STIGLITZ/BOADWAY

ECOND EDITION

PRINCIPLES OF MICROLCONOMY AND THE CANADIAN ECONOMY

PRINCIPLES OF MICROC O N O M I C S AND THE CANADIAN ECONOMY

SECOND EDITION

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QUEEN'S UNIVERSITY

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Printed in the United States of America.

The text of this book is composed in Zapf Book with the display set in Kabel Composition by TSI Graphics Manufacturing by Rand McNally Book design by Antonina Krass Cover painting: Laszlo Moholy-Nagy, *LIS*, 1922 Oil on canvas, 131 × 100 centimeters Courtesy of the Kunsthaus, Zurich Special thanks to Hattula Moholy-Nagy

Library of Congress Cataloging-in-Publication Data

Stiglitz, Joseph E.

Principles of microeconomics and the Canadian economy / Joseph E. Stiglitz, Robin W. Boadway.—2nd ed.

p. cm.

Includes bibliographical references and index.

ISBN 0-393-97053-1 (pbk.)

1. Microeconomics. I. Boadway, Robin W., 1943- . II. Title.

HB172.S863 1997

338.5—dc20

96-9691

W. W. Norton & Company, Inc., 500 Fifth Avenue, New York, N.Y. 10110 http://www.wwnorton.com

W. W. Norton & Company Ltd., 10 Coptic Street, London WCIA 1PU

1234567890

Preface

eginning students should know the vitality of modern economics, and this book is intended to show them. When we wrote the First Edition, we felt that none of the available texts provided an adequate understanding of the principles of *modern* economics—both those that are necessary to understand how modern economists think about the world around them and those that are required to understand current economic issues. Apparently, our feelings were shared by many others, as reflected by the success the First Edition has enjoyed, by the feedback we have received from the market, and especially by the responses our own students have had to the book. With the benefit of this feedback, we have made a painstaking effort to improve the book from cover to cover, focusing both on clarity and on conciseness. We believe both students and their instructors will be pleased with the result.

As with the First Edition, this edition closely parallels the Second Edition prepared for the American market by Joseph Stiglitz alone. Both versions have benefited from his role in U.S. policy making as chairman of President Clinton's Council of Economic Advisers and as a member of the Cabinet. His experience has confirmed the view that the traditional principles course is far removed from economic policy concerns and the modern economic advances that can illuminate them.

The need to confront modern economic policy problems with modern economic analysis is no less true in Canada. Indeed, many of the problems are essentially the same. Through our collaboration we have been able to

combine Stiglitz's policy experience with Boadway's intimate knowledge of the Canadian economy and the policy problems it faces.

Economics is the science of choice, and writing a textbook involves many choices. As we began working on the Second Edition, we were convinced that the choices made in the First Edition—for instance, the attention to new topics, such as technological change and finance, and the increased emphasis on information—moved the book in the right direction. But we were even more convinced that an understanding of these new topics had to be based on a solid foundation in established fundamentals, such as the law of supply and demand, the theory of household and firm decision making, and traditional perspectives on unemployment, inflation, and economic growth. Thus, the revision faced several seemingly conflicting challenges, not the least of which was the need to reinforce the exposition of the fundamentals while at the same time strengthening the discussion of new topics.

Several of the dramatic changes that loomed large in the early 1990s while the First Edition was being prepared still occupy centre stage, and new issues and perspectives have also emerged. The economic systems of formerly communist countries are still in collapse, with Eastern Europe and the former Soviet Union making slow and painful transitions to market economies. International investors, losing confidence in Mexico in 1995, precipitated a financial crisis that threatened to spread quickly and was only arrested through international cooperation. The countries of Africa have seen their desperate economic conditions worsen. The countries of East Asia, a bright spot in a world facing disappointment, have experienced unprecedented growth, in some cases at rates in excess of 10 percent year after year. Japan remains an economic powerhouse, while South Korea, Taiwan, and the other Asian "tigers" went from being poor backward countries to being major players by taking advantage of opportunities in international markets.

