part V (*You and the World Around You*) contains the final international chapter just mentioned, Chapter 17 (Globally Free Markets for the Twenty-First Century?), and the Epilogue.

Once our students begin to understand the economic issues around them, the text has the final explicit objective of *involving* our students in the issues and *challenging* them to have an impact on our world. This is evidenced throughout the text and especially in the sections, “You, the Student,” and the “Discussion and Action Questions” at the end of each chapter, as well as in the Epilogue entitled “You and the World Around You.” The Epilogue is personalized to the students, and clearly challenges them to make a difference in the world.

Changes in the Sixth Edition

First, the world has changed enormously in the few years since the fifth edition. As I write this, we have our first African-American president. Our economy is recovering from the Great Recession. The stock market crashed and rebounded. Unemployment spiked, but is recovering. Budget deficits hit record levels, but have since fallen. But, of course, you know all this, and textbook authors had to make mad dashes to update suddenly obsolete books. Naturally, data, policies, and topics have been updated.

Aside from updating the data as much as possible at the time this was written, some general changes include the following. A section entitled, “You, the Student” has been added at the end of each chapter. This section invites students to take a specific action on a topic related to the issues in the chapter. It is meant to encourage students to make a difference in their world. (As mentioned, the Epilogue and the “Discussion and Action Questions” do the same.) I’ve improved the structure of many chapters by revising headings and the order of material in order to streamline and clarify. I’ve also moved material to the appendices in an effort to reduce the length of chapters and give instructors greater option over coverage. Many graphs have been revised to provide more realistic numbers and examples. Some specific examples of changes include the following.

In Parts I and II (introduction and social Issues), Chapter 2 includes more discussion of hate crimes and other diversity issues. Two sets of material in Chapter 3 have been moved to appendices, including the “Effects of an Externality on Society in the Case of a Single Industry” and the “History of Federal Efforts to Limit U.S. Pollution.” The former was done in order to streamline and clarify, and the latter leaves only more recent policy on the environment within the text. There is also new discussion of the Keystone Pipeline. In Chapter 4, there is updated information focused on jobs and studies for the future intended to help students planning their academic and work careers, as well as added discussion of the Common core curriculum. Some material has also been moved to appendices, including the figure on the cost-benefit analysis of a college education (though the topic is still discussed within the text) and the material on differential tuition. Chapter 5 utilizes an improved example in the figure on occupational crowding. In Chapter 6, portions that may have been confusing have been eliminated, the appendix on the Lorenz curve has been improved, and the material on measurement problems with the poverty line has been moved to an appendix in order to shorten the chapter

and provide instructors with an option on including this. In Chapter 7, the housing market has been updated to show changes since the housing crisis, and the consumer specifics of traditional mortgage lending have been moved to the appendix. Chapter 8 has an improved structure pertaining to factors that cause a rise in health care costs, and the consumer specifics of private insurance (premiums, deductibles, coinsurance, and so on) have been moved to an appendix. And, of course, there is quite a bit of expanded information on the Affordable Care Act.

Part III on global topics includes an expansion in Chapter 10 to include a recent report on success toward meeting the Millennium Development Goals and a recent U.S. Agency for International Development report on the effectiveness of U.S. aid. It also includes a new section on micro-enterprise credit for poor women entrepreneurs, relying on recent on-site research by the author. Chapter 11 includes a new introduction on Farm Aid concerts and musicians and an update on recent farm bills. Chapter 12 includes a link between the recent U.S. recession and crisis in financial markets to global conditions, including trade; an expansion of G-8 and G-20; and an updated “Politics and Trade” section to include the new Cuban policy declaration by President Obama and the new sanctions on Russia. It also includes expanded discussion of poor global work conditions and fair trade issues.

Part IV on efficiency and stability issues includes updated examples of monopoly and the effects of market power in Chapter 13. Chapter 14 naturally includes updates on the economy, and again, includes updated information on jobs and study areas for the future. It updates the discussion of immigration to include the new Obama policy, and it adds global unemployment and inflation rates from selected countries around the world. Chapter 15 logically includes updated fiscal and monetary policy, as well as a new section on the post-Great Recession economy, and shifts most of the discussion of supply side policy to the appendix (though this topic is still discussed briefly in the text). In Chapter 16, the effect of government borrowing on interest rates, including the graph and the concept of crowding out, is moved to an appendix. There are better hypothetical examples of the effects of government sales and social security taxes on income distribution, and the effects of taxes on the macroeconomy. Federal income tax rates and brackets are updated, and a global comparison of tax revenue as a share of GDP in the Western industrialized world is added. Some discussion of the sequester is added as well.

