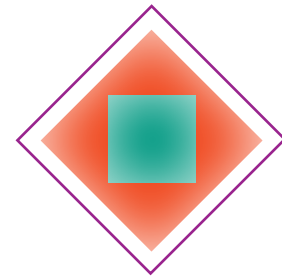


ECONOMICS

THIRTEENTH EDITION



MICHAEL PARKIN

University of Western Ontario



New York, NY

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TO ROBIN



ABOUT THE AUTHOR

Michael Parkin is Professor Emeritus in the Department of Economics at the University of Western Ontario, Canada. Professor Parkin has held faculty appointments at Brown University, the University of Manchester, the University of Essex, and Bond University. He is a past president of the Canadian Economics Association and has served on the editorial boards of the *American Economic Review* and the *Journal of Monetary Economics* and as managing editor of the *Canadian Journal of Economics*. Professor Parkin's research on macroeconomics, monetary economics, and international economics has resulted in over 160 publications in journals and edited volumes, including the *American Economic Review*, the *Journal of Political Economy*, the *Review of Economic Studies*, the *Journal of Monetary Economics*, and the *Journal of Money, Credit and Banking*. He became most visible to the public with his work on inflation that discredited the use of wage and price controls. Michael Parkin also spearheaded the movement toward European monetary union. Professor Parkin is an experienced and dedicated teacher of introductory economics.



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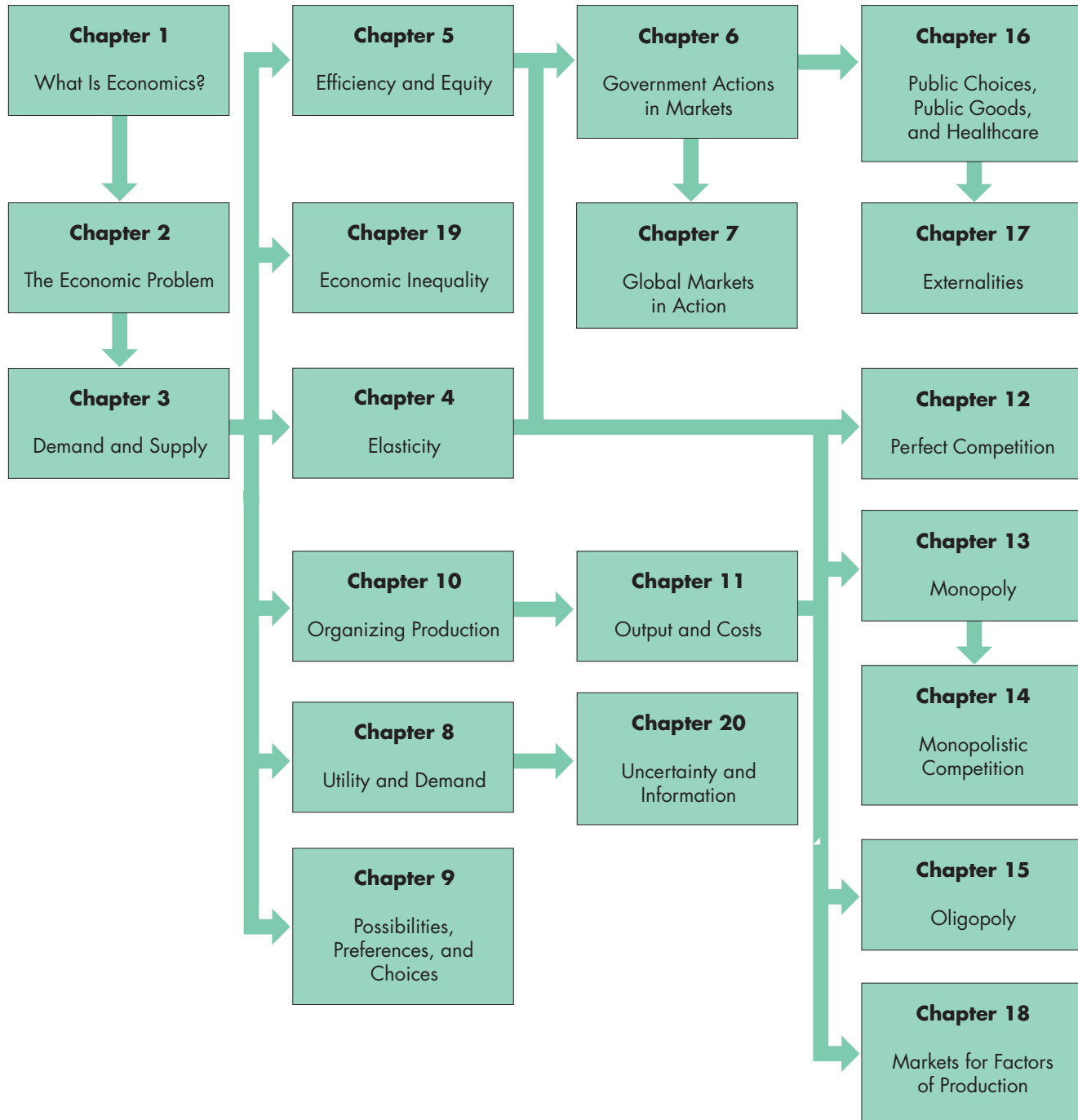
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ALTERNATIVE PATHWAYS THROUGH MICRO CHAPTERS