Beginning around 1973, growth in the industrialized countries, including Canada, slowed markedly. Here and in Europe, unemployment rates that in the 1960s had remained extremely low, often soared into double digits and stubbornly remained there. Economic inequality increased, with those at the bottom actually seeing their living standards deteriorate. The mid-1990s brought Canada signs of the reversal of some of these trends. Inflation fell to levels that had not been seen for a quarter of a century, and productivity began to pick up. The poverty rate began to decline, and incomes of all groups, especially those at the bottom, began to rise. But among many workers, anxiety remained high; while their real wages and incomes had begun to rise, they still had not recovered to their earlier peaks, and no one was sure these increases would continue. And unemployment remained stubbornly high, especially for new entrants into the labour force. Moreover, the enormous government debt that had built up over the past 15 years dramatically reduced the government's options: with a high proportion of the budget needed simply to pay interest on the debt, governments were hard pressed to maintain public services and to provide assistance to those in need. Moreover, another time bomb was on the horizon: aging baby boomers would soon put an unprecedented strain on the public pension and health care systems.

As the world has changed, expectations have changed as well. While there has been enormous improvement in the quality of air in our major cities and while Lake Erie has been rescued from becoming polluted to the point where life could not survive, our expectations about the environment have grown even faster; we have become increasingly aware of environmental costs. Longevity has increased, but our knowledge of how to prolong life has outstripped it, and rising health care costs have become a major political issue. The economic role of women has changed: not only have they taken a more active part in the labour force, but there has also been a revolution in expectations concerning the kinds of jobs women can hold.

And in virtually every one of the major issues facing the economy, there is a debate about the role of government. Government at all levels in Canada has grown enormously, largely due to the rapid growth of social programmes and of cash transfers to various groups in the economy. Before World War II, government took about one out of every six dollars of wages in taxes; today it takes more than one out of every three. There are differing views of government responsibility. For instance, people expect, even demand, that government do something about unemployment and provide free health care and education to all. But at the same time, there is a wider understanding of the limitations of government in an increasingly globalized economy. The increasing government deficits over the past decade, the largest in Canada's peacetime history, have meant that one of the wealthiest countries in the world seems short of money to maintain basic public programmes. Issues concerning the responsibilities, capabilities, and strategies of government in the economy have come to the centre of political debates.

These are exciting issues and events, and they fill the front pages of our newspapers and the evening television news shows. Yet in the recent past, teachers of the introductory course in economics have felt frustrated: none of the textbooks really conveyed this sense of excitement. Try as they might, none seemed to prepare the student adequately for interpreting and understanding these important economic events.

On reflection, one of the reasons for this becomes clear: the principles expounded in Alfred Marshall's classic textbook of a hundred years ago, or Paul Samuelson's now almost fifty years old, are not the principles for today. The way we economists understand our discipline has changed to reflect the changing world, but textbooks have not kept pace. Our professional discourse is built on a *modern* economics, but these new developments are simply not adequately reflected in any of the vast array of textbooks available to us as teachers.

Indeed, changes in economics over the past half century have been as significant as the changes in world events. The basic competitive model of the economy was perfected in the 1950s. Since then, economists have gone beyond that model in several directions as they have come to understand its limitations better. Earlier researchers paid lip service to the importance of

incentives and to problems posed by limited information. However, it was only in the last two decades that real progress was made in understanding these issues. The 1996 Nobel Prize in economics was awarded to two economists who pioneered our understanding of the role of information and incentives in the economy. Their work, and the work of others in this field, have found immediate applications. The collapse of the Soviet bloc economies, the debt crisis facing many less developed countries, the rush of major bankruptcies in the financial sector, and the escalating costs of health and unemployment insurance programmes can all be viewed as consequences of the failure to provide appropriate incentives. Thus, a central question in the debate over growth and productivity should be: How can an economy provide stronger incentives for innovation? The debate over pollution and the environment centres around the relative merits of regulation and providing incentives not to pollute and to conserve resources.

The past fifty years have also seen a reexamination of the boundary between economics and business. Subjects like finance and management used to be relegated to business schools, where they were taught without reference to economic principles. Today we know that to understand how market economies actually work, we have to understand how firms finance and manage themselves. Tremendous insights can be gleaned through the application of basic economic principles, particularly those grounded in an understanding of incentives. Stories of corporate takeovers have been replaced on the front page by stories of bankruptcies as acquiring corporations have found themselves overextended. The 1990 Nobel Prize was awarded to three economists who made the greatest contribution to the integration of finance and economics. Yet introductory textbooks had not yet built in the basic economics of finance and management.

We have also come to appreciate better the virtues of competition. We now understand, for instance, how the benefits of competition extend beyond price to competition for technological innovation. At the same time, we have come to see better why, in so many circumstances, competition appears limited. Again, none of the available textbooks seemed to provide students with a sense of this new understanding.

