EGGIGATIONS AND MAKING DECISIONS

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ECONOMICS

AND MAKING DECISIONS

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Contents in Brief

Unit I	INTRODUCTION TO ECONOMICS	1
1	Scarcity and Opportunity Cost Resource Ownership	2 26
•	Resource Ownership	20
Unit II	MARKETS FOR GOODS AND SERVICES	57
3	Demand	58
4	Graphing Demand	84
5	Supply	108
6	Balancing Demand and Supply	136
Unit III	MARKETS AND GOVERNMENT	161
7	The Functions of Price and the Role of Profit	162
8	The Role of Government	188
Unit IV	MARKETS FOR RESOURCES	219
9	Labor Demand	220
10	Labor Markets and Unemployment	250
Unit V	ECONOMIC GROWTH AND STABILITY	283
11	Aggregate Demand and Aggregate Supply	284
12	Money and Banks	318
13	Monetary Policy and Fiscal Policy	348
Unit VI	INTERNATIONAL ECONOMICS	381
14	International Trade	382
15	The Economy of the Soviet Union	416
\nnendi:	Careers in Economics	435

Contents

Preface xv

Unit I INT	RODUCTION TO ECONOMICS	1
Chapter 1	Scarcity and Opportunity Cost	2
	The Economics of Speed Limits	4
	Is Anything Really Free?	5
	The Costs We Bear	7
	Scarcity For All Thinking About Chains	9
	Thinking About Choice Now and Then Choosing to Immigrate	13 15
	Chapter Summary	22
Chapter 2	Resource Ownership	26
	Calendars and Dances	28
	What, How, and For Whom?	28
	Collective Ownership and the Command Economy	30
	Private Ownership and the Market Economy	32
	The Invisible Hand and VCRs	35
	The Circular Flow of a Market Economy	38
	Now and Then The Visible Jeans of Adam Smith	39
	What's Ahead	51
	Chapter Summary	53
Unit II MA	ARKETS FOR GOODS AND SERVICES	57
Chapter 3	Demand	58
	The Economics of Drinking and Driving	60
	Scarcity and Demand	61
	The Price Effect	63
	Reason 1: Uses of Different Value	64
	Reason 2: Substitutes Here, Substitutes There	67
	Reason 3: Buying Power That Expands and Contracts	68

	The Determinants of Demand	69
	Anna List	73
	Now and Then A Whale of a Crisis	74
	Chapter Summary	80
Chapter 4	Graphing Demand	84
	An Economic Riddle	86
	Market Demand Rules of the Game	86
	The Price Elasticity of Demand	89
	Changes in Demand	90 93
	Those Shifty Demand Curves	93
	A Decrease in Demand	94
	An Increase in Demand	97
	The Price Effect Versus a Change in Demand	98
	Chapter Summary	103
Chapter 5	Supply	108
	Stripper Wells and Drilling Rigs	110
	The Price Effect and Supply	111
	The Determinants of Supply	115
	How to Graph Supply Can Supply Curves Be Shifty?	119 120
	A Decrease in Supply	120
	An Increase in Supply	123
	Thinking Correctly About Supply	123
	Now and Then The Driving Force of Supply	125
	Chapter Summary	130
Chapter 6	Balancing Demand and Supply	136
	Surpluses and Shortages	138
	A Price That's Right	138
	Surplus or Shortage Price Ceilings	141
	Price Floors	142 146
	The Goal of Equilibrium	148
	Now and Then Cultivating America's Farms	149
	Chapter Summary	155
Unit III M	ARKETS AND GOVERNMENT	161
Chapter 7	The Functions of Price and the Role of Profit	162
	Food for Thought	164
	On Baking and Slicing	164
	Nonprice Rationing	166

