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# Microeconomics

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# Preface

*Microeconomics* presents, in a slightly revised and expanded form, the “micro” chapters from the fifth edition of *The Economic Way of Thinking*. The fifth edition was prepared in part with this book in mind. Many of the discussion questions added or amplified in the first fourteen chapters were designed to make the book more useful to those who wished to devote additional time or an entire term to “microeconomics.”

While I still believe that the best introduction to economics is through a one-term, whole-loaf course, most departments continue to present the principles of economics in two courses. This book is suitable for the microeconomics half of such a sequence. However, it retains throughout the approach and orientation of *The Economic Way of Thinking*.

## What Are We After?

Introductory economics has long been an easy subject to teach. It’s been a hard subject to *take*, but that’s another matter. Moreover, the amount of learning that comes out of principles courses bears no reasonable relationship to the amount of teaching that goes in.

Principles of economics has been an easy course to teach because we have used it largely to regurgitate the bits of technique acquired during our own training in economics. There are so many such bits and pieces,

and they are so hard for students to grasp, that principles teachers need never worry about what to do today. They can always introduce a new complication or spend the hour clarifying the complication introduced yesterday. And they don't even have to prepare the complications. A single phrase—elasticity, total-average-marginal revenue, long-run competitive equilibrium, marginal-value product—will serve as an adequate text for an entire class session.

What should be the learning goal in beginning economics courses? It is clear from what has already been said that I have little use for what I take to be the usual learning goal: introducing the student to bits and pieces of technique. Why should we want a beginning student to be familiar with the concepts of average variable, average total, and marginal cost, their downward then upward shapes, the necessary intersection of marginal cost at the low point of average cost, and everything else contributing to the demonstration that in the long run, under perfectly competitive conditions, price will be equal to average total and marginal cost for all firms after quasi-rents have been capitalized? To ask the question is to answer it. We have no good reason for wanting a beginning student to know all this. Then why have we continued to teach it?

Part of the explanation lies in our commendable concern to teach *theory*. It is economic theory that gives to economics almost all its predictive or clarifying power. Without theory, we must grope our way blindly through economic problems, conflicting opinions, and opposing policy proposals.

But economic theory has proved itself unusually difficult to communicate. So those responsible for teaching undergraduate economics, struck by the apparent failure of theory-oriented principles courses, have sometimes opted instead for a problems and issues course. In such a course, students typically read and discuss statements by labor leaders, industry representatives, agricultural lobbyists, politicians, and a few domestic radicals or foreign socialists. They look at figures on income distribution, gross national product, employment, prices, and rates of economic growth. They read and discuss the arguments for guaranteed incomes and against planned obsolescence, for free enterprise and against unregulated competition, for nuclear power and against uncontrolled economic growth. And when it is all over, what have they learned? They have learned that opinions abound, with data to support every one of them, that "it's all relative," that every American is entitled to an opinion, and that economics is not a science and is probably a waste of time.

The insistence on teaching theory is correct insofar as it is a denial of the significance of facts without theories. Theory is essential! But what theory? Economic theory, of course. But that begs the real question. What *kind* of economic theory? And in what *context*? Before we can answer, we must know what we're after.

## Concepts and Applications

I want beginning students to master a set of concepts that will help them think more coherently and consistently about the wide range of social problems that economic theory illuminates. The principles of economics make sense out of buzzing confusion. They clarify, systematize, and correct the daily assertions of newspapers, political figures, ax grinders, and barroom pontiffs. And the applicability of the economist's thought tools is practically unlimited. Students should come to appreciate all of this in a beginning course.

But they won't unless we, the teachers and textbook writers, persuade them. And we can persuade them only by showing them. *The principles of economics must therefore be taught as tools of analysis.* The teaching of a concept must take place in the context of application. Better, the potential application should be taught first, then the tool. There is so much evidence from pedagogy to support this approach that it's hard at first to understand how any other approach could ever have conquered the field.

"Here is a problem. You recognize it as a problem. What can we say about it?" That's step one.

"Here is how economists think about the problem. They employ the concept of such and such." Step two entails the exposition of some concept of economic theory.

After the applicability of the concept to the original problem has been demonstrated and some of the implications examined, the concept should be applied to additional problems. That's step three.

It isn't as easy as one-two-three, of course, and we don't mean to imply that it is. The teaching of economic principles requires imagination, insight, a knowledge of current events, and a sense of perspective, as well as familiarity with the formal techniques of economic analysis. Those are all scarce goods. And it presupposes a conviction on the part of the teacher that economic theory really is useful for something more than answering artificial questions and passing equally artificial examinations.

