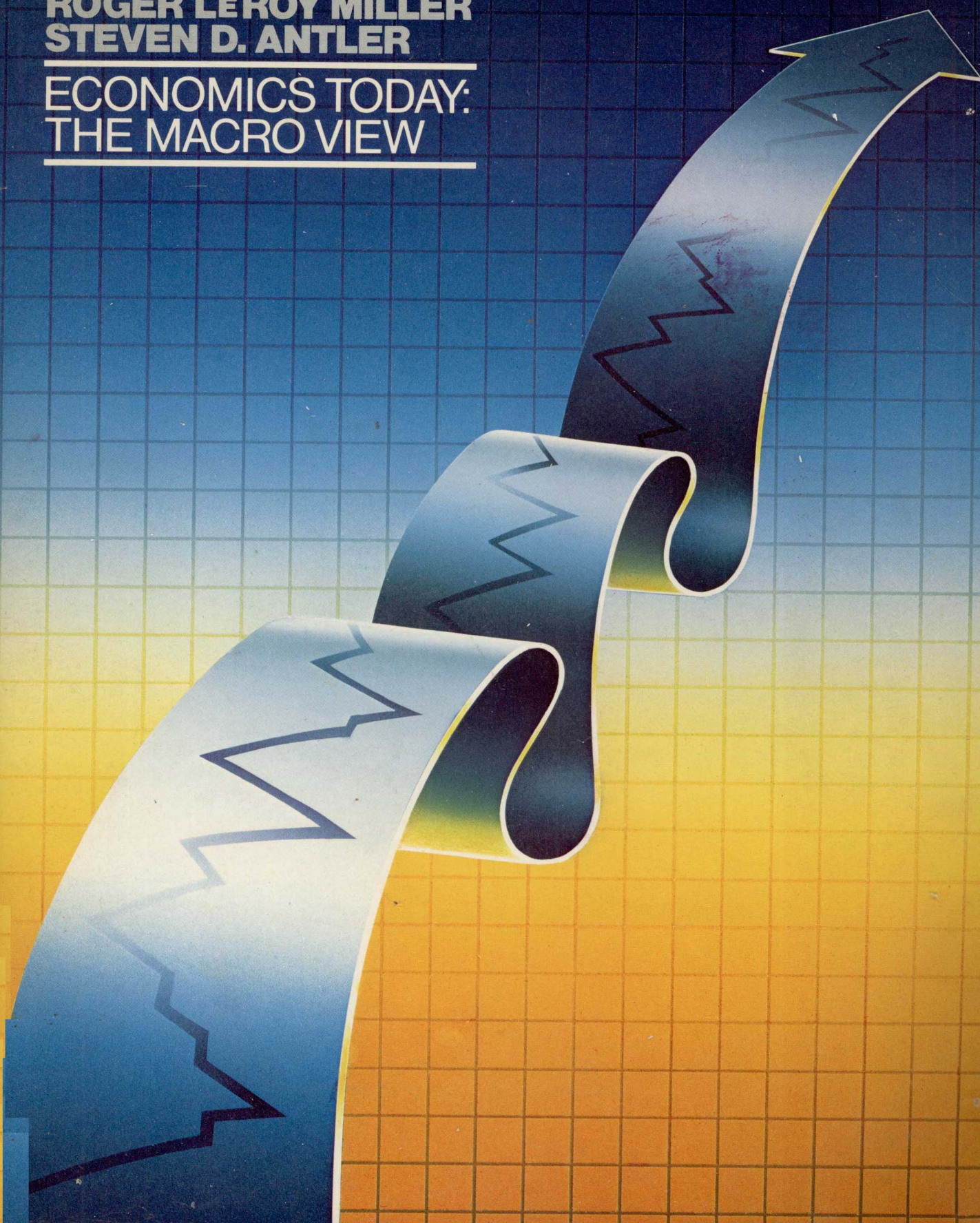

ROGER LeROY MILLER
STEVEN D. ANTLER

**ECONOMICS TODAY:
THE MACRO VIEW**



ECONOMICS TODAY

The Macro View

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Preface

In the past five years Canada has moved with breathtaking speed—from a society in which economic knowledge is an advantage possessed by the few, to a nation in which understanding the principles of economics is an essential part of citizenship. Anyone reading newspapers and magazines, or listening to media coverage of current events, is constantly bombarded with the economics of Canadian life. Can the level of unemployment be diminished? What about economic development, industrial growth, price inflation, or decline in the prices of raw materials? The most civic-minded of us are now expected to hold a few intelligent opinions on these and a host of related issues.