	Lottery	166
	First Come, First Served	167
	Personal Characteristics	167
	Need	168
	Force	169
	Rationing by Market Price	170
	Scalpers and Rationing Scarcity and Discrimination	172 174
	Profits and the Incentive to Produce	174
	Now and Then A Long Drive to the Quarter-Pound Patty	180
	Chapter Summary	183
Chapter 8	The Role of Government	188
	Letters to the Authors	190
	Changing What's Produced	191
	Redistributing Income	196
	The Taxes You Pay	198
	Pollution and External Costs	202
	Monopoly What's Ahead	204
	Now and Then Phone Rates and Government Regulation	207 209
	Chapter Summary	213
Unit IV MA	RKETS FOR RESOURCES	219
Unit IV MA	Labor Demand	220
	Labor Demand The Age in the Minimum Wage	220 222
	Labor Demand The Age in the Minimum Wage The Value of Labor	220 222 222
	Labor Demand The Age in the Minimum Wage The Value of Labor A Rule for Cleaning Cars	220 222 222 225
	Labor Demand The Age in the Minimum Wage The Value of Labor A Rule for Cleaning Cars Here Comes the Law	220 222 222 225 226
	Labor Demand The Age in the Minimum Wage The Value of Labor A Rule for Cleaning Cars Here Comes the Law The Details of Hiring Labor	220 222 222 225 226 230
	Labor Demand The Age in the Minimum Wage The Value of Labor A Rule for Cleaning Cars Here Comes the Law The Details of Hiring Labor Now and Then Skateboards, Karl Marx, and the Laws of Motion	220 222 222 225 226 230 231
	Labor Demand The Age in the Minimum Wage The Value of Labor A Rule for Cleaning Cars Here Comes the Law The Details of Hiring Labor Now and Then Skateboards, Karl Marx, and the Laws of Motion Drawing Conclusions	220 222 222 225 226 230
	Labor Demand The Age in the Minimum Wage The Value of Labor A Rule for Cleaning Cars Here Comes the Law The Details of Hiring Labor Now and Then Skateboards, Karl Marx, and the Laws of Motion	220 222 222 225 226 230 231 236
	Labor Demand The Age in the Minimum Wage The Value of Labor A Rule for Cleaning Cars Here Comes the Law The Details of Hiring Labor Now and Then Skateboards, Karl Marx, and the Laws of Motion Drawing Conclusions Timely Substitutes for Labor	220 222 222 225 226 230 231 236 241
Chapter 9	Labor Demand The Age in the Minimum Wage The Value of Labor A Rule for Cleaning Cars Here Comes the Law The Details of Hiring Labor Now and Then Skateboards, Karl Marx, and the Laws of Motion Drawing Conclusions Timely Substitutes for Labor Chapter Summary	220 222 222 225 226 230 231 236 241 245
Chapter 9	Labor Demand The Age in the Minimum Wage The Value of Labor A Rule for Cleaning Cars Here Comes the Law The Details of Hiring Labor Now and Then Skateboards, Karl Marx, and the Laws of Motion Drawing Conclusions Timely Substitutes for Labor Chapter Summary Labor Markets and Unemployment Heavy Metal Checking the Map	220 222 225 226 230 231 236 241 245 250 252 253
Chapter 9	Labor Demand The Age in the Minimum Wage The Value of Labor A Rule for Cleaning Cars Here Comes the Law The Details of Hiring Labor Now and Then Skateboards, Karl Marx, and the Laws of Motion Drawing Conclusions Timely Substitutes for Labor Chapter Summary Labor Markets and Unemployment Heavy Metal Checking the Map The Going Wage	220 222 225 226 230 231 236 241 245 250 252 253 254
Chapter 9	Labor Demand The Age in the Minimum Wage The Value of Labor A Rule for Cleaning Cars Here Comes the Law The Details of Hiring Labor Now and Then Skateboards, Karl Marx, and the Laws of Motion Drawing Conclusions Timely Substitutes for Labor Chapter Summary Labor Markets and Unemployment Heavy Metal Checking the Map The Going Wage Now and Then Wages, Workers, and the Standard of Living	220 222 225 226 230 231 236 241 245 250 252 253 254 259
Chapter 9	Labor Demand The Age in the Minimum Wage The Value of Labor A Rule for Cleaning Cars Here Comes the Law The Details of Hiring Labor Now and Then Skateboards, Karl Marx, and the Laws of Motion Drawing Conclusions Timely Substitutes for Labor Chapter Summary Labor Markets and Unemployment Heavy Metal Checking the Map The Going Wage Now and Then Wages, Workers, and the Standard of Living Labor Unions and the Going Wage	220 222 225 226 230 231 236 241 245 250 252 253 254 259 263
Chapter 9	Labor Demand The Age in the Minimum Wage The Value of Labor A Rule for Cleaning Cars Here Comes the Law The Details of Hiring Labor Now and Then Skateboards, Karl Marx, and the Laws of Motion Drawing Conclusions Timely Substitutes for Labor Chapter Summary Labor Markets and Unemployment Heavy Metal Checking the Map The Going Wage Now and Then Wages, Workers, and the Standard of Living Labor Unions and the Going Wage Labor Unions and Labor Markets	220 222 225 226 230 231 236 241 245 250 252 253 254 259 263 266
Chapter 9	Labor Demand The Age in the Minimum Wage The Value of Labor A Rule for Cleaning Cars Here Comes the Law The Details of Hiring Labor Now and Then Skateboards, Karl Marx, and the Laws of Motion Drawing Conclusions Timely Substitutes for Labor Chapter Summary Labor Markets and Unemployment Heavy Metal Checking the Map The Going Wage Now and Then Wages, Workers, and the Standard of Living Labor Unions and the Going Wage	220 222 225 226 230 231 236 241 245 250 252 253 254 259 263