## The Virtue of Restraint

Perhaps no one would disagree in principle with any of the foregoing statements. If so, our practice has been far out of step with our precept. One reason is undoubtedly the obsession with formal technique that characterizes so much teaching of economic theory at all levels. The disciple will very rarely rise above the master. And if the masters in our profession are more concerned with form than content, the effects will be felt at the principles level. We need not debate here the question of how much of the material taught in intermediate and advanced theory texts really belongs there, or what balance should be struck in graduate theory courses between the logic-mathematics and the economics of theory. For the question of what should go into a beginning course can be answered without resolving the other questions. And that answer is: *very little*.

For very little indeed of what might go into a complete and current compendium of economic theory is actually useful in enabling us to make sense of the real world and to evaluate policy proposals. Almost all the genuinely important things that economics has to teach are elementary concepts of relationship that people could almost figure out for themselves if they were willing to think carefully.<sup>1</sup>

The challenge is getting people to *appreciate* these few, simple concepts. To do that, we must practice the virtue of restraint. We must attempt less and thereby accomplish more. An introductory course should distinguish itself as much by what it excludes as by what it incorporates. Unless it is our aim to impress students with the esoteric quality of economists' knowledge, we should teach no theory in the introductory course that cannot be put to work immediately. Otherwise we drown beginning students; they are made to thrash about so desperately that they don't learn to swim a single stroke. Our aim should be to get them swimming and to instill in them the confidence that through practice they can learn to swim better.

Every introductory economics teacher ought to read a short essay by Noel McInnis, entitled "Teaching More with Less." Here are three excerpts:

I dare say that all of us who teach have been guilty of telling our students much more than they cared—or needed—to know. In fact, I would theorize that we have probably been telling them more about our subjects than *we*

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1. A compelling statement of this view was provided by Ely Devons in the first two of his *Essays in Economics* (London: George Allen and Unwin, 1961), pp. 13–46.

care to know. That is one reason why we feel compelled to rely on notes to deliver lectures.

Our present methods of communicating often obscure meaning rather than reveal it. . . . We often see the tragic results of this in our "best" students, who can repeat what we have told them but cannot apply it in a new context so that it means something. Their learning may have been comprehensive, but it has not been *comprehending*.

Survey courses in almost all disciplines are becoming increasingly impractical because of their compulsive attempt to cover all relevant information. They could be made highly practical once again—or perhaps for the first time—if they were organized to convey the five or six most fundamental organizing and conceptual principles of the discipline, utilizing only the most immediately relevant information to bring the principles to life.<sup>2</sup>

I agree wholeheartedly with McInnis. My implementation of this vision will undoubtedly be found far from perfect. But the teacher who wonders why this or that topic is not treated in the book, or why there is no complete exposition of some familiar portion of theory, should remember that knowledge is imparted by what is left out as well as by what is included. Judgments on relevance and relative importance will, of course, vary. But the argument of McInnis should be faced every time we are tempted to add another jot or tittle to the corpus of what we teach in beginning principles courses.

### Acknowledgments

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2. *Change: The Magazine of Higher Education* (January–February 1971), pp. 49, 50, 51.

William R. Allen, whose *University Economics* first showed me how to make introductory economics a useful and exciting course.

Special thanks are also due to Michelle Heyne for editorial assistance and to Marian Bolan for regularly bringing order out of chaos, often on short notice and always with good humor. For the forms and colors whose primacy I still too often forget, I am grateful to my wife, Juliana.

Paul Heyne



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# Contents

	<b>Preface</b>	<b>ix</b>
<b>1</b>	<b>The Economic Way of Thinking</b>	<b>1</b>
	Questions for Discussion	13
<b>2</b>	<b>Substitutes Everywhere: The Concept of Demand</b>	<b>17</b>
	Questions for Discussion	41
<b>3</b>	<b>Opportunity Cost and the Supply of Goods</b>	<b>51</b>
	Questions for Discussion	69
<b>4</b>	<b>Supply and Demand: A Process of Coordination</b>	<b>75</b>
	Questions for Discussion	95
<b>5</b>	<b>Marginal Costs, Sunk Costs, and Economic Decisions</b>	<b>105</b>
	Questions for Discussion	127
<b>6</b>	<b>Efficiency, Exchange, and Comparative Advantage</b>	<b>135</b>
	Questions for Discussion	150