Samuelson's path-breaking textbook is credited with being the first to integrate successfully the (then) new insights of Keynesian economics with traditional microeconomics. Samuelson employed the concept of the neoclassical synthesis—the view that once the economy was restored to full employment, the old classical principles applied. In effect, there were two distinct regimes to the economy. In one, when the economy's resources were underemployed, macroeconomic principles applied; in the other, when the economy's resources were fully employed, microeconomic principles were relevant. The belief that these were distinct regimes was reflected in how texts were written and courses were taught; it made no difference whether micro was taught before macro, or vice versa. In the last decades, economists came to question the split that had developed between microeconomics and macroeconomics. The profession as a whole came to believe that macroeconomic behaviour had to be related to underlying microeconomic principles; there was one set

of economic principles, not two. But this view simply was not reflected in any of the available texts.

This book differs from most other texts in several ways. Let us highlight some of the most prominent distinctions.

- Reflecting the role of economics in policy making, we have introduced examples throughout the text to relate economic theory to recent policy discussions. In each chapter, a Policy Perspective box provides a vignette on a particular issue—such as the Goods and Services Tax, the reform of health care, environmental regulation, and patent protection for prescription drugs—both to enliven the course and to enrich the student's command over the basic material.
- Economists are a contentious lot, yet on most issues differences among economists pale in comparison to differences among noneconomists.
 Indeed, there is a high degree of consensus among economists, and we have drawn attention to this throughout the book with ten points of consensus in economics, among them scarcity, incentives, the benefits of trade, the role of prices, and competition.
- Rather than the traditional approach of stretching the competitive model out over the entire course, we cover it in a compact format in the first two parts of the book. This allows students to develop a complete picture of the basic model, before looking systematically at the role of imperfect markets. So when we turn to the discussion of the latter in Parts Three and Four, a better foundation has been laid for an understanding of such issues as technological change (Chapter 15), information problems and other imperfections in the product, capital, and labour markets (Chapter 16), and decision making within the firm (Chapter 17)—all subjects that get short shrift in other texts.
- Finance is recognized as an important part of economics. Chapter 8 introduces the basic ideas of time and risk, and presents a brief student's guide to investing. Chapter 16 shows how risk is traded on capital markets, and Chapter 17 discusses how firms raise the funds they need for investment and relates finance to struggles for corporate control.
- Throughout, issues of incentives and the problems posed by incomplete information are given prominence. To take but two of many examples, Chapter 16 discusses the role that reputation plays in providing firms with an incentive to maintain the quality of their products, and Chapter 17 discusses how firms try to motivate their managers and how managers try to motivate their workers—and the problems they encounter in doing so.
- As our understanding of the limitations of markets has increased, so has our understanding of the limitations of government, and the age-old question of the appropriate balance between government and the private sector has to be reexamined. This book looks at a wide range of policy issues, including how government can respond to the inefficiencies that arise from limited competition (Chapter 14) and what the government should do to preserve the environment (Chapter 19) and to promote greater equality (Chapter 20). The related issues of how and why government takes the decisions it does are considered in Chapter 18.

ACKNOWLEDGMENTS

It has been an honour and a delight to have the privilege of working with Joe Stiglitz in the preparation of this book. As most economists know, he is a remarkable person. Over the years, his writings in many fields have taught my cohort of teachers much. By the clarity and breadth of his work, Joe has served not only to define individual fields of economics (including risk and uncertainty, asymmetric information, tax and public expenditure theory, technological innovation, product diversity and market structure, capital theory, the operation of labour markets in both industrialized and developing countries, and decision making within institutions and bureaucracies, to name a few) but in many cases also to point out the common features of these various fields and the important role that incentives and information play in determining economic outcomes in each of them.

In particular, his application of economic analysis has always been motivated by a wish to explain important real-world phenomena. Writing technical articles for other teachers obviously did not go far enough. So he worked to create the *Journal of Economic Perspectives*, which has succeeded in making available the most abstract of advances in our discipline to a very wide audience of economists. His recent experience with President Clinton's Council of Economic Advisers allowed him to hone his skills at policy analysis further to the benefit of the country as well as economics. That he found time to work on a major revision of this text is testimony to his dedication to economics education.