Micro Flexibility



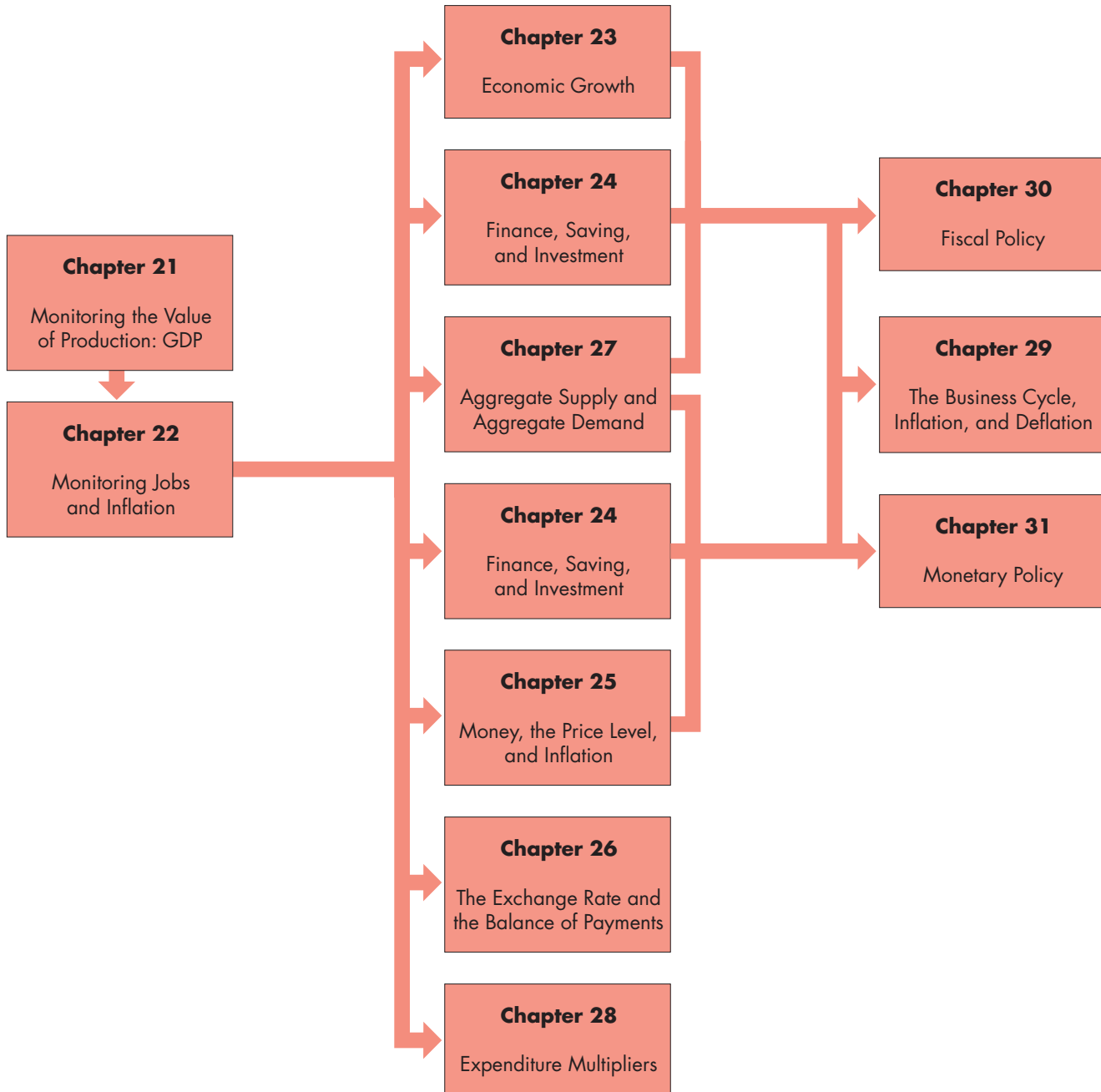
Start here ...

