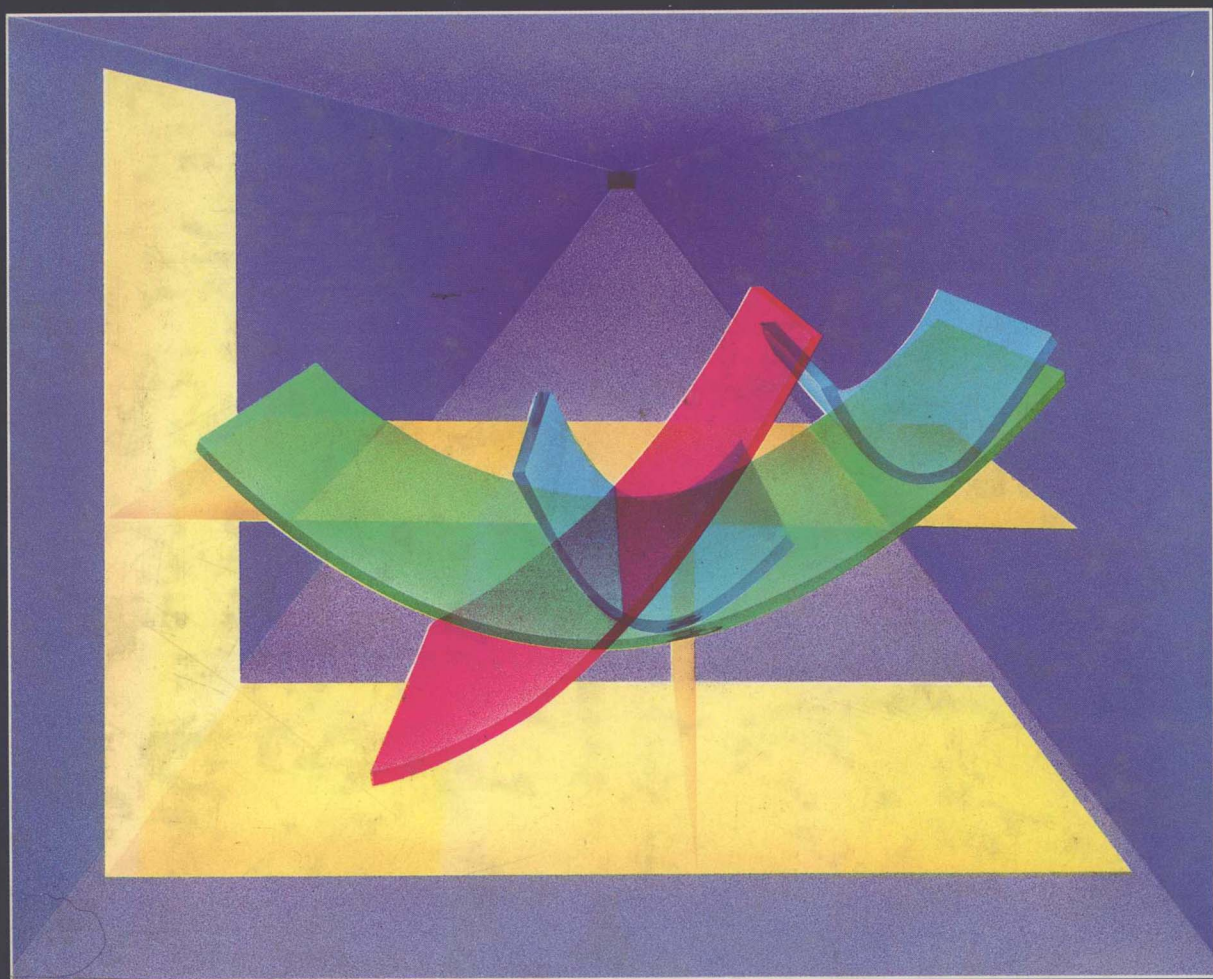


MICROECONOMICS

THEORY AND APPLICATIONS



G. S. Maddala

Ellen Miller

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ABOUT THE AUTHORS

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Ellen Miller is Assistant Professor of Economics at the University of North Carolina at Charlotte. She received her Ph.D. in economics from the University of Florida, with specialization in microeconomics and industrial organization.

To Kameswari, Tara, and Vivek

G.S.M.

To my Father

E.M.

With all the acceptable books on microeconomics available, why have we produced yet another one? The reason is that no one book develops the core topics patiently and clearly, while also giving students a sense of microeconomics as a field of study that is vibrant and always evolving. In addition to an exposition of the core topics that is more painstaking than most, to help the students develop the foundation so critical to economists' thinking, we include in this book references to the specific theorists and developments of the past. We also give, particularly in the later chapters, a sense of the "interesting edge" topics that involve the thinking of today's (and tomorrow's) microeconomists. These topics can be dealt with depending on the available time and needs of the instructors.

SPECIAL FEATURES OF THE BOOK

The following are some of the special features of this book.

- 1.** The book offers exceptionally patient and careful coverage of the core topics in microeconomics. Some examples are Chapters 4 and 5 (Theory and Analysis of Demand), Chapters 10 and 11 (Monopoly) and Chapter 19 (Externalities and Public Goods). In our opinion, this degree of care not only sets this book apart; it also helps students establish the strongest possible foundation in microeconomic analysis.
- 2.** The book also features in-depth coverage of many topics from current microeconomic research. Such topics as the rigidity of prices, advertising and market structure, the economics of uncertainty, the economics of information, and intertemporal choice and risk provide students with a sense of the dynamic nature of contemporary microeconomics. These topics can, however, be treated as optional and the instructor can pick and choose among them, as time permits, according to his/her and the student's interest.
- 3.** The book presents microeconomics in the context of its historical development, both in giving the development of core topics and explaining modern research. Numerous references to the classic economic literature help students understand the fabric of economic thought. In the discussion of indifference curves in Chapter 4, we point out that Edgeworth, who derived indifference curves, believed in cardinal utility rather than ordinal utility. In Chapter 18, we think students will find it interesting that one of the greatest mathematical economists, Walras, who developed general equilibrium theory, failed twice in a mathematics entrance examination and went to study literature before coming back to economics.
- 4.** The book features many innovative examples and applications of microeconomic theory. The applications in the book are both numerous and detailed.

