Principles of Microeconomics

Eugene Silberberg

Principles of Microeconomics

Eugene Silberberg University of Washington



Prentice Hall Englewood Cliffs, New Jersey 07632

Library of Congress Cataloging-in-Publication Data

Silberberg, Eugene.
Principles of microeconomics/Eugene Silberberg.
p. cm.
Includes bibliographical references and index.
ISBN 0-13-103714-5
1. Microeconomics. I. Title
HB172.S564 1995
338.5--dc20

94-36171

CIP

Editorial/Production Supervision and Interior Design: Thompson Steele Production Services Acquistions Editors: J. Stephen Dietrich/Leah Jewell In-House Production Liaison: Lisa Kinne Editor-in-Chief: Valerie Ashton Managing Editor: Frances Russello Assistant Editor: Teresa Cohan Design Director: Patricia H. Wosczyk Manufacturing Buyer: Marie McNamara Editorial Assistant: Elizabeth Becker Production Assistant: Renee Pelletier Cover Illustration: Theo Rudnak

Ŕ

© 1995 by Prentice Hall, Inc. A Division of Simon & Schuster Englewood Cliffs, New Jersey 07632

All rights reserved. No part of this book may be reproduced, in any form or by any means, without permission in writing from the publisher.

Printed in the United States of America

10 9 8 7 6 5 4 3 2 1

ISBN 0-13-103714-5

PRENTICE HALL INTERNATIONAL (UK) LIMITED, London PRENTICE HALL OF AUSTRALIA PTY. LIMITED, Sydney PRENTICE HALL CANADA INC., Toronto PRENTICE HALL HISPANOAMERICANA, S.A., Mexico PRENTICE HALL OF INDIA PRIVATE LIMITED, New Delhi PRENTICE HALL OF JAPAN, INC., Tokyo SIMON & SCHUSTER ASIA PTE. LTD., Singapore EDITORA PRENTICE HALL DO BRASIL, LTDA., Rio de Janeiro



o Thomas Jefferson and his friends who devised the system of laws and institutions from which, hand-in-hand, our freedom and prosperity derive.

> Good ideals are cheap. It's easy to have good ideals. What's difficult are good ideas. -Eric Hoffer, Interview with CBS NEWS correspondent Eric Sevareid, Tuesday, January 28, 1969.



Marginal Machine Works. Photo by George Stigler, ca. 1935.

Stigler, who passed away in 1992, was a distinguished professor of economics at the University of Chicago and a 1982 winner of the Nobel prize. The firm depicted in the picture was located on East Marginal Way in Seattle, Washington, where Stigler grew up. Noted for his wit, Stigler took this photo to highlight what he found an amusing play on the concept of the marginal firm.

Preface

The late Richard Feynman, Nobel Laureate in Physics, who was known for his ability to get quickly to the heart of the matter, was once evaluating high school physics textbooks for the state of California. He recalled one text that started out with four pictures: a wind-up toy, an automobile, a boy riding a bicycle, and something else. Feynman noted:

And underneath each picture it said, "What makes it go?" I thought, "I know what it is: They're going to talk about mechanics, how the springs inside work the toy; about chemistry, how the engine of an automobile works; and biology, about how the muscles work."... I turned the page. The answer was, for the wind-up toy, "Energy makes it go." And for the boy on the bicycle, "Energy makes it go." For everything, "*Energy* makes it go." Now that doesn't *mean* anything... The child doesn't learn anything; it's just a word! What they should have done is to look at the wind-up toy, see that there are springs inside, learn about springs, learn about wheels, and never mind "energy." Later on when the children know something about how the toy actually operates, they can discuss the more general principles of energy.¹

I have tried to write an economics text that someone like Feynman would have approved. The law of demand, like the law of conservation of energy, is easy enough to state. But it is only by working through example after example that we come to appreciate the significance of such propositions. In Feynman's example, it is by taking apart a bunch of mechanical devices and explaining their individual behavior in terms of a consistent framework that we come to appreciate the general laws of mechanics. In economics, true appreciation of the law of demand comes after we apply it to everyday problems like marriage and divorce, sex and fertility, participation in religion, suicide, smoking, crime and punishment, diamonds and water, and consumption over time, along with the more mundane "meat and potatoes" applications.

^{1.} Richard Feynman, *Surely You're Joking, Mr. Feynman* (New York: W.W. Norton, 1985), 270–71. Reprinted in softcover by Bantam Books.

Examples, however, must be examined within a consistent, unifying framework. Without theory, examples are nothing but a series of unrelated or special cases. In this text, therefore, I have continuously stressed the unifying propositions underlying the analyses of the examples we discuss. Without theory, we cannot generalize from these examples and explain other events. As we analyze additional problems, we discover subtleties that are often encountered in scientific endeavors, and we improve our skills at applying the theory.