<b>7</b>	<b>Information, Middlemen, and Speculators</b>	<b>159</b>
	Questions for Discussion	175
<b>8</b>	<b>Price Setting and the Question of Monopoly</b>	<b>183</b>
	Questions for Discussion	197
<b>9</b>	<b>Price Searching</b>	<b>205</b>
	Questions for Discussion	223
<b>10</b>	<b>Competition and Government Policy</b>	<b>235</b>
	Questions for Discussion	250
<b>11</b>	<b>Profit</b>	<b>259</b>
	Questions for Discussion	286
<b>12</b>	<b>The Distribution of Income</b>	<b>299</b>
	Questions for Discussion	320
<b>13</b>	<b>Pollution and Conflicting Rights</b>	<b>335</b>
	Questions for Discussion	356
<b>14</b>	<b>Markets and Government</b>	<b>371</b>
	Questions for Discussion	391
<b>15</b>	<b>The Limitations of Economics</b>	<b>405</b>
	Index	409

Good mechanics can locate the problem in your car because they know how your car functions when it *isn't having any problems*. A lot of people find economic problems baffling because they do not have a clear notion of how an economic system works when it's working well. They are like mechanics whose training has been limited entirely to the study of malfunctioning engines.

When we have long taken something for granted, it's hard even to see what it is that we've grown accustomed to. That's why we rarely notice the existence of order in society and cannot recognize the mechanisms of social coordination upon which we depend every day. A good way to begin the study of economics, therefore, might be with astonishment at the feats of social cooperation in which we daily engage. Rush-hour traffic is an excellent example.

### Recognizing Order

You are supposed to gasp at that suggestion. "Rush-hour traffic as an example of social *cooperation*? Shouldn't that be used to illustrate the law of the jungle or the *breakdown* of social cooperation?" Not at all. If the association that pops into your mind when someone says "rush-hour traffic" is "traffic jam," you are neatly supporting the thesis that we notice only failures and take success so much for granted we aren't even aware of it. The dominant characteristic of rush-hour traffic is not jam but movement, which is why people venture into it day

after day and almost always reach their destinations. It doesn't work perfectly, of course. (Name one thing that does.) But the remarkable fact at which we should learn to marvel is that it works at all.

Thousands of people leave their homes at about eight in the morning, slide into their automobiles, and head for work. They all choose their own routes without any consultation. They have diverse skills, differing attitudes toward risk, and varying degrees of courtesy. As these passenger automobiles in their wide assortment of sizes and shapes enter, move along, and exit from the intersecting corridors that make up the city's traffic veins and arteries, they are joined by an even more heterogeneous mixture of trucks, buses, motorcycles, and taxicabs. The drivers all pursue their separate objectives, with an almost single-minded devotion to their own interests, not necessarily because they are selfish but simply because none of them knows anything about the objectives of the others. What each one does know about the others is confined to a few observations on the position, direction, and velocity of a changing handful of vehicles in the immediate environment. To this they add the important assumption that other drivers are about as eager to avoid an accident as they themselves are. There are general rules, of course, which everyone is expected to obey, such as stopping for red lights and staying close to the speed limit. That's about it, however. The entire arrangement as just described could be a prescription for chaos. It ought to end in heaps of mangled steel.

What ensues instead is a smoothly coordinated flow, a flow so smooth, in fact, that an aerial view from a distance can almost be a source of aesthetic pleasure. There they are—all those independently operated vehicles down below, inserting themselves into the momentary spaces between other vehicles, staying so close and yet rarely touching, cutting across one another's paths with only a second or two separating a safe passage from a jarring collision, accelerating when space opens before them and slowing down when it contracts. The movement of rush-hour traffic, or indeed of urban traffic at any time of day, really is an astounding feat of social cooperation.

### The Importance of Social Cooperation

The traffic example is particularly effective in making us see how much social cooperation we totally fail to notice, because everyone is familiar with traffic but almost no one thinks of it as a cooperative endeavor. But the example is also useful in making the point that we depend on mechanisms of coordination for far more than what we

usually think of as “economic” goods. If we had no working procedures to induce cooperation, we could enjoy none of the benefits of civilization. “In such a condition,” as Thomas Hobbes (1588-1679) observed in an often-quoted passage of his *Leviathan*:

. . . there is no place for industry, because the fruit thereof is uncertain; and consequently no culture of the earth; no navigation, nor use of the commodities that may be imported by sea; no commodious building; no instruments of moving and removing such things as require much force; no knowledge of the face of the earth; no account of time; no arts; no letters; no society; and, which is worst of all, continual fear, and danger of violent death; and the life of man, solitary, poor, nasty, brutish, and short.<sup>1</sup>

Because Hobbes believed that people were so committed to self-preservation and personal satisfaction that only force (or the threat of it) could keep them from constantly assaulting one another, his writings emphasize only the most basic form of social cooperation: abstention from violence and robbery. He seems to have supposed that if people could be induced not to attack one another’s persons or property, then positive cooperation—the kind that actually produces industry, agriculture, knowledge, and art—would develop of its own accord. But will it? Why should it?

