

# Preface

In this first Canadian edition of *Microeconomics and Behaviour*, we have built on the strengths of preceding editions of the work, and have also made a number of changes that we believe will make it significantly more useful and accessible to Canadian students of microeconomics. *Microeconomics and Behaviour* is the first, and currently the only, intermediate microeconomics text designed specifically for Canadian students. At a basic but important level, in every chapter students will encounter Canadian spelling, units of measurement, people, companies, places, historical examples, and of course applications of microeconomic principles to Canadian economic policy issues.

Our purpose, however, has not been to produce a narrow, insular text. Quite the contrary. We have taken the opportunity provided by this new edition to include more examples of a North American and global *comparative* nature, so that students can gain a clearer sense of how microeconomic principles work themselves out in different political, economic, and institutional contexts. For similar reasons, we have introduced a number of examples drawn from the new media and institutions that will condition the development of the global economy in the early decades of the twenty-first century.

We have constantly kept in mind that the primary objective in virtually all intermediate microeconomics courses is to enable students to acquire a mastery of the *core* of microeconomics. Microeconomics is an evolving discipline. This fact is reflected in the text, where students will encounter a number of topics that we regard as *durable* contributions on the frontiers of microeconomics. Yet like any evolving field, microeconomics also has its share of “flavour of the month” analyses. We have made a conscious decision to eschew fad-chasing, in order to provide more thorough coverage of the *core* tools students will require in upper-level economics courses.

Microeconomic theory is the *lingua franca* of economists, and hence mastering micro-

economics is to a considerable extent a process of language learning. As with learning any language, becoming fluent in economics requires not only mastery of the *basic tools and concepts*, but also the acquisition of that intangible quality, *economic intuition* regarding precisely where and how these tools should be applied.

In our experience, three elements are vital in developing students' economic intuition. The first is that the *examples* through which they learn the concepts are *familiar* ones, so that students can build on what they *already* know in grounding the concepts in their own experience. The second is *reinforcement*: repetition with variations of the *same* concept in different contexts. Students thus acquire not merely abstract knowledge, but rather a *working* knowledge of how the models function in different contexts and under varying assumptions. The third is *enjoyment*. Learning economics *is* hard work, but it does *not* have to be boring. In the next two sections, "Continuing Strengths" and "New Features in this Edition," we outline the strategies we have followed to achieve our objectives.

## Continuing Strengths

### 1. COMBINATION OF RIGOUR AND ACCESSIBILITY

Previous editions of the work have been praised for their combination of rigorous development of the theory and an engaging, readable style. We have adopted a strategy of using puzzles, humour, and arresting examples to involve students in the process of acquiring the concepts. Yet in our experience, one of the best ways of ensuring accessibility and "user-friendliness" is a rigorous approach to the theory. Rigour and accessibility are complements, not substitutes.

We have not equated rigour with a flood of inadequately motivated mathematical symbolism. Rather, we interpret rigour as "playing fair" with the student: carefully specifying the assumptions of the models; indicating clearly how mathematical formulas and diagrams mirror the economic realities they are intended to capture; developing the logic of the argument in explicit, step-by-step fashion; and showing what happens to our conclusions when we relax certain assumptions. We have found that rigour in *this* sense actually *increases* access to that elusive capacity known as "thinking like an economist," by developing students' "curiosity bump" and their capacity to solve *new* puzzles that they haven't seen before in quite the same form.

### 2. REINFORCEMENT: THE PROBLEM-SOLVING APPROACH

Prior to the growth of e-commerce, the three keys to retailing success used to be described as "location, location and location." In our view, the three keys to mastering microeconomics are "practice, practice, and practice." **Every chapter** contains an integrated set of *worked-out examples*; *in-chapter exercises* (with answers at the end of the chapter) that allow students to test their understanding of the material as they go; and *end-of-chapter questions and problems*, which are graduated in difficulty from simple to challenging. In addition, the **Study Guide** provides for each chapter a multi-part "Case to Consider," *multiple choice questions*, and *problems*, while the **Instructor's Manual** includes an extended "Homework Assignment" which can be assigned during the term or reserved for examination purposes. No other text currently available provides this range of opportunities for students to practise and refine their skills and understanding.