In this text, I have not relegated the illustrations and examples to "boxes" or "sidebars." The examples are precisely the central concern of economics; *they are the whole point of the theory*. They are the only reason for developing a systematic framework. What other purpose is there for developing the laws of demand, or diminishing marginal product, other than to analyze real, observable issues? The "story problems" *are* economics, not "illustrations" of economic theory.

We don't have the luxury in economics of being able to take apart a toy to see how it works; we have to wait for the world to produce conditions that allow empirical testing. However, armed with elementary notions such as the postulates of substitution and diminishing marginal values (rates of substitution) in the theory of the consumer and the law of diminishing marginal product and rising marginal costs in the theory of production, economists are able to explain a wide variety of important issues. The lingering importance of most of our Nobel Laureates' work, for example, is their creative and insightful applications of elementary ideas. It is therefore with real-world applications of a simple, consistent framework that this text is concerned.

Arrangement of the text

I have written this text in a "straight ahead" fashion. I have striven to minimize clutter and other distractions. There are no dazzling special effects or attempts at a multimedia presentation. Up through Chapter 8, the material builds on preceding chapters. Starting with Chapter 9, Transactions Costs and Property Rights, the chapters could be covered in most any order, except that Monopoly, Chapter 11, necessarily comes before Imperfect Competition, Chapter 12. When I teach this material in a ten-week quarter, I cover Chapters 1 through 10, in order, though I leave out some sections. Depending on the class, I usually include some material from Chapter 13, Labor Economics, particularly the discussion of households, and I also make some mention of misallocation due to monopoly. While it comes last in Chapter 7, I dwell heavily on the common property problem. With a simple numerical illustration, students are able to understand why common property causes excess use of resources. Moreover, I find the Knight highway problem in Chapter 9 reinforces students' understanding of the common property problem, and I always

PREFACE

leave time for that topic. I usually spend two weeks on Chapter 10, Interest Rates and Capital Values, but that is an emphasis all may not share.

Comparative Advantage, which most texts relegate to a chapter on international trade somewhere in the back of the book, gets front-row treatment in Chapter 6, the first chapter on cost and production. Why is this important topic relevant only for international as opposed to domestic trade? I have always considered it to be a fundamental idea in economics, particularly about opportunity cost and cost minimization. It is the source of rising long-run marginal costs and the appearance of rents. Moreover, it is easy to present, especially when you omit the unnecessary additional step of invoking coefficients of production, and students seem to genuinely understand the idea.

My goal is that by the end of the term, students understand that explanations based on assertions about tastes are not acceptable, that they understand the diamond-water paradox, comparative advantage, the difference between shortages and scarcity, diminishing marginal product and its relation to the problem of common property, and the idea that capital values incorporate all anticipated future incomes. These are easily attainable goals for a reasonably conscientious student. What's more, these tools are the fundamental building blocks of almost all important policy applications of economics.

Acknowledgments

All scholars and textbook writers owe an intellectual debt to those who came before. When I first arrived at the University of Washington, I had some pretty good math skills, but I wasn't so sure why vegetables were cheaper in the summer than in the winter. I learned a great deal of the basic paradigm of economics from some former and current colleagues, some of whom weren't sure why you shouldn't cancel the *d*'s in *dy/dx*, but who had a much more profound understanding of economic behavior than I. In particular, I would like to mention, again, Yoram Barzel, Thomas Borcherding, Stephen Cheung, John Floyd, and Allan Hynes. My most valuable teaching experience in elementary economics came from Armen Alchian and William Allen's magnificently irritating text, *Exchange and Production*, which I used for many years. I still marvel at its modern approach to transactions costs and property rights. Readers who are familiar with that text will have no trouble identifying its influence on this one.

I owe a special debt of gratitude to certain individuals who read parts or all of this manuscript carefully and made many valuable suggestions. First and foremost, I want to thank Doug Allan, especially for his detailed help on Chapter 9 (Property Rights and Transactions Costs). I am grateful for Yoram Barzel's constant willingness to entertain my ideas and who provided detailed comments on various sections, but particularly on imperfect competition; to law professor and fellow banjo player Bill Andersen for his comments on the antitrust section; to Shelly Lundberg for her comments on the Labor Economics chapter; to Dick Startz for his comments on the macro chapter; and to Price Fishback, especially for his organizational and expositional suggestions. I am grateful to Professor Steve Stigler for permission to use the Marginal Machine Wks. photo, and to Claire Friedland for locating it. Special thanks to Larina Muecke for her cheery and perspicacious assistance in an assortment of tasks, including the test bank, instructor's manual, end of chapter answers, and general proofreading. I will always have a special warm spot in my heart for J. Stephen Dietrich, who signed me up not only for this text but also for *The Structure of Economics*. Beyond that, his editorial advice has been unerring. Last, but definitely not least, I cannot exaggerate the importance of my wife Jane's love and encouragement and her good humor about letting me make her an occasional classroom and text example.