### How Does It Happen?

By what means do the members of a society induce one another to take precisely those complexly interconnected actions that will eventually produce the multitude of goods, tangible and intangible, that we all enjoy? Even a society of saints must use some procedures for inducing positive cooperation *of the right kind* if the life of each saint is to be more than “solitary, poor, nasty, brutish, and short.” Saints must, after all, somehow find out exactly what ought to be done and when and where it ought to be done before they can play an effective part in helping others.

Hobbes probably failed to see the importance of this question for understanding life in the “commonwealth,” because the society he knew was far simpler, more bound by custom and tradition, and less subject to rapid and disruptive change than the societies in which we have grown up. Not until late in the eighteenth century, as a matter of fact, did any significant number of thinkers begin to wonder why it was

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1. Hobbes, *Leviathan, or the Matter, Forme and Power of a Commonwealth Ecclesiastical and Civil*, 1651.

that society “worked”—that individuals pursuing their own interests on the basis of extremely limited information nonetheless managed to produce not chaos but a remarkably ordered society.

One of the most perceptive and surely the most influential of these eighteenth-century thinkers was Adam Smith (1723-1790). Smith lived in an age when most educated people believed that only the diligent attentions of political rulers could prevent a society from degenerating into disorder and poverty. Smith did not agree. But in order to refute the accepted opinion of his day, he had to describe the mechanism of social coordination that he saw operating in society—a mechanism that not only functioned, in his judgment, without the constant attention of government, but worked so powerfully that it often canceled the effects of contrary governmental policies. Adam Smith published his analysis in 1776 as *An Inquiry into the Nature and Causes of the Wealth of Nations*, and thereby established his claim to the title, Founder of Economics. He did not *invent* “the economic way of thinking.” But he developed it more extensively than any of his predecessors had done, and he was the first writer to use it in a comprehensive analysis of social change and social cooperation.

### An Apparatus of the Mind

What exactly do we mean by *the economic way of thinking*? To begin with, it is exactly what the term suggests: an approach, rather than a set of conclusions. John Maynard Keynes phrased it aptly in the statement quoted in the front of this book:

The Theory of Economics does not furnish a body of settled conclusions immediately applicable to policy. It is a method rather than a doctrine, an apparatus of the mind, a technique of thinking which helps its possessor to draw correct conclusions.

But what is this “technique of thinking”? It is, most fundamentally, an assumption about what guides human behavior. The theories of economics, with surprisingly few exceptions, are simply extensions of the assumption that individuals take those actions they think will yield them the largest net advantage. Everyone, it is assumed, acts in accordance with that rule: miser or spendthrift, saint or sinner, consumer or seller, politician or business executive, cautious calculator or spontaneous improviser.

But don’t misunderstand. Economic theory does not assume that people are selfish, or materialistic, or shortsighted, or irresponsible, or

interested exclusively in money. None of these is implied by the statement that people try to secure for themselves the largest possible net advantage. Everything depends on what, in fact, people find in their own interest. As we know, some derive enormous satisfaction from helping people. A few, unfortunately, seem to derive satisfaction from actually hurting others. Some find their keenest pleasure in the sight of roses blooming. Others would far rather speculate on urban real estate.

But if people are all that different, how can economic theory explain or predict anything about their behavior merely by assuming that they all act in what they think will be their own best interests? What does the assumption imply except that people do what they want to do, whatever that is?

Matters aren't that hopeless, however, for people don't really seem to be as different in their interests as the preceding contrasts would suggest. All of us regularly and successfully predict the behavior of people whom we have never even met, and we could not function effectively in society without the ability to do so. Rush-hour traffic flow, for example, would be impossible if we could not predict the actions of others who are usually complete strangers. Moreover, in any society that uses money extensively, just about everybody prefers more money to less, because money offers a general command over the resources that can be used to advance one's interests, whatever they may be. This is a most useful fact to know when we are trying to predict the behavior of others.