### 3. FLEXIBILITY OF COURSE STRUCTURE

The text is designed to enable maximum flexibility in tailoring the course material to time constraints, desired degree of difficulty, and instructors' priorities. The core of a short one-term course is contained in 6 to 8 chapters (Chapters 3-5 and 9-11, to cover consumption and production theory and competitive market equilibrium; or Chapters 3-5 and 9-13, to cover imperfect competition models as well). Chapters 1 and 2 can either be treated as the start of the course (if a quick but illuminating review of introductory microeconomics is required), or they can be assigned as "Required Refresher" reading. Since they are incorporated into the text, the instructor has the *option* of teaching with them or assigning them as background reading, depending on the level of preparedness of the students.

Similarly, Chapters 6-8, 15, and 18 are designated as "Supplementary" chapters, so that a *thorough two-term core course* (including the above topics plus factor markets, general equilibrium, externalities and transaction costs, public goods and redistribution) *requires only 12 (or fewer) chapters*. It is common not to finish any text completely, but this text provides some realistic ways of making the course reading load manageable.

### 4. SUITABILITY FOR TEACHING AT A RANGE OF MATHEMATICAL LEVELS

The text is designed so that it can be used readily in a number of ways: for a course which requires calculus; for one which requires only basic high school mathematics; or for a course where some but not all students have calculus. Challenging end-of-chapter problems are indicated with a single asterisk (\*), and problems requiring calculus are indicated with double asterisks (\*\*). The calculus in the text, however, has been confined to footnotes and to the Chapter Appendices. Hence it is available for students who prefer or require it, but it does not present an obstacle for students who will not use it in the course.

### 5. INTEGRATION OF A STRATEGIC, GAME-THEORETIC FOCUS THROUGHOUT THE TEXT

The approach to game theory in virtually all current intermediate economics texts is to treat it as a special topic in the theory of the firm. The game theory discussion typically occurs either within the chapters on oligopoly and monopolistic competition or in a separate chapter adjacent to the imperfect competition chapters. Students tend to finish such a text with the notion that the strategic behaviour modelled by game theory is relevant only to the economics of the firm under conditions of imperfect competition.

We have adopted a different approach. The text is designed to illustrate that strategic behaviour pervades *all* economic activities, those of consumers as well as of firms. Concepts, theoretical components, and models reflective of a game-theoretic and strategic approach are developed not only in Chapter 13 ("Oligopoly and Monopolistic Competition") but also in Chapters 5, 6, 7, 8, 17, and 18, and in Appendices 6, 13, and 14.

In these chapters, students will learn how *basic* game-theoretic concepts can illuminate not only the strategic behaviour of the imperfectly competitive firm, but also such topics as positional goods, problems of credibility, commitment and trust, work-place safety and relative wages, *self-control*, cooperator-defector interactions, bounded rationality, and the strategic value of being or appearing *nonrational*.

The foregoing is not a complete list, but it should give a flavour of the ways in which the text unpacks game-theoretic elements from their imperfect-competition box and applies them to a wider range of economic strategic behaviour. Students are intended to come away from the text with an understanding that strategic behaviour is at the core (pun semi-intended) of economic activity, and that game-theoretical tools can be *widely* applied in understanding economic behaviour.