	The Minimum Wage Unemployment Ways of Becoming Unemployed Kinds of Unemployment Chapter Summary	268 270 271 274 279
Unit V ECO	nomic growth and stability	283
Chapter 11	Aggregate Demand and Aggregate Supply	284
	To Borrow or Not to Borrow	286
	Sum Things	286
	The Chicken and the Egg	288
	Outflows and Inflows A Ride on a Roller Coaster	291 296
	A Gauge of National Production	299
	Using the GNP Gauge	302
	The Growth of Real GNP	305
	Now and Then The Economic Engine That Could	308
	Chapter Summary	313
Chapter 12	Money and Banks	318
	Smokable Money	320
	Money: What It Is and What It Does	321
	Medium of Exchange	323
	Measure of Prices	323 324
	Store of Buying Power	324
	Checking Up On Money Creating Money	326
	Checking Accounts Are Bank Debts	328
	Checking Accounts and Reserves	329
	The Evolution of Banking in the United States	332
	State Banks	332
	The First Bank of the United States	334
	The Second Bank of the United States	334
	State and National Banking	334 336
	Now and Then Banking on Panic	340
	The Federal Reserve System Chapter Summary	343
Chapter 13	Monetary Policy and Fiscal Policy	348
	Money and Inflation	350
	Money Doesn't Grow on Trees	351
	The Goals of Monetary Policy	352
	How the Fed Controls the Money Supply	356
	Open Market Operations	357

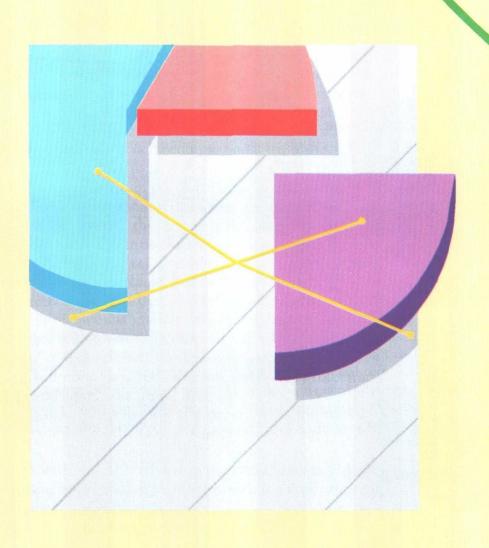
	The Discount Rate The Legal Reserve Rate Fiscal Policy Now and Then Economic Pains and John Maynard Keynes Deficits How Deficits Are Financed Deficits and Debt Aggregate Demand or Aggregate Supply? Chapter Summary	359 360 364 368 369 370 373 375
Unit VI INT	TERNATIONAL ECONOMICS	381
Chapter 14	International Trade	382
Chapter 15	Wheels of Trade Trade and Production Specialization and Comparative Advantage How Nations Gain from Trade Imports, Exports, and the Balance of Payments Exchange Rates Protectionism Protects Infant Industries Now and Then Reports About American Manufacturing Increases Employment Protects Wages from Cheap Foreign Labor Provides for National Defense Allows Retaliation Chapter Summary The Economy of the Soviet Union	384 384 385 389 393 397 400 401 402 406 407 410 411 411
onapier 13	Markets or Mandates? The Adoption of Collective Ownership What and How to Produce For Whom to Produce Labor in the Soviet Economy Chapter Summary	418 419 422 427 428 431
Appendix	Careers in Economics	435
	Glossary Index	441 449