... then jump to
any of these ...

... and jump to any of these after
doing the pre-requisites indicated

ALTERNATIVE PATHWAYS THROUGH MACRO CHAPTERS

Macro Flexibility



Start here ...

... then jump to
any of these ...

... and jump to any of these after
doing the prerequisites indicated

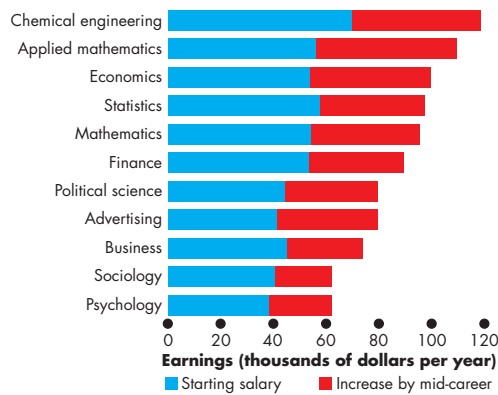
New To This Edition

All data figures, tables, and explanations thoroughly updated to the latest available; six main content changes; 40 new Economics in the News items based on recent events and issues; almost 150 new news-based problems and applications; and all seamlessly integrated with MyLab Economics and Pearson eText: These are the hallmarks of this thirteenth edition of *Economics*.

Main Content Changes

Chapter 1 now contains an entirely new section, “Economists in the Economy”, which describes the types of jobs available to economics majors, their earnings compared with majors in other related areas, and the critical thinking, analytical, math, writing, and oral communication skills needed for a successful career in economics.

FIGURE 1.4 Earnings of Economics Majors



Economics majors are not the highest earners—chemical engineers and applied mathematicians earn more—but at \$100,000 a year in mid-career, economists earn more than most other majors.

Source of data: American Economics Association, <https://www.aeaweb.org/resources/students/careers/earnings>

MyLab Economics Animation

Chapter 2 has a new section prompted by the ongoing concern about the rust-belt economy, its causes and cures, which describes and illustrates the changing patterns of production as an economy expands, and explains how technical change and economic growth first shrinks the share of agriculture as manufacturing expands and later shrinks the share of manufacturing as services expand.

Chapter 2 also has an expanded explanation and graphical derivation of the outward-bowed *PPF*.

A revised *At Issue* feature in Chapter 5 on the minimum wage now includes David Neumark’s combination of all the most recent empirical studies and Michael Luca’s Stanford Institute for Economic Policy Research pioneering study using a huge dataset from online review resource Yelp.

AT ISSUE

Does the Minimum Wage Cause Unemployment?

In the United States, the federal government’s Fair Labor Standards Act sets the federal minimum wage. In 2017, it was \$7.25 an hour, a level set in 2009. Most states have a minimum wage that exceeds the federal minimum.

Does the minimum wage result in unemployment? And if so, how much unemployment does it create?

No, It Doesn’t

David Card of the University of California at Berkeley and Alan Krueger of Princeton University conducted a very large and carefully designed telephone survey of more than 400 employers of workers who earn the minimum wage. They say:

- An increase in the minimum wage *increases average employment and decreases unemployment.*
- Their study of minimum wages in California, New Jersey, and Texas found that the employment rate of low-income workers increased following an increase in the minimum wage.
- A higher wage *increases* employment by making workers more conscientious and productive as well as less likely to quit, which lowers unproductive labor turnover.
- A higher wage rate also encourages managers to seek ways to increase labor productivity.

Yes, It Does

- David Neumark of the University of California, Irvine combined all the most recent studies and says they show that a 10 percent rise in the minimum wage *decreases average employment* by between 1 and 3 percent.
- Daniel Hamermesh of the University of Texas, at Austin says that firms anticipated the rise and cut employment *before* the minimum wage goes up.
- Finis Welch of Texas A&M University and Kevin Murphy of the University of Chicago say regional differences in economic growth caused the employment effects that Card and Krueger found.
- Michael Luca of the Stanford Institute for Economic Policy Research used a huge dataset from online review resource Yelp and found that a higher minimum wage rate increases the business failure rate.