## 6. EXTENSIVE ANALYSIS OF “FRONTIER” TOPICS

Apart from its thorough coverage of the core of microeconomics, the text provides the most thorough and detailed discussion at the intermediate microeconomics level of a number of frontier research areas in economics:

- the Coase Theorem, externalities and property rights: what the theorem implies, and what it *doesn't* imply when there are costs of negotiation (Chapter 17)
- basic results in experimental economics (Chapters 1 and 8)
- evolutionary economics (Chapter 7)
- the economics of altruism, envy, and positional goods (Chapters 5, 7, 17, and 18 and Appendix 14)
- auctions and the “winner’s curse” (Appendix 6)

## *New Features in This Edition*

### 1. INTRODUCTION OF CANADIAN ILLUSTRATIONS

It has been argued that “microeconomics is microeconomics,” and that the origin of the examples used to illustrate microeconomic principles is unimportant. This edition is evidence that we do not accept this view. Students who read an entire text with only a few (if any) Canadian illustrations may tend to assume that “microeconomics doesn’t happen in Canada,” or that if it does happen here it’s probably not very important or interesting. Canadian illustrations have the dual advantage that they draw on situations that are (or should be) familiar *and* that they correct the misperceptions induced by a dearth of Canadian applications of the principles.

#### *An Application of the Rational Choice Model*

As the following example makes clear, the composite good construct enables us to deal with more general questions than we could in the simple two-good case.

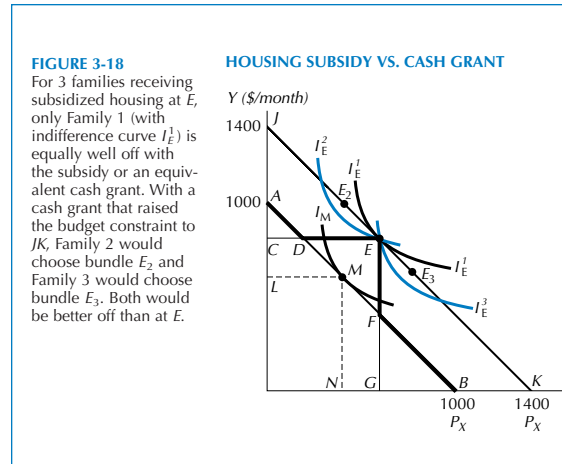
#### **E**XAMPLE 3-4

*Is it better to provide subsidized housing or cash to low-income families?*

Canada, like most other OECD countries, has employed a wide range of publicly subsidized “assisted housing” programs. One of the main objectives of *all* of these programs is to provide access to a primary human requirement for those most in need. The current annual cost of housing subsidies in Canada is estimated at over \$5 billion. Increasingly, in the allocation of the limited stock of subsidized housing units, the focus is on those high-need, low-income families who have to spend over 30 percent of their family income to rent adequate accommodation.

Rent subsidies are earmarked for accommodation alone. They are typically paid directly (in one form or another) to the landlord, and the “recipients” usually never see the money. Suppose that the housing subsidy to a family costs the government \$400 per month. Would the family have been better off if instead it

There is a further, and in our view even more compelling, reason for using Canadian illustrations. Students who are presented with a wealth of institutional detail from, say, the United States can come to treat such detail as an accurate depiction of the *Canadian* economic system. Yet with regard to competition policy (as distinct from U. S. anti-trust policy), legal environments, unions, agriculture, and the balance between public and



private sectors, there are significant differences between the Canadian and U. S. systems. The use of Canadian illustrations ensures that students will be *informed* about Canadian institutions and policies, rather than being actively *misinformed*, if they assume that conclusions drawn from U. S. examples apply in the Canadian context. Moreover, our use of *comparative* examples highlights the implications of institutional differences across countries, both in North America and globally, for economic behaviour.

## 2. EXPANDED TREATMENT OF GAME THEORY

We noted above that a continuing strength of the text is that it applies game-theoretic models throughout, rather than simply in the discussion of imperfect competition. This edition highlights more explicitly than did previous editions the links between the game theory in Chapter 13 (“Oligopoly and Monopolistic Competition”) and the uses of game-theoretic elements elsewhere in the text.