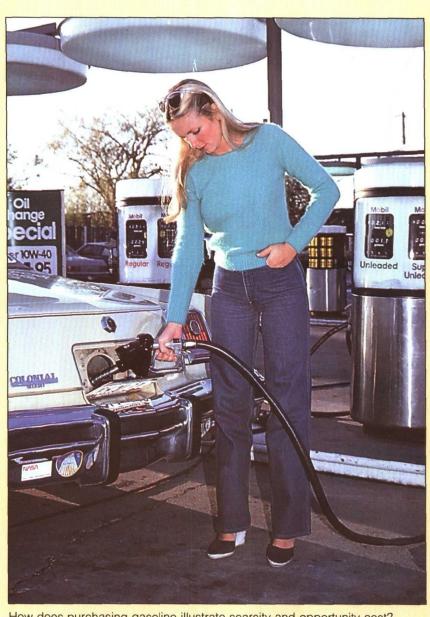
Contents xiii

Introduction to Economics

Unit

I





How does purchasing gasoline illustrate scarcity and opportunity cost?

Scarcity and Opportunity Cost

Chapter

Student's Goals *

- 1. Define and give examples of scarcity.
- 2. Define and give examples of resources.
- **3.** Explain the importance of *opportunity cost* when making choices.
- **4.** Analyze a decision in terms of its marginal costs and marginal benefits.
- 5. Distinguish between marginal cost and sunk cost.

A Brief Com

Statistics show that many highway accidents occur because motorists drive at different speeds on the same road. This suggests that we could reduce the number of accidents if vehicles on a particular highway moved at a uniform speed. Because a lower speed limit not only slows traffic but also produces a more uniform driving speed, it is strongly supported as a way of reducing highway injuries and fatalities. For example, the National Research Council estimated that each year the federal 55-miles-per-hour speed limit saved between 2,000 and 4,000 lives.¹

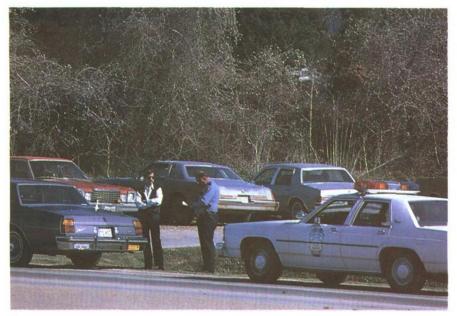
These benefits cannot be obtained without sacrifice, however. As an extreme example, consider the sacrifice if *all* motor vehicles were banned in order to reduce the maximum driving speed to *zero* miles per hour. Although such a ban would eliminate all highway injuries and deaths, it would severely restrict mobility and vastly increase the time it takes us to get from one place to another. Even if driving were not banned, a lower speed limit would still mean we would have to spend more time driving. A study of the 55-miles-per-hour speed limit concluded that the extra time everyone spent on the highway in a given year added up to more than 400,000 years.²

Because of the additional driving time required, many drivers in rural areas have strongly opposed the "double nickel" speed limit. As a result, legislators changed the maximum permissible driving speed in 1987. In that year, Congress passed a law that allows states to raise the speed limit to 65 miles per hour on rural stretches of interstate highways. Although many drivers applauded the change, others opposed it because they predicted it would result in more highway deaths and injuries.

Proposals to raise or lower the speed limit illustrate two important economic principles presented in this chapter. The first principle is *scarcity*. Time is scarce because there are not enough hours in a day to do everything we would like to do. When you must choose between doing homework and visiting friends, you know your time is scarce. Similarly, income is

¹Damon Darlin, "Does 55-MPH Speed Limit Save Lives? More Drivers Are Doubtful," *The Wall Street Journal*, April 28, 1986, p. 25.

²Thomas H. Forester, Robert F. McNown, and Larry D. Singell, "A Cost-Benefit Analysis of the 55 MPH Speed Limit," *Southern Economic Journal* (January 1984): 631–41.



Scarcity is the reason why people disagree about raising the speed limit on our nation's highways. The scarcity of time requires us to choose between spending more time driving at slower speeds in order to reduce accidents and driving faster in order to have more time for other activities we enjoy. This motorist would probably agree that the 55-miles-per-hour speed limit should be raised.

scarce because you don't have enough to purchase everything you want; you must often choose between one item and another. The scarcity of both time and highway safety also makes us choose between slower speeds that cut automobile accidents and faster speeds that reduce driving time.