Chapter 24 has been reorganized and streamlined with less on the 2007–2008 financial crisis and more on the fluctuating sources of loanable funds.

Chapter 31 has a new explanation of the federal funds rate “corridor” and a reworked final section now titled “Financial Crisis: Cure and Prevention”, which includes material on Dodd–Frank, the Volcker Rule, and other macroprudential regulation.

Economics in the News

The new *Economics in the News* features are listed on the back inside cover. They are all chosen to address current issues likely to interest and motivate the student. An example is the one in Chapter 2 on the Rust Belt.

ECONOMICS IN THE NEWS

Production Possibilities in the Rust Belt

Can President Trump Rescue the Rust Belt?

The Fiat
March 18, 2017

President Trump promised to reverse the decades-long decline of manufacturing jobs. Can it be done? ...

... The region, which stretches from western New York to Pennsylvania, Ohio, Michigan, Indiana, Illinois, and Wisconsin, has been in serious decline since 1979—the year that U.S. manufacturing employment peaked. Over the past four decades, manufacturing jobs have plunged by 7 million as factories have downsized, closed, and outsourced work to low-wage countries such as Mexico and China. ...

Trump already claims credit for pressuring several companies, including Carrier, to keep or create jobs in the U.S. ... in exchange for various economic incentives. [And he] has floated the possibility of tariffs and import taxes of 20 to 35 percent on products made in Mexico, China, and other countries. ...

Will these policies work? Few economists think so. ... About 85 percent of the 5 million factory jobs lost between 2000 and 2010 can be blamed on technology and robots, according to a Ball State University study. That’s why virtually all economists agree that losing half a million of lost jobs is unlikely. ...

So, are Rust Belt workers doomed? Not necessarily. But economists agree they do need to be retrained for the new manufacturing age, which requires workers who can program and operate computers and robots. The U.S. will need to fill 3.5 million skilled jobs in specialized manufacturing over the next decade, according to a 2016 White House report. ...

“Can President Trump Rescue the Rust Belt?” *The Fiat*, March 18, 2017. Retrieved October 10, 2017. <http://www.fiat.com/usa/en/100151/production-recovery-again.html>

MyLab Economics Economics in the News

ESSENCE OF THE STORY

- The Rust Belt is hurting because manufacturing jobs have fallen by 7 million since 1979.
- President Trump proposes economic incentives to lure or create jobs in the United States and taxes on imports from Mexico and China.
- Now economists think those policies will work because most of the factory jobs lost resulted from new technology and robots.
- Economists say that Rust Belt workers need to be retrained to operate new technologies.

News-Based Problems and Applications

Just a sample of the topics covered in the 140 new news-based problems and applications include: Shrinking brick-and-mortar retail and expanding online shopping; fixed price food at the ball game; Facebook and Google in mobile ads market; Starburst “All Pink”; merit pay for teachers; Amazon’s impact on the jobs market; paying with smartphone; and the effects of Irma and Harvey on the federal budget.

Solving Teaching and Learning Challenges

To change the way students see the world: this is my goal in teaching economics, in writing this book, and in playing a major role in creating content for MyLab Economics.

Three facts about students are my guiding principles. First, they want to learn, but they are over-whelmed by the volume of claims on their time and energy. So, they must see the relevance to their lives and future careers of what they are being asked to learn. Second, students want to get it, and get it quickly. So, they must be presented with clear and succinct explanations. And third, students want to make sense of today’s world and be better prepared for life after school. So, they must be shown how to apply the timeless principles of economics and its models to illuminate and provide a guide to understanding today’s events and issues, and the future challenges they are likely to encounter.

The organization of this text and MyLab arise directly from these guiding principles. Each chapter begins with a clear statement of learning objectives that correspond to each chapter section.

The learning resources also arise directly from the three guiding principles, and I will describe them by placing them in five groups:

- Making economics real
- Learning the vocabulary
- Seeing the action and telling the story
- Learning interactively—learning by doing
- MyLab Economics

Making Economics Real

The student needs to see economics as a lens that sharpens the focus on real-world issues and events, and not as a series of logical exercises with no real

purpose. *Economics in the News* and *At Issue* are designed to achieve this goal.

Each chapter opens with a student-friendly vignette that raises a question to motivate and focus the chapter. The chapter explains the principles, or model, that address the question and ends with an *Economics in the News* application that helps students to think like economists by connecting chapter tools and concepts to the world around them. All these news exercises are in MyLab with instant targeted feedback and auto-grading and constant uploading of new current exercises.