Finally, in Part V on “You and the World Around You,” Chapter 17 adds data on tax rates as a share of profits and an ease of doing business index (that focuses on regulatory behavior) in the Western industrialized world. And lastly, the Epilogue has become quite a bit more personalized about myself, in the hope that students can relate to me not just as an author, but a person, and by doing so, can gain greater insight into what other people do and into the world around them.

My Request to You

First, instructors and reviewers tell me that they *like* the global content as it weaves throughout the textbook and as it takes particular focus in Chapter 10 on world poverty, Chapter 11 on global agriculture, Chapter 12 on international trade, and Chapter 17 on global markets; yet they often complain that they don’t have time to include these chapters. *Please do make a point of utilizing these chapters, or at least some of them!* The developing world of Africa, Asia, and Latin America will soon include close to four-fifths of the world’s population, and our students need far more

education about these parts of the world than they typically receive. Please at least review these chapters before making a decision on whether to include them on your syllabus. I hope that you will like them too!

Second, some studies suggest that today's youth are disinterested in the world around them. I don't believe this is true. In the post 9/11 era, students are indeed looking at the world around them, struggling to understand the relevance of global and socioeconomic issues to their own lives, and trying to discern the role they themselves will play in our complex and interdependent world. We can help them. The sections "You, the Student" and the "Discussion and Action Questions" at the end of each chapter are designed to make students think about what they can do, and the Epilogue encourages them to take action. *Please ask your students to read this material, and let's challenge them to make a difference*, whether it is fighting for fair trade coffee on campus, seeking an end to cocoa slavery in West Africa, boycotting big-box stores with poor labor practices, or conserving and protecting our global environment. *Thank you for your impact on your students, and through them, your contributions to our world!*

Preface to the Student: *Please Read This!*



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The world has changed before your very eyes! Within the last few years, we've elected the first African-American president. Our nation tumbled into severe recession and then rose to a remarkable recovery. We endured a housing crisis and a financial crisis. The stock market crashed and rebounded. The budget deficit soared and then fell. You probably know people who went bankrupt, lost their homes, or became unemployed; but many of those people have now found jobs, albeit many of those are part time and low wage-paying.

This book will help you understand many of these topics. It focuses on the economics of social issues. It includes those issues that you would normally consider to be economic by nature, like those mentioned earlier. But it also includes a variety of other social issues that you might not ordinarily think of as economic ones: illegal drug use, the plight of our nation's homeless, the degradation of our environment, the problems in financing your higher education, and the issue of affirmative action. These and many other issues are addressed in this book.

The basic economic tools in the text can be used as a framework for understanding the various social issues and policies in the world around us. They can help us comprehend events in other countries, including those countries making a transition from socialism to capitalism in Eastern Europe and those countries struggling with poverty in the developing world. In short, these tools can be used again and again to examine problems and issues present in our world today.

The book is intended to be student friendly. The graphs are straightforward and clear, and boil down to just two basic types: production possibilities and demand and supply. The definitions of economic vocabulary in the margins of each chapter help you cut through any economic jargon. The "Roadmap" (which points you forward and backward to related topics in other chapters) and "The Economic Toolbox" at the beginning of each chapter, as well as the glossary and index at the end of the text, will also assist you. The issues in the text are current. The writing is clear, lively, and to the point, with a minimum of technicality.

The book is intended to get you to think. As you acquire a basic understanding of economics, you also acquire a framework within which to form and justify your personal opinions about economic issues. Are you a conservative or a liberal? Do you even know what these terms mean in the context of economics? Briefly, an economic conservative has the view that *less* government involvement in the economy is best. An economic liberal believes that *more* government involvement is best. Both of these are further explained in the ViewPoint section of Chapter 1, and the ViewPoint sections in subsequent chapters focus on specific issues and policies from both an economic liberal and economic conservative perspective. You will do yourself a great service by carefully reading the ViewPoint section in each chapter.

Finding solutions to economic problems is not easy. People of different philosophies can hold very different viewpoints, despite a common understanding of economic concepts. Here is where you, the student, come in. This book will provide a basic economic framework for discussing social issues and problems, but *you* must determine your own viewpoint on these issues and problems.