Moreover, the discussion of game theory in Chapter 13 has been significantly expanded in this edition, to give students both a clearer intuition about basic formal game-theoretic concepts and more extensive examples of how game theory can be applied to real world situations. In particular, there is an expanded discussion of the structure of the payoff matrix, minimax and other decision criteria, two-person *versus* n-person games, sequential games and repeated games, communication and information, and credible threats and commitments. The discussion aims at precision without being highly technical. The purpose is to give students a clear overview of the range of game theory, together with an awareness of what it can do and *also* what it cannot and does not pretend to do.

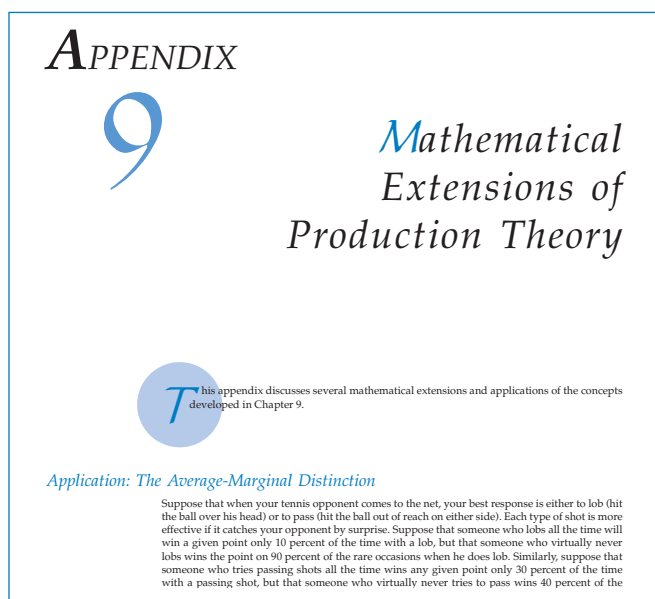
### GAME THEORY: A PRIMER

In working through these models of duopoly firm behaviour, you may have found yourself asking some questions. How could a Cournot duopolist be so foolish as to assume that its rival’s output will not adjust if the first duopolist changes its own level of output? At *any* point except the Cournot equilibrium, the rival would have an incentive (in the form of increased profits) to do just that. Surely the behaviour of the Bertrand duopolist is even more foolish. Does he really believe that his rival will quietly acquiesce in the loss of all of its sales and profits, when the rival, by adjusting its price slightly downward, can capture 100 percent of the market? Don’t both of them realize that the first to default and undercut the other’s price is setting them both on the path to zero profitability? Why can the two Stackelberg duopolists not simply agree on a mechanism to split the monopoly level of output and monopoly profits between them? After all, if the Stackelberg leader could produce by itself at the monopoly output level, it would have more than enough profits in hand to bribe or compensate the Stackelberg follower for ceasing production completely. Then both of them could be receiving higher profits than they would at the Stackelberg equilibrium.

There are in fact practical constraints (such as government competition legislation) on the possibilities for cooperation and collusion among oligopolists. But there are also

### 3. SUBSTANTIAL REVISION OF CHAPTER APPENDICES

Chapter Appendices, in significantly revised form, have been reintegrated into the text, for ease of reference. The principal changes involve the addition of Canadian content, structural streamlining, and the expansion of some of the mathematical material.



### 4. WEBSITE BASIC MATHEMATICAL REVIEW

In this edition, we have devoted considerable effort and attention to ensuring that the mathematical underpinnings of the text *assist* students in comprehending the economics, rather than constituting a “barrier to entry.” Even when calculus is a prerequisite or a co-requisite for admission, and *especially* when it is not, students come into intermediate microeconomics courses with widely varying skill levels, prior training in mathematics and degrees of rustiness. Moreover, in our experience the most serious problems of comprehension at this level are not with topics such as the use of Lagrangeans to solve constrained maximization problems, but rather with the most elementary mathematical concepts, such as interpreting the economic significance of the slope of a line in the context of different models.