In many chapters, an additional briefer *Economics in the News* (shown here) presents a short news clip, supplemented by data where needed, poses some questions, and walks through the answers.

ECONOMICS IN THE NEWS

The Market for College Education

Why Is Tuition So High?
Is tuition high because professors are overpaid? Is it high because of cuts in state support for public colleges? A National Bureau of Economic Research study says tuition is high because of the ready availability of federal student aid. The more money students can borrow, the more colleges can charge.

Source: *Inside Higher Ed*, February 9, 2016

THE DATA
The scatter diagram provides data on college enrollments and tuition from 1971 through 2015.

Figure 1 Enrollments and Tuition: 1971–2015

THE QUESTIONS

- What does the scatter diagram tell us?
- Why has college tuition increased? Is it because demand increased or supply decreased?

THE ANSWERS

- The scatter diagram tells us that in most years from 1971 through 2015, both tuition and enrollments increased. In some years, tuition increased and enrollments decreased, but those years are few.
- An increase in demand brings a rise in the price and an increase in the quantity.
- Because both the price (tuition) and quantity (enrollments) increased, the demand for college education increased.
- A decrease in supply brings a rise in price and a decrease in the quantity.
- Because the price and the quantity increased in most years, the supply of college education did not decrease.
- The figure shows the market for college education.

- The supply curve of college education, S , slopes upward because the principle of increasing opportunity cost applies to college education just as it does to other goods and services.
- In 2001, the demand for college education was D_{2001} . The equilibrium tuition was \$14,000 and 10 million students were enrolled in college.
- Between 2001 and 2015:
 - 1) Income per person increased
 - 2) Population increased, and
 - 3) More new jobs required higher education.
- These (and possibly other) factors increased the demand for a college education. The demand curve shifted rightward to D_{2015} . Equilibrium tuition increased to \$21,000 and the quantity supplied increased to 13 million students.

Figure 2 The Market for College Education

MyLab Economics Economics in the News


Ten *At Issue* boxes, two of which are new, engage the student in debate and controversy. An *At Issue* box introduces an issue and then presents two opposing views. It leaves the matter unsettled so that students and the instructor can continue the argument in class and reach their own conclusions.

Economics in Action boxes make economics real by providing data and information that links models to real-world economic activity. Some of the issues

covered in these boxes include the best affordable choice of recorded music; the low cost of making and the high cost of selling a pair of shoes; how Apple doesn't make the iPhone; opposing trends in air pollution and carbon concentration; and the size of the fiscal stimulus multipliers.

Interviews with leading economist, whose work correlates to what the student is learning, are the final component of making economics real. These interviews explore the education and research of prominent economists and their advice for those who want to continue studying the subject.

TALKING WITH Esther Dufo*



ESTHER DUFO is the Abdul Latif Jameel Professor of Poverty Alleviation and Development Economics at the Massachusetts Institute of Technology. Among her many honors are the 2010 John Bates Clark Medal for the best economist under 40 and the Financial Times and Goldman Sachs Business Book of the Year Award in 2011 for her book (with Abhijit Banerjee) *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty*. Professor Dufo's research seeks to advance our understanding of the economic choices of the extremely poor by conducting massive real-world experiments.

Professor Dufo was an undergraduate student of history and economics at Ecole Normale Supérieure and completed a master's degree at DESTA in Paris before moving to the United States. She earned her PhD in Economics at MIT in 1999.

Michael Parkin talked with her about her work, which advances our understanding of the economic choices and condition of the very poor.

Professor Dufo, what's the story about how you became an economist and in particular the architect of experiments designed to understand the economic choices of the very poor?

When I was a kid, I was exposed to many stories and images of poor children through my mother's engagement as a doctor in a small NGO dealing with child victims of war and through books and stories about children living all around the world. I remember asking myself how

I could justify my lack of being born where I was. I had a very exaggerated idea of what it was to be poor, but this idea caused sufficient discomfort that I knew

I had to do something about it, if I could. Quite by accident, I discovered that economics was the way in which I could actually be useful. While spending a year in Russia teaching French and studying History, I realized that academic economists have the ability to intervene in the world while keeping enough sanity to analyze it. I thought this would be ideal for me and I have never regretted it. I have the best job in the world.

... imagine living on under a dollar a day after your rent is paid in Seattle or Denver. Not easy!