The material is presented in a way that you should find relevant to your personal life. It includes issues of gender, race, and ethnicity throughout, often highlighted with a “diversity icon.” And, because the world is so rapidly becoming interdependent, there is plenty of discussion of international topics throughout the text. This discussion is generally highlighted with a “global icon.” If your teacher does not assign at least one or two of the international chapters (Chapters 10, 11, 12, and 17), ask him or her to include them on the syllabus. Finally, the book challenges you to use your knowledge to make a difference in the world. Otherwise, to what benefit is your new knowledge? You are challenged in the sections, “You, the Student” and “Discussion and Action Questions” that end each chapter; and in the Epilogue at the end of the book. *Since I’ve addressed this Epilogue personally to you, please read this whether it is assigned or not.*

Now, enjoy your discovery of the world of economic issues!

Acknowledgments



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I appreciate the help provided by some wonderful student assistants in prior editions, especially Anna Andahazy and Christina Brux Mburu. They have now gone onto providing wonderful global and community service. I am also grateful for the love and support of family and friends, including Clementine, Wesley, Adrian, Maliyah, and Nathaniel, who keep me going. I appreciate Pat, Corey, and Eric for their loving parenting. I am grateful to Keith, who continually teaches me what love is. I also thank Steve, Ted, and Joseph for all of their hard work, patience, and support.

Jacqueline Murray Brux



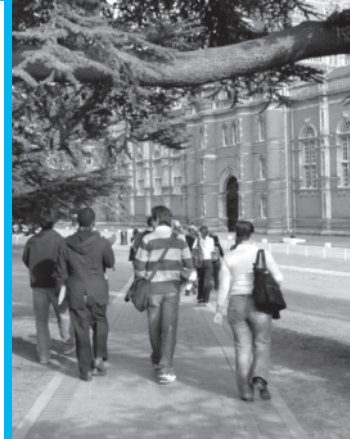
About the Author

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Jacqueline Murray Brux received her Ph.D. in economics in 1983 from the University of Michigan in Ann Arbor and is an emeritus professor of economics at the University of Wisconsin-River Falls. Her area of expertise is the economic development of developing countries. Her research encompasses the area of economic development, with special focus on women in development, the effects of structural reforms, and credit for poor women's entrepreneurial activities. Dr. Brux's international experiences include work and research in the countries of Burkina Faso and Ghana in West Africa; Kenya and Uganda in East Africa; Mexico, Chile, and Cuba in Latin America; Russia; and Vietnam. She regularly travels to Norway to visit her daughter, son-in-law, and grandchildren.