Eugene Silberberg



Р	re	fa	ce	•	х	i	i	i
			~ ~		~	2	7	2

CHAPTER 1	But Will It Work in Theory? 1
	1.1Introduction2The Economy: Prices and Markets3Economics: Part of Social Science5Explanations and Refutable Propositions8
	1.2 The Economic Paradigm 14 Scarcity and Competition 15 Cost 16
	 1.3 Demand and Supply 18 Demand 19 Supply 21 Putting it Together 22 Microeconomics and Macroeconomics 23
	 1.4 Examples 24 The American Love Affair with Automobiles 24 / You Can't Teach an Old Dog New Tricks 25 / The World War II Baby Boom and Its Consequences 26 / The "Marriage Squeeze" 28
	Key Terms 30
	Chapter Summary 30
	Questions for Discussion 31
CHAPTER 2	The Postulates of Behavior 33
	2.1 Axioms of Choice 34 Individual, not Group Preferences 35 The Postulates of Behavior 36 The Meaning of Value 39 Marginal Versus Total Values 41
	2.2 Marginal Values and Demand Curves 43 Total Value Versus Total Expenditure 45

	2.3 The Law of Demand 47 Charity: Non-Economic Behavior? 52
	2.4 Consumption Over Time 53
	2.5 The Diamond-Water Paradox 56
	Key Terms 61
	Chapter Summary 61
	Questions for Discussion 61
CHAPTER 3	The Theory of Demand 67
	3.1 Relative Versus Absolute Prices 68 The Law of Demand and Inflation 73
	3.2 Market Demand Curves 76
	3.3 Elasticity of Demand 78 Elasticity and Total Expenditure 82
	3.4 The Second Law of Demand 84
	3.5 Applications of the Law of Demand 87 Is the Oil Industry Monopolistic? 87 / Sex 88 / Fertility 89 / Religion 91 / Suicide 92 / Smoking 93 / Crime and Punishment 95 / Discrimination 96
	3.6 Shipping the Good Apples Out 98
	Key Terms 102
	Chapter Summary 102
	Questions for Discussion 104
CHAPTER 4	Exchange and Supply 109
	4.1 The Gains from Exchange 110 Two Theorems Concerning Trade 112
	4.2 Supply Curves 113
	4.3 Seller's Rents 115 Production 117
	4.4 Economic Efficiency 119

此为试读,需要完整PDF请访问: www.ertongbook.com

	Contents	VII
	4.5 The Formation of Organized Markets 121	
	4.6 The Role of Middlemen 126 Middlemen and the Costs of Transacting 129	
	4.7 The Use of Money for Exchange 131 Gifts 133	
	4.8 Political Exchange 134	
	Key Terms 138	
	Chapter Summary 139	
	Questions for Discussion 140	
CHAPTER 5	Supply and Demand 145	
	5.1 Change in Demand Versus Change in th Quantity Demanded 146 Income and Cross Elasticities 149 Change in Supply Versus Changes in the Quantity Supplied 152	ıe
	5.2 Analysis of Interrelated Markets 152 The Economics of Adoption 156	
	5.3 Who Pays the Tax? 162 Subsidies 165 Taxes on Immobile Resources 166 Who Pays a New Sales Tax on Food? 168 Payroll Taxes 169 Other Effects of Taxes 171	
	Key Terms 172	
	Chapter Summary 173	
	Questions for Discussion 173	
CHAPTER 6	Cost and Production 177	
ALL AND A	6.1 The Gains from Specialization 178	
	6.2 Comparative Advantage 180 The Robinson Crusoe Economy 181 The Arrival of Friday 183	

CONTENTS	
CONTENTS	

6.4 Increasing Costs at the Extensive Margin 191 6.5 Supply Curves and Rents 195 The Source of Rents 199 Rents and Quasi-Rents 204 6.6 **Ouasi-Rents** 205 Rent Payments: Sterile Transfers or Allocative Function? 207 Application: Greenbelt Legislation 208 6.7 Economic Efficiency 210 6.8 The Division of Labor Is Limited by the Extent of the Market 212 6.9 Concluding Remarks 214 Key Terms 217 Chapter Summary 217 Questions for Discussion 218 The Law of Diminishing CHAPTER 7 Returns 221 7.1 Inputs and Outputs; Marginal Product 222 The Law of Diminishing Marginal Product 224 **Profit Maximization and Factor** 7.2 Demand 228 More Than One Variable Factor 231 7.3 Applications 233 Emergency Medicine 233 / Health Care Rationing 234 / Medical Research and Orphan Drugs 234 / Tradable Pollution Rights 235 / Equalize Output per Worker or per Machine 237 7.4 The Behavior of Firms Under Different Rules of Ownership: The Effects of Property Rights on Resource Allocation 240 Common Ownership of the Land 240 / Socialist Cooperative 240 / Application: Property Rights on the Navajo Reservation 246 / Application: Population Growth 248 Key Terms 248