They are designed to be of interest to both majors and non-majors and serve to demonstrate the relevance of the theory to the analysis of current issues and problems. The applications also cover a wide range of areas: energy economics, environmental economics, health economics, transportation economics, urban economics, and many others.

Some applications worked out in detail include: illegal activities and black markets (Chapter 2), food-stamp programs, gasoline tax (Chapter 4), welfare programs and negative income tax (Chapter 5), transportation improvement and land values (Chapter 9), medical insurance (Chapter 9), rent controls (Chapter 10), minimum wage laws (Chapter 15), the market for nurses (Chapter 16), economics of sports (Chapter 16), excess profits tax (Chapter 17), highway tolls and mass transit (Chapter 19), housing prices and Proposition 13 (Chapter 20), and the market for durable goods (Chapter 20).

5. The book features in-depth coverage of welfare economics for instructors who want to include this material in courses. It also treats the important topics of externalities and public goods with unusual clarity and completeness.

THE IMPORTANCE OF MICROECONOMICS

In microeconomics we study the economic behavior of individuals and firms, the different types of market organization, and how individuals and firms interact with the government. Though generalizations cannot be taken literally, many economists argue that it is in courses in microeconomics that students learn the fundamental principles of economic theory. The principles that are most important to the economists' way of thinking include the fundamentals of supply and demand, the distinction between accounting and opportunity cost, the relationship between the marginal and the average, and so on. In this book we present the basic principles of microeconomics in a thorough manner, and introduce numerous applications and policy problems throughout. Students thus learn both the tools of analysis and how to apply them to practical problems.

WHO CAN USE THE BOOK?

This text is appropriate for undergraduate intermediate level microeconomics courses in economics departments. It is also ideal for undergraduate or MBA courses in the business administration curriculum. The book covers all the basic material required for courses in microeconomics and also includes several supplemental topics so that instructors can choose the ones that they consider most appropriate. Knowledge of calculus is not required of the reader and, hence, this text can be used in more basic courses as well. We have paid careful attention to the figures that illustrate the arguments. The details of the figures are explained in the text so that the arguments flow in a logical way. For instructors who would like to adopt an algebra-based coverage, we have included a mathematical appendix in the *Instructor's Manual*.

Chapters 8, 9, 14, 18, 21, and some sections of the other chapters might be omitted in the more basic courses. Chapters 2 and 3 can be omitted in the more advanced courses. The book permits considerable flexibility in the choice of topics, particularly because the applications are included in each chapter.

PEDAGOGICAL AIDS

The book contains a wide variety of pedagogical learning aids, including:

- Chapter introductions
- Numerous diagrams and illustrations
- In-depth chapter summaries
- Lists of key terms in each chapter
- Questions and problems (solutions are given in the *Instructor's Manual*)
- A full glossary of terms at the end of the book
- Numerous examples of current topical interest

Supplemental readings are provided in the footnotes when the particular topic is discussed in the book. The students can, thus, pick the relevant supplemental readings that are of interest to them.

In addition to the many applications in the text, specially highlighted examples of particular current interest are often used to illustrate theory in a more in-depth manner. They include: the markets for copper, orange juice, and sugar (Chapter 2); the demand for gambling (Chapter 3); Christmas gifts (Chapter 4); doctor-nurse substitution (Chapter 6); pricing admissions to Disney World (Chapter 9); Texaco vs. Pennzoil (Chapter 13); and the costs of the 55 mph speed limit and gasoline mileage standards (Chapter 19).

SUPPLEMENTS

There are two supplements available with the book: an *Instructor's Manual* and a *Study Guide*. The *Instructor's Manual* provides general and specific comments on the development of the topics in each chapter, answers to the end of chapter questions, a test bank, and a mathematical appendix to the book. It also discusses a few additional topics and examples not fully covered in the book.

The *Study Guide*, prepared by professors Wayne Joerding and Rodney Fort of Washington State University, is intended to give the students further practice in the use of microeconomic theory. It provides several comprehensive tests for the students. These tests are in addition to the chapter overviews and self-study questions (multiple choice, true/false, problems). The answers to these tests are included in the *Instructor's Manual* so that professors can decide whether to use this material as additional self-study questions or as examinations.

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PART ONE

INTRODUCTION

Part One (Chapters 1 to 3) presents an introduction to microeconomic analysis. Chapter 1 deals with scarcity and choice as the fundamental basis of microeconomic analysis, the different types of microeconomic analysis, goals of microeconomic policy (efficiency and equity), and the nature of microeconomic models (assumptions and reality). It also presents a summary of the book. Chapter 2 presents a review of the general principles of demand and supply analysis, a determination of equilibrium price and quantity, and some exceptions to the conventional models of demand and supply. Chapter 3 deals with the different concepts of elasticity and their applications. Chapters 2 and 3 review basic material that students learn in a beginning course. However, there is some new material in these review chapters that students who already have had a beginning course in economics will find interesting.

In these and the subsequent chapters in the book, the presentation of the theory is reinforced throughout with applications of the theory as well as real world examples.