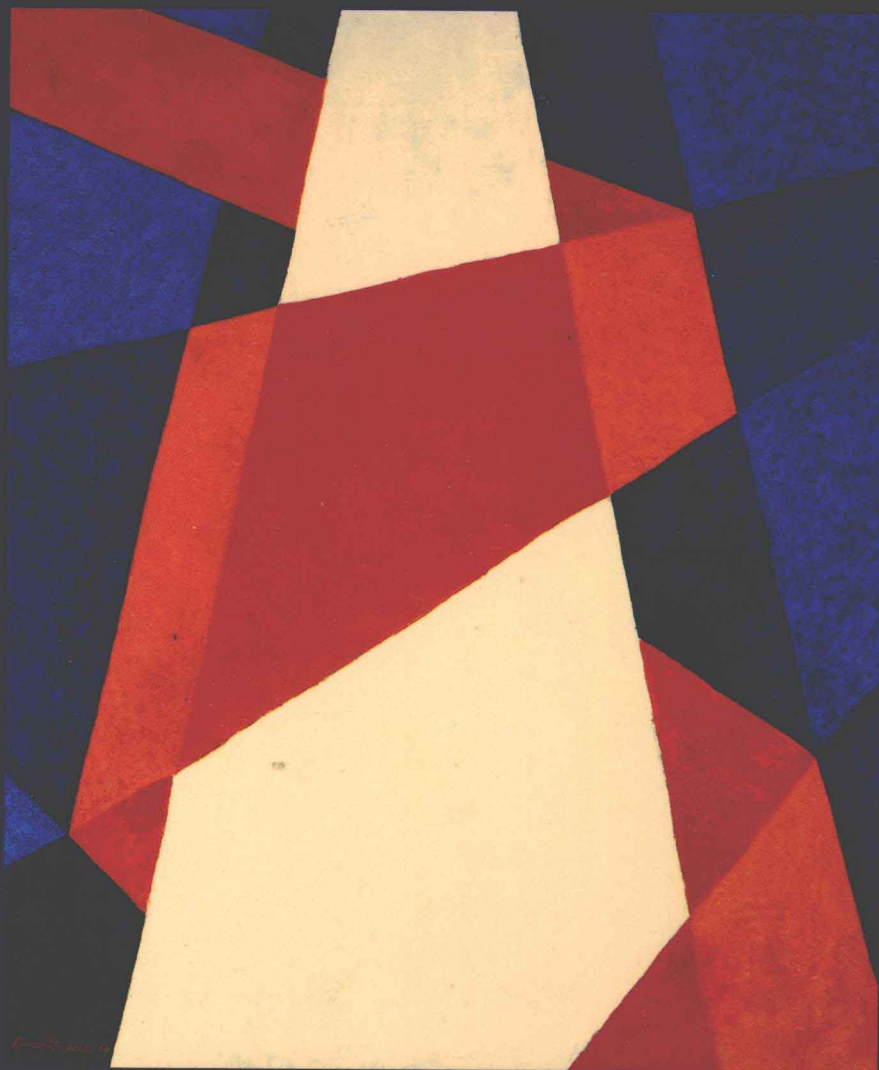


modern

Industrial Organization

Second Edition



Carlton • Perloff

modern

Industrial **O**rganization

Second Edition

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PREFACE



There's no IO without U.

SESAME STREET

Modern Industrial Organization, second edition, combines the latest theories with empirical evidence about the organization of firms and industries. It goes beyond the descriptive traditional structure-conduct-performance approach by using the latest advances in microeconomic theory, including transaction-cost analysis, game theory, contestability, and information theory. Practical examples illustrate the role of each theory in current policy debates, such as whether mergers promote economic efficiency (Chapter 2), whether predatory pricing is likely to be a serious problem (Chapter 10), whether preventing manufacturers from restricting distributors' prices would benefit consumers (Chapter 13), whether providing consumers with more information about prices or products would increase welfare (Chapter 14), whether advertising is harmful (Chapter 15), whether joint ventures are the best means of encouraging research (Chapter 17), whether current antitrust laws promote competition and increase welfare (Chapters 6, 13, and 20), and whether government regulation does more harm than good (Chapter 21).