VIII

Cor	NTE	NT	S
-01			•

	Chapter Summary 249
	Questions for Discussion 250
CHAPTER 8	Supply in Competitive Markets 253
	8.1 Competitive Markets 254
	8.2 Diminishing Marginal Product and Rising Marginal Cost 255 "Fixed" Versus "Variable" Costs 259
	8.3 The Objectives of the Firm 262
	8.4 Marginal Cost and Supply: An Example 264
	8.5 The Cost Curves and Supply 266
	8.6 The Intensive and Extensive Margins Combined 269 Returns to Scale 271
	8.7 Shortages and Surpluses 273 The Oil "Shortage" 273 Rent Control 281 Agricultural and Other Surpluses 284
	Key Terms 287
	Chapter Summary 287
	Questions for Discussion 289
CHAPTER 9	Property Rights and Transactions Costs 295
	9.1 Introduction 296
	9.2 The Coase Theorem 297
	9.3 Highway Congestion 311
	9.4 Public Goods 317
	9.5 The Prisoner's Dilemma 320
	9.6 Signals 325

IX

CONTENTS

	9.7 The Nature of the Firm 328
	Key Terms 335
	Chapter Summary 335
	Questions for Discussion 336
CHAPTER 10	Interest Rates and Capital Values 339
	10.1 Consumption Over Time 340
	10.2 The Price of Present Consumption 340
	10.3 Present and Future Values 342 Annuities 346 Perpetuities 356 The Meaning of Wealth 357
	10.4 Determination of the Interest Rate 358
	10.5 Real Versus Nominal Interest Rates 363 Stocks and Bonds 365
	10.6 The Price of Assets 369
	10.7 The Fisher Separation Theorem 371
	10.8 Stocks and Flows 373 Inflation and Asset Prices 377
	Key Terms 379
	Chapter Summary 379
	Questions for Discussion 380
CHAPTER 11	Monopoly 389
	11.1 Monopoly Versus Competition 390 Reasons for Monopoly 393
	11.2 Monopolistic Pricing 396
	11.3 Monopoly and Efficiency 402 Monopoly and Factor Markets 403 Monopoly and the Characteristics of Goods 405

х

	Contents
	Monopolies and the Incentive to Invent 408 Patents and Market Structure 410
	11.4 Price Discrimination 411 Other Forms of Price Discrimination 415 Price Discrimination and Efficiency 419
	Key Terms 421
	Chapter Summary 422
	Questions for Discussion 423
CHAPTER 12	Imperfect Competition 425
	12.1 Monopolistic Competition 426 Reasons for Product Differentiation 428
	12.2 Cartels and Collusion 434
	12.3 Antitrust Policy 439 Mergers, Acquisitions, and Industry Concentration 446 Predatory Pricing 451 Tie-In Sales and Block Booking 453
	Key Terms 458
	Chapter Summary 458
	Questions for Discussion 459
CHAPTER 13	Labor Markets 463
	13.1 The Supply of Labor 464
	13.2 Families: The New Home Economics 469 Marriage 475 Divorce 478
	13.3 The Demand for Labor 480
	13.4 The Market for Labor 485 Minimum Wage Laws 487 Compensating Differentials and the Value of Life 490
	13.5 Labor Unions 494
	13.6 Labor Market Discrimination 497

XI

	Key Terms 502
	Chapter Summary 502
	Questions for Discussion 503
CHAPTER 14	The Macro Economy 507
	14.1 The Aggregate Economy: Concepts 508
	14.2 Measurement of the Economy 511
	14.3 The Central Problem of Macroeconomics 513 Prosperity and Depression 514
	 14.4 The Role of Money in the Macro Economy 516 The Demand for Money 517 The Supply of Money 519 How the Fed Changes the Money Supply 522 The Supply and Demand for Money Combined 523
	14.5 Monetary Policy: How the Fed Affects the Economy 525 The Great Depression: Monetary Policy Gone Amok 528 Inflation and Unemployment 529 Rational Expectations Theory 531
	14.6 Fiscal Policy 533 Does the Deficit Matter? 534
	14.7 Policy Issues 538
	Key Terms 539
	Chapter Summary 540
	Questions for Discussion 542
	Afterword 544
	Hints & Answers 545
	Glossary 559
	Index 583

此为试读,需要完整PDF请访问: www.ertongbook.