Our online “Basic Mathematical Review” is unique among intermediate microeconomics text packages. It can be assigned (in part or in its entirety) at the beginning of the course, and referred to by students when the need arises as the course progresses. It thus provides both an “Early Warning System” and diagnostic basis for students from the outset of the course regarding areas where they need to upgrade their *basic* mathematical skills, and a self-contained reference centre for study and exam preparation.

Topics covered include: linear equations; solving linear simultaneous equation systems; ratios, proportions, percentages and weights; using economic units; average, marginal and total functions; elasticities; some special functions (Cobb-Douglas, perfect-complement, and perfect-substitute functions; constant elasticity functions; and so on); useful formulas; using exponents; and “Calculus Results for the Non-Calculus Speaker.”

## 5. OTHER MATHEMATICAL ADDITIONS

As mentioned above, problems requiring the use of calculus are now highlighted with a double asterisk (\*\*) in this edition. Often these problems are treated as “out of bounds” by students without calculus. We have designed most of these problems, however, so that they can be solved even by students who do *not* have calculus, by exploiting mathematical results such as the relationship between linear average and marginal curves (“same intercept, twice the slope”) and the special properties of Cobb-Douglas utility and production functions (developed in Appendixes 3 and 9).

## 6. THOROUGH REVISION OF END-OF-CHAPTER, *STUDY GUIDE*, AND *INSTRUCTOR’S MANUAL* TEST BANK QUESTIONS

For this edition, we have subjected all of the questions the students will face to close scrutiny, to ensure that there is a full range of difficulty in each chapter, that ambiguity in the questions has been removed, that the questions test all of the material covered in the text, and that they are relevant to Canadian students. In our experience, the better students can become frustrated if, for instance, the question does not specify that the marginal revenue curve is monotonically decreasing, but the “right” answer implicitly assumes that it is. The *student is* in fact right, but is being told that she is wrong. To avoid such frustrations, on the principle of “playing fair with the students,” we have emphasized the concept of “the *standard case*,” so that the better students are not frustrated and the weaker students are not misled.

## *Supplements and Web-Based Resources*

### FOR INSTRUCTORS:

**Instructor’s Manual and Test Bank** Each chapter contains a Chapter Summary, a Chapter Outline, Teaching Suggestions, a list of Stumbling Blocks for Students, Answers to Text Questions for Review and Problems, and Homework Assignments. Test Bank multiple-choice questions, problems, and essay questions are also included. The Instructor’s Manual is available in hard copy and as a downloadable file (password protected) on the Web site, [www.mcgrawhill.ca/college/frank](http://www.mcgrawhill.ca/college/frank).

**Computerized Test Bank** The Brownstone Diploma for Windows software contains a test-generation program (Exam for Windows), a grade-book program, and an online testing program. It can create a wide array of paper tests, self-grading HTML tests (administered over a campus intranet or the Internet), and network-based tests (administered over a campus network in a computer lab). Network-based tests can be automatically graded, and their results can be pulled directly into the grade-book program.

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## FOR STUDENTS:

**Study Guide ISBN 0-07-088972-4** Prepared by Patrick Martin, University of Guelph. For each chapter, the Guide provides these sections: Boiling Down (the chapter), Chapter Outline, Important Terms, A Case to Consider, Multiple-Choice Questions, Problems, and Solutions.

**Online Learning Centre** The **Online Learning Centre** to accompany *Microeconomics and Behaviour* provides students with study aids such as a Basic Mathematical Review, a searchable Glossary, and Quiz Questions. The Online Learning Centre is located at [www.mcgrawhill.ca/college/frank](http://www.mcgrawhill.ca/college/frank).

**GrafTool (Windows) ISBN 0-07-366089-2** Developed by Mark Reiman of Pacific Lutheran University, this Windows software contains 12 full-length tutorials, extensive graphical and numerical exercises, along with a hyperlink glossary and a bibliography.