Modern Industrial Organization is designed for use by both undergraduate and graduate students. The theories presented in the chapters require only a microeconomics course as a prerequisite and do not involve calculus. Technical appendixes supplement selected chapters and provide a rigorous foundation for graduate stu-

dents. Sections with stars are relatively difficult and may be skipped.

We have used this book in both undergraduate and graduate courses. In our undergraduate courses, we rely on the chapters and skip the technical appendixes. In graduate courses, we use the chapters and technical appendixes along with supplementary readings based on selected articles from each chapter's bibliography.

■ STRUCTURE OF THE BOOK

The first half of the book covers the basics of competition, monopoly, oligopoly, and monopolistic competition. Chapter 1 discusses the basic approach used in the book. Chapter 2 discusses why firms exist and covers market structure and merger activity. Chapters 3 through 5 develop the basics of microeconomic theory—costs, competition, monopoly, barriers to entry, and externalities—that are used throughout the rest of the book. Variations on the standard models (such a dominant firm facing a competitive fringe) are also presented.

Chapters 6 through 8 explain the recent developments in the theory of oligopoly and monopolistic competition. Chapter 6 covers cooperative oligopoly behavior (cartels) and Chapter 7 examines both cooperative and non-cooperative behavior based on game theory. Chapter 8 focuses on monopolistic competition

and product differentiation. Chapter 9 concludes the first half of the book with a thorough review and assessment of empirical work on market structure.

The second half of the book covers the “new industrial organization”—material that is often missing from traditional texts. These topics, essential for applying the theories of industrial organization to everyday problems, are at the heart of many public policy debates and are the focus of considerable recent research. Chapter 10 examines strategic behavior where firms determine the best ways to do battle with their rivals. Chapters 11 and 12 examine common pricing strategies such as price discrimination through quantity discounts and tie-in sales. Chapter 13 discusses common business practices between manufacturers and distributors (vertical integration and vertical restrictions) and the dramatic change in public policy in recent years toward these practices. The next two chapters, Chapters 14 and 15, address the problems that arise when consumers are not perfectly informed and when firms must advertise their products. Chapters 16 and 17 analyze how the durability of a product affects the market and how innovation can be encouraged. Chapter 18 examines evidence on the ways markets operate and explores how modern microeconomic models of industrial organization may affect the macroeconomic economy. The two concluding chapters, Chapters 20 and 21, analyze antitrust policy and government regulation.¹

Although we believe that *Modern Industrial Organization* contains innovative ideas, we

¹Sometimes commonly used words have special meanings in the law that differ from the standard usage by economists and the general public. We try to use clear language to express economic rather than legal principles. For example, we might say that the “price of wheat in the market in Chicago affects the price of wheat in the market in Kansas City.” Although such a statement uses the word “market” loosely, the point of the statement—that the prices of wheat in Chicago and Kansas City are related—is clear. In an antitrust trial, however, a specific legal definition of a market (see Chapter 20) is used and whether there are two separate markets or a single combined market is often of central interest. Our statement should not be interpreted to mean that there are necessarily two distinct wheat markets in Chicago and Kansas City for legal purposes.

recognize that any textbook must borrow from existing research. We have tried to indicate when we have relied on the insights of others. However, it is probably unavoidable that we have occasionally omitted a reference to some author whose ideas predated ours. We apologize in advance for any such oversights.

■ CHANGES IN THE SECOND EDITION

The major addition to this edition is the chapter on international trade and industrial organization (Chapter 19). More use is made of game theory, especially in Chapter 7 on oligopoly and Chapter 10 on strategic behavior. The book has been updated to cover recent important applications and new theories since our first edition in 1990. A new Instructor’s Manual (by Perloff and Klaas van ’t Veld) and a Canadian supplement (by Doug West) are available.

To keep the book from getting too long, we removed the first edition’s chapter on externalities. The theory of externalities and an application to pollution are covered in Chapters 4 and 5, but some of the other lengthier examples are gone. A few subsections of other chapters that our reviewers told us they rarely used were eliminated. To improve the organization of the book, the material from the two chapters in the first edition on dominant firms and on the U.S. market structure were merged into current Chapters 2, 4, 5, 9, and 10.