My role in this venture has been to adapt the textbook to the special features of the Canadian economy and to the particular policy problems it faces. I am fortunate to have been given a free hand to do so and have tried to take advantage of the opportunity. This was not a difficult task. The principles of analysis are universal and apply to any market economy. It was simply a matter of showing their relevance to various issues of Canadian interest. These include our special industrial structure, which results from the combination of a relatively small population for our size, a rich endowment of natural resources, and a historic reliance on inflows of capital from abroad for our development; the importance of trade and financial flows with the rest of the world; the special relationship we have with our giant neighbour to the south, a relationship that has resulted in a sequence of negotiated trading arrangements; the role our government has assumed in providing an array of social programmes and programmes for regional development; and the importance of our relatively decentralized federal system of government. Not surprisingly, many of the current policy problems facing Canada are similar to those facing the United States as well as other developed economies, including lagging productivity growth, difficulties in balancing our trade in the face of increased international competition, and concerns about the way our governments go about their business, both in terms of the services they provide and the difficulty of covering their costs. These issues are all reflected in the Canadian Edition of this book.

Previous users of the book will recognize a considerable shortening of the text and a corresponding reduction in the number of chapters. This is in direct response to the advice of the several reviewers of the First Edition who recognized better than I that students need to do more than devote their attention to economics during their first year of study. The ideas have not changed, only the economy and efficiency with which they have been presented.

In addition to my deep debt to Joe Stiglitz for giving me the opportunity to participate in this venture, I have also received some exceptional help in preparing the Second Canadian Edition. I am particularly indebted to my colleague Ian Cromb, whose assistance and advice was invaluable in preparing the various Close-up, Policy Perspective, and Using Economics boxes in the text and in helping compile the data for the many tables and graphs. He brought to the collaboration not only his good judgment and good humour but also his wide experience as a principles instructor at Queen's and elsewhere in Canada. Alan Harrison of McMaster University also provided very helpful advice on how to approach various topics in student-friendly ways. My wife, Bernie, helped on this edition, as on the first one, with many of the editorial matters. I also benefited greatly from the reactions of my students in the introductory course at Queen's.

This edition and the previous one have benefited from numerous reviewers. The book has been improved immeasurably by their advice—some of which, quite naturally, was conflicting. In particular, I would like to thank: Douglas W. Allen, Simon Fraser University; James Feehan, Memorial University of Newfoundland; Hugh Grant, University of Winnipeg; Geoffrey B. Hainsworth, University of British Columbia; Michael J. Hare, University of Toronto; Ian J. Irvine, Concordia University; David Johnson, Wilfrid Laurier University; Rashid Khan, University of New Brunswick; Robert R. Kerton, University of Waterloo; R. F. Lucas, University of Saskatchewan; Henry Rempel, University of Manitoba; Ian Rongve, University of Regina; Peter Sinclair, Wilfrid Laurier University; and Leon P. Sydor, University of Windsor.

This book bears more than the logo of W. W. Norton, a company that reflects many of the aspects of organizational design that I discuss in the text. The book would not be nearly the one it is without the care, attention, and most important, the deep thought devoted to it by so many there. I cannot sufficiently acknowledge my indebtedness to Drake McFeely, who served as my editor on the First Edition (and succeeded Don Lamm as president of Norton), and Ed Parsons, who served as my editor on the Second Edition. Both have been concerned about the ideas and their presentation and both have been tough, but constructive, critics. Kate Scott, the manuscript editor, and Kelly Nusser, the project editor, contributed to the book with uncompromising care and precision. And Rosanne Fox showed that the practice of proofreading is indeed an art and that she is a wonderfully accomplished artist. All five made our work harder, so that readers of this book would have an easier time. Three others at Norton also deserve mention: Claire Acher, for

outstanding editorial assistance, and Roy Tedoff and Jane Carter for coordinating the production of the book.

Three other people have worked closely with Joe Stiglitz on the two American Editions, and many of their contributions carry over to the Canadian Edition: Timothy Taylor on the First Edition and Felicity Skidmore and John Williams on the Second. All gave their energy and creativity to the enterprise, applying their deep understanding of economics with a commitment to the notion that it is important for modern economic ideas to be communicated widely. The book is immeasurably better as a result.

Necessary and valuable adjuncts to the book are the *Study Guide* for students and the *Instructor's Manual* and test bank for teachers. The *Study Guide* was very capably revised for the Second Canadian Edition by Alan Harrison of McMaster University. It was based on the U.S. Edition prepared by Lawrence Martin of Michigan State University. I took on the *Instructor's Manual* with the careful and helpful assistance of Travis Armour. Alan Harrison also prepared the test bank, and Stephen R. King and Rick M. McConnell are responsible for the unusual and effective computer tutorials.