Each year, the field of economics grows in importance. Media commentators increasingly come to seek out and defer to the judgment of economists as they interpret these events to the public. Candidates for public office, public officials and civil servants, have all increasingly come to rely on economics and economists for guidance. Economics, which only recently was thought to be a rather undignified “dismal science”—obscure, unimportant, and comprehensible to only a few absent-minded professors—is now the fastest-growing of social studies. Does the public still find economics confusing and obscure? Perhaps, but they no longer deem it unimportant or irrelevant to their lives.

Economics Today introduces the basics of economics. It is designed for instructors and students who are interested not only in economic theory, but also in economic issues and the methods whereby these issues can be analyzed. Most chapters contain *Issues and Applications* showing specific uses to which the economic concepts of the chapters can be put and methods whereby economic reasoning can be implemented. This textbook, in other words,

constitutes a general introduction to economic theory *and* its practice.

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I and my coauthor, of course, take full responsibility for any errors and omissions.

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Steven Antler

Three Suggested Outlines for 15-Week Courses

MACROECONOMICS		MICROECONOMICS		MIXED EMPHASIS ON MACROECONOMICS AND MICROECONOMICS	
I	1 <i>What Economics Is All About</i>	I	1 <i>What Economics Is All About</i>	I	1 <i>What Economics Is All About</i>
	2 <i>The Structure of the Canadian Economy</i>		2 <i>The Structure of the Canadian Economy</i>		2 <i>The Structure of the Canadian Economy</i>
II	3 <i>Demand and Supply</i>	II	3 <i>Demand and Supply</i>	II	3 <i>Demand and Supply</i>
	4 <i>Markets, Prices, and the Determination of What Is to Be Produced</i>		4 <i>Markets, Prices, and the Determination of What Is to Be Produced</i>		4 <i>Markets, Prices, and the Determination of What Is to Be Produced</i>