■ ALTERNATIVE COURSE OUTLINES

To cover the entire book takes two quarters or semesters. The book is designed, however, so that shorter courses can be constructed easily by choosing selected chapters, as shown in the following proposed reading lists. Chapters 2 through 5 review and extend the basic material that is often covered in an intermediate microeconomics course: the theory of the firm, costs, the theory of competition, the theory of monopoly, and externalities.

These chapters can be reviewed quickly for students with extensive preparation in microeconomics. Chapters 2 through 9 are the core chapters. Depending on the interests of the stu-

dents and the instructor, a one-quarter or semester course could then sample a few of the chapters in the second part of the book to obtain a flavor of the ways industrial organization can be used to study real world problems.

All courses:

Carefully cover Chapters 2 and 6 through 9, the core theory

For courses that do not assume a strong background in microeconomic theory:

Cover Chapters 3 through 5

Courses that assume a strong background in microeconomic theory:

Review quickly Chapters 3 through 5

Courses that require calculus:

Include the technical appendixes

Policy-oriented courses:

Cover international trade, antitrust, and regulation (Chapters 19 through 21). As time allows, include strategic behavior (Chapter 10), price discrimination (Chapter 11), vertical relationships (Chapter 13), limited information, advertising, and disclosure (Chapters 14 and 15), government policies toward innovation (Chapter 17), and macroeconomics (Chapter 18).

Regulation courses:

Regulations are dealt with throughout the book. Cover, in particular, externalities (Chapters 4 and 5), vertical relations (Chapter 13), limited information (Chapter 14), advertising and disclosure (Chapter 15), government policies toward innovation (Chapter 17), international trade (Chapter 19), and other government regulation (Chapter 21).

Business courses:

Include strategic behavior (Chapter 10), price discrimination (Chapter 11), (optionally, nonlinear pricing [Chapter 12]), vertical relations (Chapter 10), information and advertising (Chapters 11 and 12), and international trade (Chapter 19).

Courses that stress the latest theories:

Include strategic behavior (Chapter 10), vertical relations (Chapter 13), information and advertising (Chapters 14 and 15), government policies toward innovation (Chapter 17), market operation (Chapter 18), international trade (Chapter 19).

Advanced courses:

Add chapters on nonlinear pricing (Chapter 12) and durability (Chapter 16)

■ ACKNOWLEDGMENTS

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This book benefited extensively from the comments of our students who cheerfully served as "guinea pigs," reading and using the first edition and drafts of this version. Most importantly, we thank our families for their support.

Each author blames the other for all remaining mistakes. Each takes credit for any good jokes. Having just learned how the other voted in the last election, each disavows any support for the other's policy recommendations.

*Dennis W. Carlton
 Jeffrey M. Perloff*

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PART 1

INTRODUCTION

1 OVERVIEW



Leave all hope, ye that enter.

DANTE ALIGHIERI

This text presents both traditional and new theories of **industrial organization**: the study of the structure of firms and markets and of their interactions. Introductory microeconomics analyzes idealized models of firms and markets; this text takes a closer, more realistic look at them, warts and all.¹ In introductory physics, one first disregards gravity and friction in studying the movement of bodies, and then adds these complications to the analysis. The study of industrial organization adds to the perfectly competitive model real-world frictions such as limited information, transaction costs, costs of adjusting prices, government actions, and barriers to entry by new firms into a market. It then considers how firms are organized and how they compete in such a world. This chapter describes some of the approaches that help to organize the study of industrial organization, gives an overview of the material in later chapters, and describes some of the analytic tools that are used.

■ MODELS

There are at least two major approaches to the study of industrial organization, and, because they are compatible as organizing principles, this text uses both of them. The first approach, *structure-conduct-performance*, is primarily descriptive and provides an overview of industrial organization. The second, *price theory*, uses microeconomic models to explain firm behavior and market structure.

According to the structure-conduct-performance approach, an industry's

¹We use the terms *market* and *industry* loosely and interchangeably. In antitrust cases, important distinctions are made between these terms, as is discussed in later chapters.