Part I

Introduction to Economics, Scarcity, Public Goods, and Spillovers



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Chapter 1

Introduction

Chapter 2

Crime and Drugs

Chapter 3

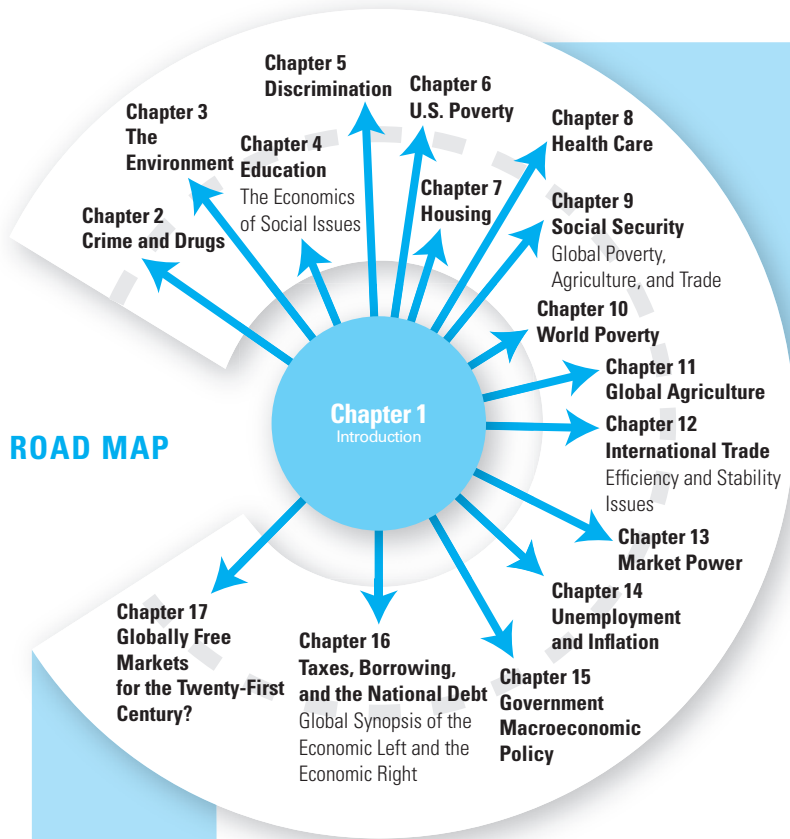
The Environment

Chapter 4

Education

Chapter 1

ROAD MAP



The Economic Toolbox

The Economic Toolbox is a feature of each chapter. It points out specific economic topics that will be covered, alerting you to watch for these concepts in the chapter.

- Scarcity
- Resources
- Production possibilities
- Opportunity costs
- Unemployment
- Economic growth
- Demand and supply
- Equilibrium
- Microeconomics
- Macroeconomics
- Economic conservative
- Economic liberal

Introduction

Welcome to economics! Welcome? To the dismal science? To the colorless pages of *The Wall Street Journal*? To the realm of boring statistics, intimidating jargon, complex graphs, and middle-aged men and women in three-piece business suits carrying leather briefcases?

Welcome? To terms such as *budget deficit*, *balance of trade*, *national debt*, *money supply*, *exchange rates*, and even newer terms such as the *fiscal cliff*, *Obamacare*, *le budget dangereux*, *WikiLeaks*, *Abenomics*, and other phrases that are not even found in my computer dictionary?

Do we really want to know what these phrases mean? Do we really want to look at the graphs, charts, numbers, and newsprint? Can these possibly have meaning for our lives? Can they possibly be understood by average citizens such as you right here in this classroom?

Perhaps surprisingly, the answer to all of the preceding questions is a resounding yes ... not because we enjoy jargon and numbers, but rather because we want answers to important questions. Will I be able to get a job when I graduate? Why does a marketing professor make more than an English professor? Will I be helped or hurt by a raise in the minimum wage? Why are college costs so high? Should students receive greater financial aid? Why do female workers earn only 81 percent as much as male workers? Why do we go to war? Why does hunger persist in a world of plenty? Why does poverty exist in the midst of affluence? Who will eat, and who will not? Who will find jobs, and who will not? Whose children will have quality education and health care, and whose children will not?

If you've ever wondered about these questions or questions like them, then you are interested in economics. This is because **economics deals primarily with scarcity: how should we allocate our limited resources to satisfy seemingly unlimited human wants and needs?** Once you understand a little economic reasoning, you will be able to answer the world's (and your) pressing questions better than most of the politicians, newscasters, and opinionated people who persistently tell you what to believe. Survival in the face of scarcity is what economics is all about. Understanding a few economic concepts allows you to analyze these issues yourself and come up with your own answers to these questions. So, let's get started.

In economics, hope and faith coexist with great scientific pretension and also a deep desire for respectability.

—JOHN KENNETH GALBRAITH, *U.S. ECONOMIST*, THE NEW YORK TIMES MAGAZINE./CL: STYLE> JUNE 7, 1970

Scarcity

Limited resources relative to wants and needs.

Economics and Scarcity

Resources

Land, labor, machinery, and other inputs used to produce goods and services.

Production possibilities

An economic concept explaining scarcity and the need for choices; alternate combinations of the maximum amounts of two different goods that can be produced during a particular time period if the economy's resources are efficiently and fully employed.

Let's begin by discussing scarcity. **Resources** (land, labor, factory buildings, timber, minerals, machinery, and the like) are the basis for producing the food, shelter, medical care, and luxury goods that we want. Some of these are natural resources (land and timber), some are capital goods resources (factories and machinery) and some are human resources (labor). These resources are scarce in the sense that there are not enough of them to produce everything we need and desire. Even when using all resources as efficiently and completely as possible, and using all modern technology to its fullest extent, there is some limit to the amount we can currently produce. Scarcity forces us to choose among competing uses for society's resources. What to produce and how to distribute this output to society's citizens are the most basic economic choices to be made.