III	5 <i>Private Business Organization and Financing</i>	III	5 <i>Private Business Organization and Financing</i>	III	5 <i>Private Business Organization and Financing</i>
	6 <i>The Role of Government in the Canadian Economy</i>		6 <i>The Role of Government in the Canadian Economy</i>		6 <i>The Role of Government in the Canadian Economy</i>
IV	7 <i>Government Spending and Debt</i>	IV	19 <i>Demand and Supply Elasticity</i>	IV	7 <i>Government Spending and Debt</i>
	8 <i>Business Fluctuations, Unemployment, and Inflation</i>	V	20 <i>Consumer Choice</i>		8 <i>Business Fluctuations, Unemployment, and Inflation</i>
V	9 <i>Macroeconomics: The Circular Flow of Income and Product</i>	VI	21 <i>Businesses and Their Costs</i>	V	9 <i>Macroeconomics: The Circular Flow of Income and Product</i>
	10 <i>Measuring the Economy's Performance</i>	VII	22 <i>The Firm in Competition</i>		10 <i>Measuring the Economy's Performance</i>
VI	11 <i>Consumption, Saving, and Investment</i>	VIII	23 <i>Monopolies and Their Management</i>	VI	11 <i>Consumption, Saving, and Investment</i>
	12 <i>The Determination of National Income and Employment</i>	IX	24 <i>In Between Monopoly and Competition</i>		12 <i>The Determination of National Income and Employment</i>
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	17 <i>Economic Growth</i>	XIII	29 <i>The Distribution of Income and Wealth</i>	V	20 <i>Consumer Choice</i>
X	18 <i>Recent Controversies in Economic Thought</i>	XIV	30 <i>Putting It All Together: Models of General Economic Equilibrium</i>	X	21 <i>Businesses and Their Costs</i>
XI	26 <i>The Theory of Factor Markets</i>	XV	31 <i>Comparative Advantage and International Trade</i>	XI	22 <i>The Firm in Competition</i>
	29 <i>The Distribution of Income and Wealth</i>		32 <i>The Balance of Payments and Exchange Rates</i>		23 <i>Monopolies and Their Management</i>
XII	31 <i>Comparative Advantage and International Trade</i>		34 <i>Economic Theories of Canada-United States Trade</i>	XII	24 <i>In Between Monopoly and Competition</i>
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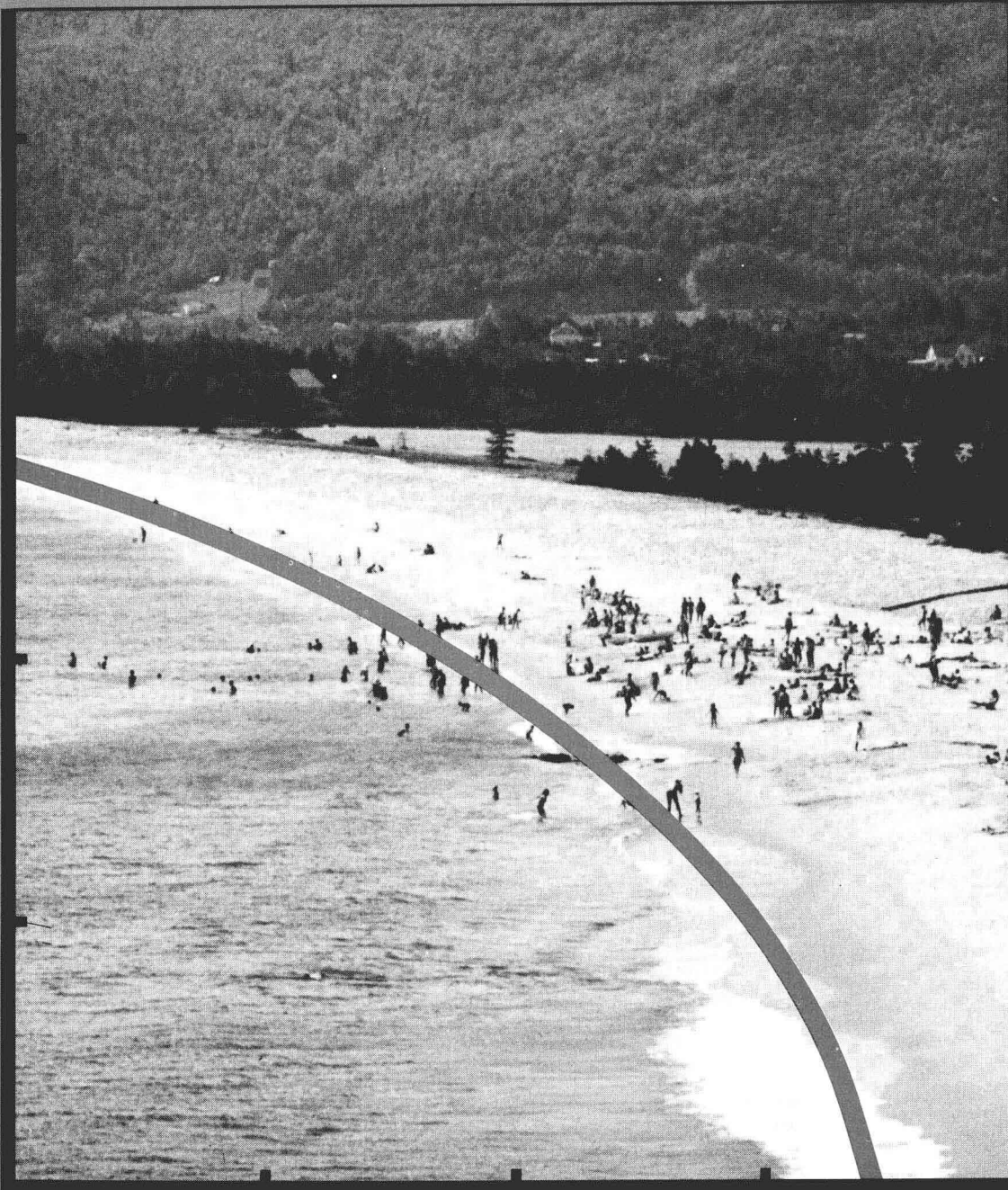
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PART I