The second principle explained in this chapter is *cost*. Because your time and your income are scarce, you must decide how to use them. When you use them to do one thing, you sacrifice something else. This sacrifice is your cost. If we want a lower speed limit in order to reduce traffic injuries and fatalities, then we must pay the cost of spending more time on the highway. On the other hand, if we want a higher speed limit in order to cut driving time, then we must pay the cost of having more traffic injuries and deaths. We bear a cost no matter what we do.

Is Anything Really Free?

Whether it is promoting highway safety, sleeping later in the morning, or purchasing new clothes, everything we enjoy seems to be scarce. **Scarcity** is the inability of limited means to satisfy all of everyone's wants. It means that all of us want more than we have. Although a selfish person and a generous person may want different things for different reasons, they both seek to satisfy additional wants. No matter what we want, however, we cannot be satisfied without the use of something limited. If we spend money for new clothes, we have less money to spend for food, gasoline, and other items. Even watching a sunset or meditating requires the use of our limited time. So, too, do we use limited time to produce more kindness and friendship. These items are scarce, even though they are not material goods.

Scarcity: The inability of limited means to satisfy all of everyone's wants.

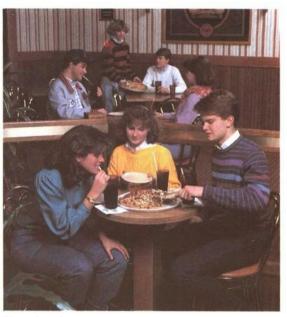
Since you cannot have everything you want, you must choose among various opportunities. You can't be in two places at once, for example, so you must choose how to use your limited time. If you watch television, then you have made a choice not to do other things with your time, such as visiting friends or doing homework. When you choose to do one thing rather than another or to buy one item instead of another, you bear an unavoidable cost: You give up something in order to get something else. Because your cost is the most valuable *opportunity* you give up, the cost of any choice is called an opportunity cost. **Opportunity cost** is the best opportunity given up when a choice is made.

Opportunity cost: The best opportunity given up when a choice is made.

You make choices and pay opportunity costs every day when you spend your money. As an illustration, suppose you spend \$5 to buy gasoline for your car. When you make that choice, you sacrifice the opportunity to spend your \$5 on other things you want. Perhaps you also want a cassette that is on sale, a lunch, and a new hairbrush, each of which costs \$5. If you value the cassette more than the other two items sacrificed when



Scarcity means that no matter what we want, we cannot be satisfied without the use of something limited. In order to purchase these sunglasses, this teen-ager must give up some of her limited income which could have been used to buy something else.



Scarcity also means that we must choose how to spend our limited time. By choosing to spend time talking and eating pizza, these individuals sacrifice other uses of their limited time.

buying the gasoline, then the cassette is your cost of buying the gas.

Since \$5 will not purchase the cassette, the food, and the hairbrush—which together are worth \$15—all three of these cannot be considered the opportunities you sacrifice. Only the option you most value among those given up—in this example, the cassette—is your cost.

The Costs We Bear

A cassette, a lunch, and a hairbrush are only a few of the possible alternatives sacrificed when buying \$5 worth of gasoline. You might think there are other, more important opportunities you would sacrifice, and your friends might see other possible opportunities they would give up if they were to purchase the gasoline. People have different likes and dislikes, so they do



What is the opportunity cost of spending \$5 to buy gasoline? Suppose you could have used the \$5 to purchase either a new hairbrush, a blank cassette, or a lunch. Since each of these items would have required an expenditure of \$5, all three are not your opportunity cost. Instead, your opportunity cost is whichever one you value the most.

not all identify the cost of a particular choice in the same way. But if you spend \$5, you can't avoid giving up \$5 of something. Whatever you think is the most valuable opportunity given up is the cost of your choice.

However, \$5 is not necessarily the total cost of the gasoline. You might also spend time waiting in line at the gas station. Since time is scarce, you must consider the most valuable option sacrificed when you take time to obtain the gas. Perhaps your next best use of this time would have been walking your dog. If so, walking your dog is also part of your cost of purchasing the gasoline.

If you have ever waited in a long line to buy gasoline, tickets, groceries, or some other item, you know that some costs, like your time, might not have money price tags. Lacking money price tags, these costs are sometimes ignored. Other costs are ignored because someone else besides the person making the choice bears them. Take this illustration. A writer who works at home was bothered by the noise of her neighbors' barking dogs. Although her neighbors made the choice to have dogs, they ignored the cost suffered by the woman when her scarce peace and concentration were sacrificed.

You can think of other examples that show how individuals involuntarily bear the costs of someone else's choice. In fact,