The easiest way to think about the problem of societal choice is by looking at a basic economic concept and graph called production possibilities. (I promise that only two basic graphs will be used to analyze almost all of the issues in this book.) **Production possibilities shows the maximum amounts of two different goods that can possibly be produced during any particular time period using society's scarce resources.** Because reality is complex, economists try to simplify it by making assumptions about the basic elements involved in analyzing an issue. In examining production possibilities, we must make these simplifying assumptions about our economy:

1. All available resources are used fully.
2. All available resources are used efficiently.
3. The quantity and quality of available resources are not changing during our period of analysis.
4. Technology is not changing during our period of analysis.
5. We can produce only two goods with our available resources and technology.

Let's consider the implications of these simplifying assumptions. First, all available resources are used fully, so that no workers are unemployed, no factory buildings sit idle, and so forth. (This does not mean that we fail to conserve some of our resources for the future. If we think that the habitat of the snowy owl is important ecologically, we simply do not make that part of the available resources.) Second, *efficiency* means that we use our knowledge and technology to produce the maximum amount of output with these resources. These first two assumptions mean that our economy is doing the best that it can; it is operating fully and efficiently. Third, the quantity and quality of our resources are not changing. This means that over the current time period, workers do not begin new training programs to make them more productive, new natural resources are not discovered, and so on. The next assumption is similar. Technological change—which might give us a better means of producing more goods with the same resources—is not occurring. We make these last two assumptions to deal with the world as it is right now, and not how it might become in the future. And finally, to simplify our analysis (and because here we graph in only two dimensions), we assume that we can produce only two goods with our resources. Let's pick bread and roses as the goods.

One of our choices is to put all of our resources and technology into the production of bread. This choice might give us 150 units of bread. Whether these bread units are loaves, cases, truckloads, or tons is irrelevant here. Let's suppose they are tons.

Two old adages suggest that man (and woman) cannot live by bread alone and that life is richer if we stop and smell the roses. So, let's allow another choice and take some resources and some technology out of bread production and use them to produce

roses. Now, we might end up with 20 units of roses and only 120 tons of bread. Again, the nature of the units is irrelevant; our rose units might be bouquets, boxes, truckloads, or tons. Let's suppose they are tons. (Note, however, that we had to give up 30 tons of bread production to produce the 20 tons of roses.)

Another alternative might be to give up even more bread, leaving us with bread production of only 90 tons, to produce 40 tons of roses. (Note that, once again, we had to give up 30 tons of bread production to get the additional 20 tons of roses.) The alternatives could go on and on and might be summarized in a production possibilities table such as Table 1-1. Note that each alternative A through F represents one possible combination of bread and roses that we could produce.

The information in Table 1-1 can be easily displayed in a production possibilities curve, or graph. Don't let graphs intimidate you. They can be very useful. Every graph has just two axes, and each axis shows the amounts of one variable. As you move along the axes away from the origin, the amounts of the variables increase. In Figure 1-1, the horizontal axis represents tons of roses, and the vertical axis represents tons of bread. Each point in the graph represents a row in the table, and the labeling of the points corresponds to the alternatives in the table. Connecting all points gives us a production possibilities curve, which shows the alternative combinations of maximum quantities of bread and roses that our country is capable of producing. (Even though we end up with a straight line, we still call it a production possibilities *curve*. The appendix to this

TABLE 1-1 • Production Possibilities Table

Alternative	Bread (tons)	Roses (tons)
A	150	0
B	120	20
C	90	40
D	60	60
E	30	80
F	0	100

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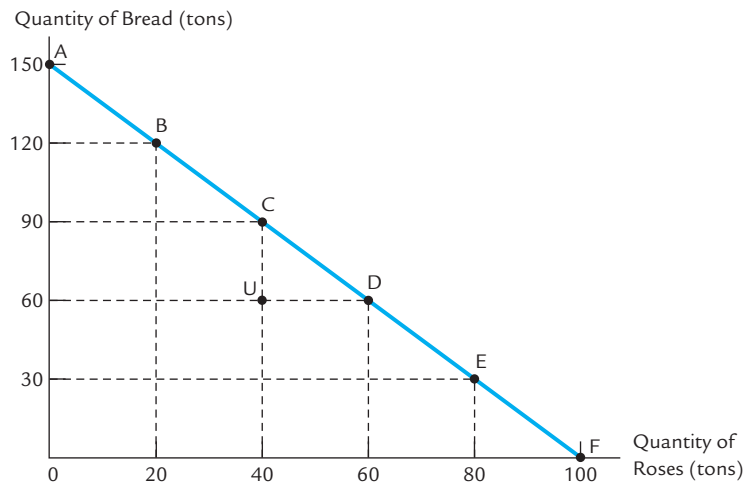


Figure 1-1 • Production Possibilities Curve

Points A through F show alternative combinations of bread and roses that the economy can produce, whereas point U represents unemployed (or inefficiently used) resources.