It is also a useful piece of information when we want to *influence* the behavior of others. And that brings us back to the issue of social cooperation and to a second prominent characteristic of the economic way of thinking. Economic theory asserts that the actions people take in the pursuit of their own interests create the alternatives available to others, and that social coordination is a process of continuing mutual adjustment to the changing net advantages that their interactions generate. That is a very abstract argument. We can make it more concrete by referring once more to traffic flow.

### Cooperation through Mutual Adjustment

Picture a freeway with four lanes in each direction and with all the entrances and exits on the right. Why don't all the drivers stay in the far-right lane? Why do some of them go to the trouble of driving all the way over to the far left when they know they'll have to come back to the right lane to exit? Anyone who has driven on a freeway knows

the answer: the traffic flow is impeded in the far-right lane by slow-moving vehicles entering and exiting, so people in a hurry get out of the right lane as quickly as possible.

Which of the other lanes will they choose? Although we can't predict the action of any single driver, we know that the drivers will disperse themselves quite evenly among the three other lanes. But why does this happen? How does it happen? The answer is also the explanation of what we meant just now by *a process of continuing mutual adjustment to the changing net advantages that their actions generate*. Drivers are alert to the net advantages of each lane and therefore try to move out of any lanes that are moving slowly and into those that are moving faster. This speeds up the slow lanes and slows down the fast lanes until all lanes are moving at the same rate, or, more accurately, until no driver perceives any net advantage to be gained by changing lanes. It all happens quickly, continuously, and far more effectively than if someone at the entrances passed out tickets *assigning* each vehicle to a particular lane.

That, according to the economic way of thinking, is how the social world works. Individuals choose their actions on the basis of the net advantages they expect. Their actions alter, however minutely, the relative benefits and costs of the options that others perceive. When the ratio of expected benefit to expected cost for any action increases, people do more of it. When the ratio falls, they do less. The fact that almost everyone prefers more money to less is an enormous aid in this process, an extremely important lubricant, if you will, in the mechanism of social coordination. Modest changes in the monetary cost and monetary benefit of particular options can induce large numbers of people to alter their behavior in directions more consistent with what other people are concurrently doing. And this is the primary system by which we obtain cooperation among the members of society in using what is available to provide what people want.

### How Much Does Economic Theory Explain?

Some might object that the preceding paragraph claims too much. "You haven't given a description of 'how the social world works' but only of how the economic part of it works. You've described the market system. But that's not the whole of society. In addition to the market or economic sector, we have other institutions (such as the government sector) that operate by different principles and procedures."

That sounds like a reasonable objection, or at least one consistent



with the traditional ways in which we've learned to divide up the world. But the economic way of thinking is subversive when it comes to those traditional distinctions. If it makes sense to explain the output of the Bethlehem Steel Company and the Chrysler Corporation as the product of competing interests mutually adjusted, why won't it make sense to explain the output of the United States Congress or the Department of Agriculture in the same way? Why draw a line between "the economy" and "the government"? Isn't every branch and agency of government made up, just like any other social group, of ordinary mortals with a wide variety of interests? The necessity of inducing others to cooperate doesn't stop when the capital city is reached! Or if it does, someone has failed to communicate that fact to the lobbyists, legislative leaders, staff assistants, and executive agents who struggle daily to shape the directions of government action.

To tell the embarrassing truth, economic theorists are highly imperialistic. They tend to think that their way of looking at society explains everything, or at least explains more occurrences more adequately than does any other approach. And so economists have been venturing out in recent years to raid territories traditionally occupied by sociologists, political scientists, historians, and others. Economists don't all agree (and representatives of the raided disciplines *surely* do not all agree) that these excursions have always captured valuable terrain. Some critics of the imperialistic ambitions of economics have even accused it of saying nothing about everything. We won't try to resolve those disputes at this point. But you should be aware in advance that this book will draw no clear lines to mark the boundaries of economics. Instead we shall fall back on the vague but sensible principle that economic theory should be used wherever it successfully explains or predicts and abandoned for something else whenever it sheds no light.

### The Biases of Economic Theory

The admission that economics has imperialistic ambitions may not disturb you as much as our admission now that *the economic way of thinking is a biased perspective*. Economic theory does not offer an unprejudiced view of society, in which all the facts are presented and each is given the same weight. On the contrary, the economic way of thinking emphasizes a few facts out of a vast array of possibilities and discards most of what remains.