INTRODUCTION

1 What Economics Is All About

2 The Structure of the Canadian Economy

CHAPTER 1

What Economics Is All About

The reason we face economic problems individually and as a nation is that none of us is able to have all that we want. Our world is a world of scarcity. Economic problems face you, your friends, Canada, and the world, and either as individuals or Canadians, it is impossible for us to avoid these problems.

What are the economic problems you face? They involve choosing a career, what price to pay for a house, whether to look elsewhere or find work in one's home province or region, how to solve problems such as unemployment and rising prices, plus thousands of other decisions. The subject of this book is economics, and economic problem solving. It relates to you as the individual who must decide how to earn income and how to spend it. It relates to you as the person who must vote for individual candidates and parties, and who must evaluate the manner in which federal and provincial govern-

ments tax you and spend the revenue they collect. Finally, it relates to Canada as a whole—to how much Canada sells to and buys from the rest of the world. We study economics, in short, because it involves virtually everything that determines our political, social, and personal environments.

Scarcity— The Bane of Civilization

Would you like to be able to study more and also to have more time to go to the student centre and drink coffee with your friends? Would you like to have a bigger house or apartment or a bigger room in your university dormitory? Would you like to have more clothes but not give up any evenings out on the town? For most students, the answer to

these questions would almost certainly be a re-sounding “yes,” even though most would agree the various combinations are quite impossible. Why is this the case? Why can’t we have more of everything? Because individually and collectively we face a constraint called scarcity. **Scarcity** is the most basic concept in economics. Scarcity means that we do not and cannot have enough income or wealth to satisfy our every desire. Note that we are not referring to any measurable standard of wants; rather, we are referring to people’s subjective attitudes and feelings—what they want, need, or desire relative to what is available to them at any moment. If the world were such that each person could have as much of anything as he or she desired, without sacrifice, then economics would no longer be a meaningful intellectual or practical pursuit. But scarcity does exist. And it is untrue that we have only quite recently moved into an “age of scarcity,” as some people seem to argue. Scarcity has always been with us and will be with us as long as we cannot get everything we want at a zero price.

RESOURCES ARE SCARCE

The concept of scarcity arises from scarce resources, or simply resources, for short. We define **resources** as the inputs or factors used in the production of those things we desire. Resources can therefore be classified in a variety of ways. Every classification scheme is to some extent arbitrary, but we can nonetheless consider natural, human, and manufactured resources as broad categories. Let us look at these.

natural resources = land, renewable resources, mineral deposits, and other nonrenewable resources

Most Canadians would probably identify the word “resources” as meaning what economists call “natural resources”—basically **land**, with its inherent mineral deposits, forests, and potential for agriculture. Also included in this category are the various ocean-based natural resources—Canada’s fisheries and the offshore oil and gas industries, among others.

The quality of natural resources is not uniform. Some land can grow phenomenal amounts of crops with little fertilizer, whereas other land produces only little, even with the same levels of care and fertilization. Some mines and forests tend to be

more productive than others. Because of these distinctions, economists sometime include differentials in the potential productivity of land, mines, forests, and so on as proper constituents of this category.

human resources = labour

In order to produce the things we desire, a human resource must be used. That human resource consists of the productive contributions of **labour** made by individuals who work—for example, steelworkers, ballet dancers, and professional hockey players.

manufactured resources = capital

When labour is applied to land to grow wheat, for example, something else is used. Usually it is a plow or a tractor. That is to say, land and labour are combined with manufactured resources to produce the things we desire. These manufactured resources are called **capital**, which consists of machines, buildings, and tools. Additionally, capital consists of certain improvements to natural resources, such as irrigation ditches in farming communities or access roads in towns based on mining or forestry.

another human resource = entrepreneurship

There is, in effect, a fourth type of input used in production. It is a special type of human resource; it consists of entrepreneurial ability, or **entrepreneurship**. The best way to define entrepreneurship is by listing what an entrepreneur does:

1. Takes the initiative in combining land, labour, and capital to produce a good or service.
2. Undertakes basic decision making for the business.
3. Takes risks of losing money or going bankrupt.
4. Forms a business and introduces new products and new techniques.