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chapter considers the more realistic production possibilities curve that is actually bowed outward.)

A number of important concepts are illustrated by the production possibilities curve. The most basic concept is that there is some limit to what we can produce. Thus, to produce more of one good, we must give up production of something else. This reality is what economists refer to as opportunity cost. **Opportunity cost** is the best alternative that is forgone to produce or consume something else. The opportunity cost of producing roses is not measured in dollars but in the bread that we give up when we produce these roses. And the opportunity cost of producing bread is the roses we give up when we produce this bread. As economists are fond of saying, there is no free lunch! There is an opportunity cost to everything.

The second economic concept that is illustrated by production possibilities is that of **unemployment**. Realize that our alternative combinations of the two products represent *possible* quantities. We have explicitly assumed the full use of our resources, knowledge, and technology; hence, the phrase production *possibilities*. In actuality, we rarely if ever produce to our full potential. In reality, some resources may go unused: factories are idle and workers are laid off. Nor do we always use resources in the most efficient manner. In these cases, we will not be on the production possibilities curve, but at some point below it, such as U (representing unemployment) in Figure 1-1 on page 5. At point U, we are producing only 40 tons of roses and 60 tons of bread, though we could produce more of both if we had full employment. Clearly, we could do much better by putting idle resources to work and moving our way back out to the production possibilities curve.

Finally, it is evident that our country need not be restricted to a single production possibilities curve forever. Economies may grow, and the variables that we assumed are unchanging (resources and technology) certainly *do* change over time. **Economic growth** may occur if the quality or quantity of society's resources increases, or if new technologies are developed so that we can produce more output with our available resources. Such growth would be reflected in an outward shift of the entire production possibilities curve, as illustrated in Figure 1-2. Such a shift would enable us to move to a point such as point G (representing growth) on the new production possibilities curve. Clearly, point G (with 80 tons of roses and 90 tons of bread) is superior to a point such as D (with 60 tons of roses and only 60 tons of bread) on the original curve. Such growth is possible only over time, and not in the current time period illustrated by the first production possibilities curve.

Of course, our country and world are capable of producing more than just two goods. We produce trucks, spaghetti, gasoline, smart phones, swimming suits, and a bewildering array of merchandise that fills our shopping centers. We also produce **services** such as health care, education, road repair, and cellular phone service. We can easily imagine infinite combinations of all the goods and services that an economy can potentially produce. We cannot graph these infinite combinations, however, because our graphs have only two axes. So, bread and roses simply represent one of an infinite set of choices. We can make our graph a bit more realistic by redefining the axes. We might redefine the horizontal axis as staple goods and the vertical axis as luxury goods. Or we could divide our economy's output into agricultural goods and manufactured goods, or **consumer goods** (goods that are purchased by consumers) and **capital goods** (goods such as factory buildings and machinery that are used to produce other goods). We may examine the choice between military goods and civilian goods. Or we may look at the production possibilities for **private goods** (such as cell phones and hamburgers, which are provided by businesses) and **public goods** (such as police and fire protection, which are provided by government). Thus, we can realistically consider many choices involved in the production of various types of output.

Opportunity cost

The best alternative forgone to produce or consume something else; what you give up to get something else.

Unemployment

A situation in which resources are not fully used in production.

Economic growth

A sustained increase in production, represented by an outward shift of the production possibilities curve.

Services

Activities such as haircuts, health care, and education that are consumed (used) by consumers.

Consumer goods

Goods that are consumed (used) by consumers.

Capital goods

Goods such as machinery and factories that are used to produce other goods.

Private goods

Goods produced or purchased by business firms and individuals.

Public goods

Goods produced or purchased by government.