Finally, though I tried to complete this task with minimal disruption to my family, I am sure that is not the way it seemed to them. At least they know that if it were not this, it would have been something else. In any case, they showed characteristic patience with my preoccupations. My only defence is to suggest that a good understanding of the principles of economics by whomever should study it at colleges and universities in Canada can only help to serve the interests of my sons' generation.

I especially dedicate this book to Andrew, who has struggled with a disease that few can understand. The plight of those like him should remind us that the study of economics serves a broader social purpose than just the self-interest of market participants.

OUTLINE FOR A SHORT COURSE IN MICROECONOMICS

This book is suitable for short courses offered under a semester system or other abbreviated schedules. Below we offer a provisional outline for such a short course, omitting several chapters. Naturally, to a large extent *which* topics get omitted is a matter of taste. The following is our selection for a short course using fifteen chapters.

Chapter Number	Chapter Title
1	The Automobile and Economics
2	Thinking Like an Economist
3	Trade
4	Demand, Supply, and Price
5	Using Demand and Supply
6	The Consumption Decision
7	Labour Supply
8	Saving and Investing
9	The Firm's Costs
10	Production in a Competitive Industry
12	Monopolies and Imperfect Competition
14	Government Policies towards Competition
16	Imperfect Information
18	Government and Public Decision Making
20	Taxation, Redistribution, and Social Insurance

OUTLINE FOR A ONE-SEMESTER FULL COURSE

This book may be used with its companion volume, *Principles of Macroeconomics and the Canadian Economy* (Second Edition), in either a one- or two-semester course covering both microeconomics and macroeconomics. Below is our suggested outline for a one-semester course, including chapters from both books. Chapters from the macroeconomics volume are indicated with asterisks. The outline includes most of the fundamentals, but of necessity it must leave out some of the exciting new topics. Naturally, *which* topics get omitted is a matter of taste. The following is our selection for a short course using twenty chapters.

Chapter Number	Chapter Title
2	Thinking Like an Economist
3	Trade
4	Demand, Supply, and Price
5	Using Demand and Supply
6	The Consumption Decision
8	Saving and Investing
9	The Firm's Costs
10	Production in a Competitive Industry
12	Monopolies and Imperfect Competition
16	Imperfect Information
18	Government and Public Sector Decision Making
6*	Macroeconomic Goals and Measures
8*	The Full-Employment Model
10*	Overview of Unemployment Macroeconomics
11*	Aggregate Demand
13*	Money, Banking, and Credit
14*	Monetary Theory
16*	Inflation: Wage and Price Dynamics
20*	Intergenerational Transfers: Deficits and Public Pensions
21*	Trade Policy

hese days economics is big news. If we pick up a newspaper or turn on the television for the prime-time news report, we are likely to be bombarded with statistics on unemployment rates, inflation rates, exports, and imports. How well are we doing in competition with other countries, such as Japan? Everyone seems to want to know. Political fortunes as well as the fortunes of countries, firms, and individuals depend on how well the economy does.

What is economics all about? That is the subject of Part One. Chapter 1 uses the story of the automobile industry to illustrate many of the fundamental issues with which economics is concerned. The chapter describes the four basic questions at the heart of economics and how economists attempt to answer these questions.

Chapter 2 introduces the economists' basic model and explains why notions of property rights, profits, prices, and cost play such a central role in economists' thinking.

A fact of life in the modern world is that individuals and countries are interdependent. Even a wealthy country like Canada is dependent on foreign countries for vital imports. Chapter 3 discusses the gains that result from trade—why trade, for instance, allows greater specialization and why greater specialization results in increased productivity. It also explains the patterns of trade—why each country imports and exports the particular goods it does.

Prices play a central role in enabling economies to function. Chapters 4 and 5 take up the question of what determines prices. What causes prices to change over time? Why is water, without which we cannot live, normally so inexpensive, while diamonds, which we surely can do without, are very expensive? What happens to the prices of beer and cigarettes if the government imposes a tax on these goods? What happens if the government restricts the quantities that can be produced and sold, as in the case of some agricultural products? Sometimes the government passes laws requiring firms to pay wages of at least so much or forbidding landlords to charge rents that exceed a certain level; what are the consequences of these government interventions?

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