Without entrepreneurship, virtually no large-scale business organizations could operate. Clearly, entrepreneurship as a human resource is scarce: Not everyone is willing to take risks or has the ability to do successful business decision making.

We see the classification of resources in Exhibit 1-1. Scarce resources produce what are called **economic goods**—the subject of our study throughout this book.

EXHIBIT 1-1

Resource Classification. We can arbitrarily classify resources into those that are natural, human, and manufactured. We have denoted specific names within those three classifications.

<i>Natural Resources</i>	<i>Human Resources</i>	<i>Manufactured Resources</i>
Land—renewable resources, nonrenewable resources	Labour and entrepreneurship	Capital

ECONOMIC GOODS

Any good (or service) produced from scarce resources is also scarce and is called an economic good. Because economic goods are scarce, we constantly face decisions about how best to use them. After all, the desired quantity of an economic good, by definition, exceeds the amount directly available from nature at a zero price. Not all goods are economic, however. Interestingly enough, some are in fact quite free.

FREE GOODS

There are only a few genuine **free goods** left. Old economics texts called air and water free goods—but unfortunately for many Canadians, these designations are no longer correct. In many Canadian cities air pollution is a serious problem, and the problems of acid rain and industrial waste disposal sometimes make it hard for us to understand how previous generations took easily available clean water and air so much for granted. In certain Canadian wilderness areas, clean air is still a free good. Once you are there, you can have all of it you want at a zero price, with no worries about how air and running water should or have to be allocated among competing demanders. There is no scarcity involved. In other areas, for example in Native Peoples' reserves, virtually nothing can be considered constitutionally "free" to intruders, no matter how plentiful the particular resource might appear. This is because **property rights**—that is, legally assured title to sole ownership of something—to the seemingly plentiful natural resources have been defined by law. We can define free goods in a simple fashion using the concept of property rights.

A free good is a good to which no property rights have been assigned.

It is free for anyone's taking, in other words.

Canada's progress as a nation is one of continued development of natural resources. The economic

historian Harold Innis argued that the Canadian economy and society was founded on natural resources, successive settlements and governments having been formed on the economic basis of the development of key "staples"—exportable natural resources. Once virtually free, each of these commodities became economic goods as the Canadian economy moved through its economic history.

Choice

Scarcity forces us to choose. Many students face the choice of going to college or finding a full-time job before they enter university. Governments at various levels must choose between using more resources in the provision of social services for current citizens' needs, or capital services such as extended roads and sewer facilities for economic growth for future generations. In fact, the concept of choice forms the basis of our formal definition of **economics**:

Economics is the study of how individuals and societies choose among alternate uses of scarce resources to produce goods.

As we will see throughout our study of economics, the choices we make affect not only how we live today, but also how we will live in the future. Moreover, the choices we make are constrained not only by scarcity, but also by political, legal, traditional, and moral forces.

In other words, numerous noneconomic forces determine and mold the decision-making processes of individuals and governments. In this text, we will concentrate on how economic forces affect our choices. We are not, though, denying that the others are important as well.

CHOICE AND OPPORTUNITY COST

Choosing one thing requires giving up something else. When you sit down to read this book, you are making a choice. You have chosen not to do at least a hundred other things with your time. You could have read your English text, or slept, or gone to the movies. Thus, the time scarcity that you face requires you to choose between reading this book and doing something that is presumably less valuable. In other words, there is a cost associated with spending time reading these words. Economists call it **opportunity cost**.