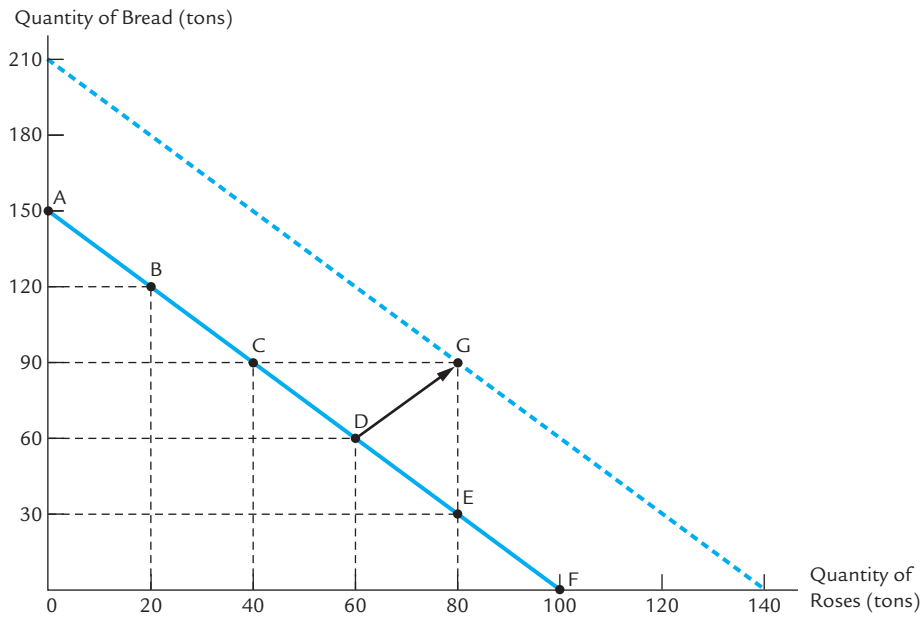


Figure 1-2 • Production Possibilities Curve With Economic Growth
Note that more of both bread and roses can be produced when the production possibilities curve shifts outward as a result of economic growth.

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I hope you don't suspect that the purpose of the production possibilities exercise was merely to illustrate some economic concepts and drawings. It wasn't. It has very important real-world relevance. It suggests to us first of all that we can never be absolutists when it comes to our nation's spending priorities. If we wish to devote more of the country's current resources to environmental protection, for example, we may have to give up part of our space program. If we wish to expand public education, we may have to give up some of our national defense. Or if we wish to have more government goods and services overall, we must give up some private goods. We can't have more of everything. We can't insist on any spending priority without limit, because there are always opportunity costs to consider.

The production possibilities curve also helps us realize that the costs of unemployment are not limited to personal hardships experienced by the unemployed person and his or her family, although these personal costs may be severe. Costs are also borne by our nation and our world as a whole in the form of reduced production. If we waste our resources through inefficient production techniques, output is similarly reduced. In a world of scarcity, we must see to it that our resources are fully and efficiently employed in the present, and we can then seek to expand our productive potential in the future.

And the problem of scarcity is real. Worldwide, more than 22,000 children die every day from poverty-related causes. Many of the world's citizens lack basic nutrition, health care, education, shelter, clothing, clean water, and hygiene. Many of the world's nations lack basic infrastructure in the form of communications, transportation, sanitation, and electricity. Any time a poor country makes a decision to improve transportation, for example, as an investment in the future, many of its citizens may die of hunger in the present. Even in a prosperous country such as ours, some 15 percent of the population is poor. As we shall see in Chapter 6 on U.S. poverty, these people do not receive adequate food, shelter,



health care, clothing, and other necessities. Our nation as a whole lacks sufficient environmental protection, first-rate educational opportunities, and quality health care for all.

The issue of opportunity costs was widely discussed in the context of the war in Iraq. Beginning with the U.S. invasion in 2003, some economists estimated that the full cost of the war would ultimately be between \$1 trillion and \$2 trillion. Imagine the education, health care, and other important services that could have been provided to U.S. citizens, as well as poor citizens abroad, with the same amount of resources. Choices as to what we produce and how much we produce are clearly important to our citizens and the citizens of the world.

Economics and Distribution

Although production choices are important, they really tell us only half of the story. At least as important are choices relating to the distribution of goods and services. *The reason there is hunger in a world of plenty is not a problem of production but of distribution. Poor people and poor governments lack the income to purchase the food that is produced.* In terms of our current example, who should receive the bread and roses after they are produced? Should the decision be based on equality so that everyone receives the same amount of every good that everyone else does? Should people receive a share of the goods and services that is proportional to their contribution to producing those goods and services? Should the government make the distribution decisions, perhaps giving higher rations to those most “deserving” (however that might be determined)? Should the government ensure that all residents receive adequate housing, health care, nutrition, and education, with less-vital goods distributed on the basis of people’s incomes and desires? Should all goods and services be distributed on the basis of people’s incomes? On what basis should distribution choices be made?

As we will see, in a market-based economy such as ours, the choices of distribution as well as production are based primarily on prices. And prices are determined by demand and supply.

Demand and Supply

Demand

Have you ever had to hire a tutor to help with your coursework? (I hope you haven’t had to in economics, at least not yet!) What are some of the factors that would determine the number of tutoring hours you would wish to purchase? Probably the degree of difficulty of the coursework is important, and so is your income, which will determine how much tutoring you can afford. Most likely, the price of tutoring services is important to you as well. All other things being equal, you would probably be inclined to purchase more tutoring service hours at \$1 per hour than at \$5 per hour. Most of us tend to behave in the same way. At very high prices, we would tend to be frugal in our use of tutoring services. We would ask more questions in class, study with a friend, or visit the teacher during office hours (maybe bringing along an apple or two). We would perhaps study harder (or take the consequences) rather than pay the fee for many hours of tutoring services if the price is high. At lower prices, we would be willing and able to purchase more hours of tutoring. Let’s focus on the price variable for a moment.

Let’s assume that you attend a large university where there are many students who want tutors as well as many students willing and able to tutor. Suppose we consider all your school’s students and their desire to purchase tutoring services. Let’s assume that the time period is one week and that all factors other than price (such as course difficulty

and student income) are held constant. (Economists usually say “all other things equal” to specify that all other factors that might influence the quantity demanded are unchanging.)

To illustrate this example further, let’s put this information into a tabular format. Let’s consider people’s willingness to buy tutoring services, where P stands for alternative possible prices of tutoring services and Q^D (quantity demanded) stands for the amounts of tutoring that students are willing and able to purchase at these various prices. This is reflected in Table 1-2, which shows alternative prices and the quantities that people are willing and able to purchase at these prices. This is called a **demand schedule**. It is clear that if tutoring prices are low (say, \$2 per hour), the quantity demanded will be high (80 hours). If tutoring prices are higher (\$4 per hour), the quantity demanded will be lower (40 hours). **This simple commonsense idea that people will be willing and able to buy more of a good or service at low prices than at high prices is a fundamental economic principle, the law of demand, which is usually stated as follows: price and quantity demanded are negatively related, all other things equal.** This means that when price goes up, quantity demanded goes down, and vice versa.

We can place the information from Table 1-2 into a graph of demand, illustrated in Figure 1-3. A graph of demand is referred to as a demand curve (even though demand curves are often drawn as straight lines). The price of tutoring services (P) is on the vertical axis, and the quantity of services demanded (number of hours) is on the horizontal axis, which is labeled Q for quantity. Plotting the information in each of the rows a

Demand schedule

A table showing the quantities that consumers are willing to buy at alternative prices during a specified time period.

TABLE 1-2 • Demand Schedule for Tutoring Services, One Week

Alternative	P (\$ per hour)	Q^D (hours)
a	\$1	100
h	2	80
c	3	60
d	4	40
e	5	20

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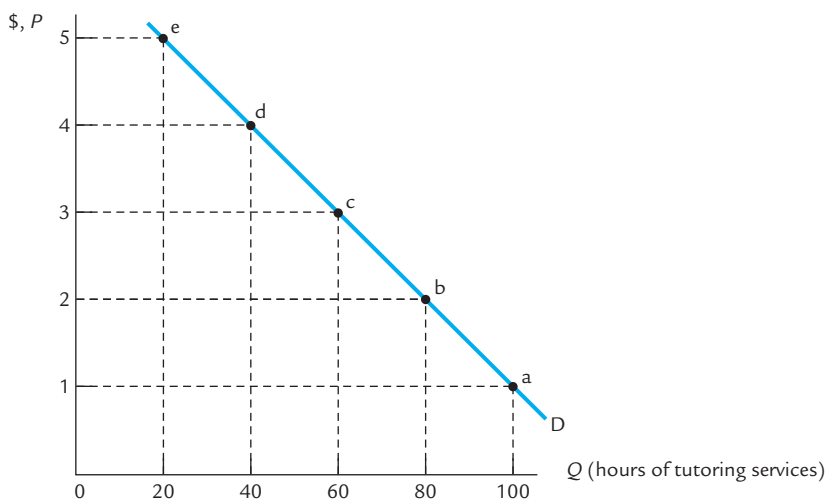


Figure 1-3 • Demand for Tutoring Services, One Week

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