Let us assume that of all the other things you could have done instead of reading this book, the thing you most wanted to do but didn't was to attend the movies. If that is the case, then going to the movies is the opportunity cost of reading this book. Opportunity cost is defined as the highest valued alternative that had to be sacrificed for the option that was in fact chosen above all others. Opportunity cost is a powerful concept that allows us to place a value on the resources that are used to produce something.

Let us look at an example of opportunity cost in the business world. Suppose you own a firm that uses a large, expensive machine to make bolts. What is the opportunity cost of the machine? One place to look is elsewhere in the factory. What else could you do with the machine? Could you make nuts, or screws, or hairpins, or something else? The value, or income, that the machine would generate in making the most profitable alternative in your factory gives you some (but not a total) indication of its opportunity cost. You must also look to the outside. Is there another firm that might be willing to rent the machine, or even to buy it, enabling you to invest the proceeds from the sale or rental in something else? Let us say that you could rent the machine to a factory around the corner for \$10,000 per month and that this is more than its value in producing any alternative in your own factory. Then \$10,000 is its opportunity cost. This gives us a rule:

Opportunity cost does not depend on who might use the resource. It is the resource's highest value in any of the alternate uses not chosen.

The Trade-Offs Facing You

Whatever you do, you are trading off one use of a resource for one or more alternate uses. The value of these **trade-offs** is represented by the opportunity cost just discussed. Consider once again the opportunity cost of reading this book. Let us assume you have a maximum of ten hours per week to spend studying just two topics—economics and accounting. The more you study economics, the higher your expected grade; the more you study accounting, the higher will be your grade in that subject. There is a trade-off, then, between spending one more hour reading this book and spending that hour studying and doing accounting problems. This can be more clearly brought out in a graph that clearly shows the trade-off involved.

Graphical Analysis

In Exhibit 1-2, we have put the expected grade in accounting on the vertical axis of the diagram and the expected grade in economics on the horizontal. In the simplified world represented by this diagram, if you spend all your time on economics, you will get an A in the course but you will fail accounting. On the other hand, if you spend all your time on accounting, you will get an A in that subject and you will fail economics. The trade-off illustrated in Exhibit 1-2 is a special case, a “one-to-one” trade-off in which the opportunity cost of receiving one mark higher in economics (for example, improving from a C to a B) is one mark lower in accounting (falling from a C to a D in our example).

Production Possibilities Curve

The diagram in Exhibit 1-2 illustrates the relationship between the possible results that can be produced in each of two activities, depending on how much time you choose to put into each activity. Economists call this a **production possibilities curve**.

If you consider that what you are “producing” is a grade when you study economics and accounting, then the diagram in Exhibit 1-2 can be related to the production possibilities you face. The line that goes from A on one axis to the A on the other therefore becomes a production possibilities curve.

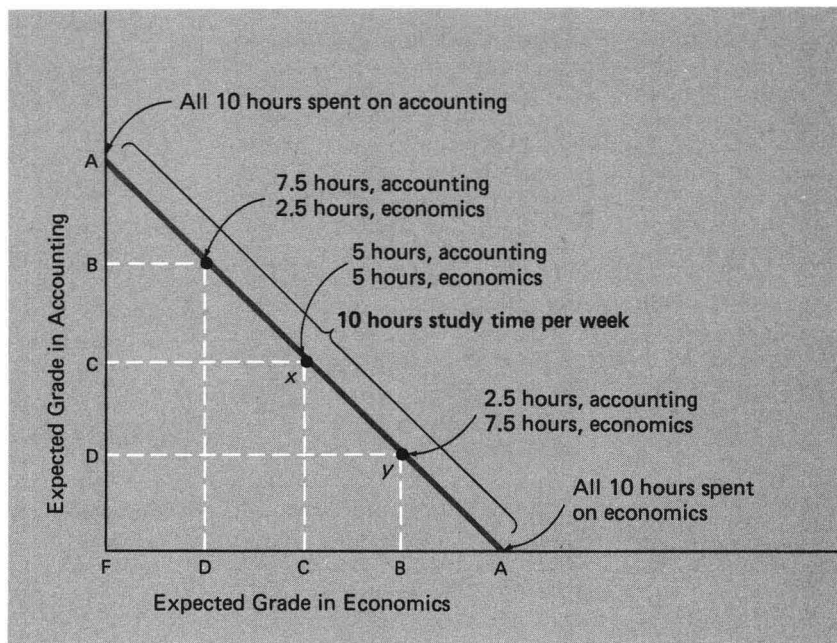
It is defined as all possible combinations of the maximum amount of any two goods or services that can be produced from a fixed amount of resources.

In the example, your time for studying was limited to ten hours per week. The two possible outputs were grades in accounting and grades in economics. The particular production possibilities curve presented in Exhibit 1-2 is a graphic representation of the opportunity cost of studying one more hour in one subject. If the student decides to be at point *x* in Exhibit 1-2, then five hours of study time will be spent on accounting and five hours will be spent on economics. The expected grade in each course will be a C. If the student is more interested in getting a B in economics, then he or she will go to point *y* on the production possibilities curve, spending only 2.5 hours on accounting but 7.5 hours on economics. The expected grade in accounting will then drop from a C to a D.

Note that these trade-offs between expected grades in accounting and economics are given hold-

EXHIBIT 1-2**Production Possibilities Curve for Grades in Accounting and Economics.**

On the vertical axis, we measure the expected grade in accounting; on the horizontal axis, the expected grade in economics. We assume that there are only ten hours total time that can be spent per week on studying. If all ten hours are spent on economics, an A is received in economics and an F in accounting. If all ten hours are spent on accounting, an A is received in that subject and an F in economics. There is a one-to-one trade-off. If the student is at point *x*, equal time (5 hours a week) is spent on both courses and equal grades of C will be received. If a higher grade in economics is desired, the student may go to point *y*, thereby receiving a B in economics, but a D in accounting. At point *y*, 2.5 hours are spent on accounting, 7.5 hours on economics.



ing constant total study time as well as all other factors that may influence the student's ability to learn. Quite clearly, if the student wished to spend more total time studying, then it would be possible to have higher grades in both economics and accounting. However, then we would no longer be on the specific production possibilities curve illustrated in Exhibit 1-2. It would be necessary to draw a new curve in order to show the greater total study time and a different set of possible trade-offs.

SOCIETY'S CHOICES

The straight-line curve in Exhibit 1-2 can be generalized to choices facing an entire nation. Perhaps the most common illustration of trade-offs facing nations is one that arose during World War II, when Britain, Canada, the United States, and the rest of the Allies faced up to the cost of global war. They faced a trade-off of "butter"—civilian goods that formerly had been plentiful—for "guns"—the now desperately needed military hardware. When a nation chooses to produce more military goods, it is, by reason of the scarcity constraint, choosing to produce fewer civilian goods. This fundamental principle of economics was brought home quite soundly, with no textbooks or lectures necessary, to civilians facing rationing during World War II.

Let us examine a graphical description of the guns-butter tradeoff. In Exhibit 1-3(a), look at the hypothetical numerical trade-offs expressed in bil-

lions of dollars per year for military versus civilian goods for an hypothetical economy. If no civilian goods were produced, all the economy's resources would be used in the production of military goods having a value of \$1.8 billion per year. On the other hand, if no military goods were produced, all the economy's resources would create \$2 billion worth of civilian goods per year. In between, various combinations are possible. These combinations are plotted as points A, B, C, D, E, and F in Exhibit 1-3(b). When these points are connected with a smooth curve, we come up with the economy's production possibilities curve showing necessary trade-offs between military and civilian goods. These trade-offs occur on the production possibilities curve.

It must be remembered that even though military and civilian goods are used in our example, the analysis holds for any two types of goods. This concept could be applied to groups of three, four, or more types of goods, but illustrating the necessary trade-offs on a page (which has only two dimensions) would be impossible. In other words, we use two types of goods in our model to illustrate trade-offs that might exist in choosing *any* combination of *any* number of goods.

Assumptions Underlying the Production Possibilities Curve

There are a number of assumptions underlying the production possibilities curve. The first one relates to the fact that we are referring to the output pos-