The very poor whom you study are people who live on \$1 a day or \$2 a day ... Is \$1 a day a true measure that includes everything these poor people consume?

For defining the poverty line, we don't include the cost of housing. The poor also get free goods, sometimes of bad quality (education, healthcare) and the value of those is also not included. Other than that, yes, it is everything.

Moreover, you have to realize this is everything, taking into account the fact that life is much cheaper in many poor countries because salaries are lower, so anything that is made and consumed locally (eg, a haircut) is cheaper.

For example, in India, the purchasing power of a dollar (in terms of the real goods you can buy) is about 3 times what it is in the United States. So the poverty line we use for India is 33 cents per day, not a dollar.

All told, you really have to imagine living on under a dollar a day after your rent is paid in Seattle or Denver. Not easy!

Learning the Vocabulary

Learning the vocabulary isn't exciting, but it is the vital first step to every discipline and it needs to be effective and quick. Highlighted key terms simplify this task. Each key term is defined in the sentence in which it is highlighted and appears in an end-of-chapter list and the end-of-book glossary (both with its page number); boldfaced in the index; and in MyLab Economics in an interactive glossary, Flash Card tool, and in an auto-graded Key Terms Quiz with targeted student feedback.

Key Terms

Change in demand, 62	Demand curve, 62
Change in supply, 67	Equilibrium price, 70
Change in the quantity demanded, 65	Equilibrium quantity, 70
Change in the quantity supplied, 68	Inferior good, 64
Competitive market, 60	Law of demand, 61
Complement, 63	Law of supply, 66
Demand, 61	Money price, 60
	Normal good, 64

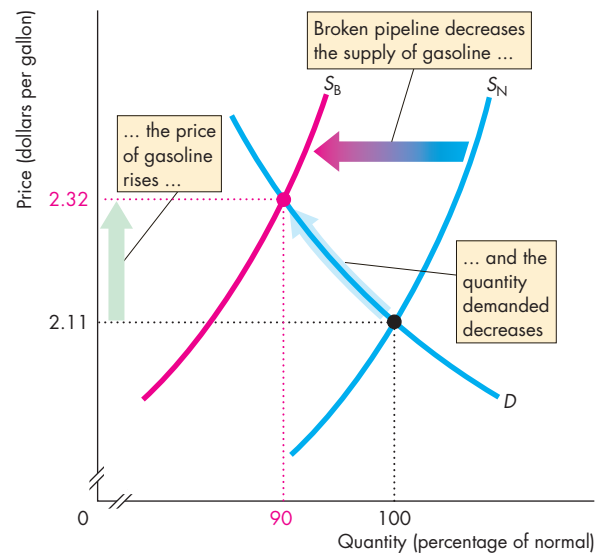
MyLab Economics Key Terms Quiz

Quantity demanded, 61
Quantity supplied, 66
Relative price, 60
Substitute, 63
Supply, 66
Supply curve, 66

Showing the Action and Telling the Story

Through the past twelve editions, this book has set the standard of clarity in its diagrams; the thirteenth edition continues to uphold this tradition. My goal is to show "where the economic action is." The diagrams in this book continue to generate an enormously positive response, which confirms my view that graphical analysis is the most powerful tool available for teaching and learning economics at the principles level.

Recognizing that some students find graphs hard to work with, I have developed the entire art program with the study and review needs of the student in mind.



The Market for Gasoline

The diagrams feature

- Axes that measure and display concrete real-world data, and where possible and relevant, the most recent data
- Graphs paired with data tables from which curves are plotted
- Original curves consistently shown in blue
- Shifted curves, equilibrium points, and other important features highlighted in red
- Color-blended arrows to indicate movement
- Diagrams labeled with boxed notes that tell the story
- Extended captions that make each diagram and its caption a self-contained object for study and review

Learning Interactively—Learning by Doing

At the end of every chapter section, a *Review Quiz* invites the student to rework the section with questions that cover the key ideas. A parallel set of questions

in MyLab Study Plan enable the student to work the questions and get instant targeted feedback.

As part of the chapter review, the student has an opportunity to work a multi-part problem that covers the core content of the chapter and consists of questions, solutions, key points, and a key figure. This feature increases the incentive for the student to learn-by-doing and review the chapter actively, rather than passively. The worked problems are also available in MyLab Study Plan along with interactive animations of the problem's key figure.

MyLab™ Economics

Reach Every Student with MyLab

Economics MyLab is the teaching and learning platform that empowers you to reach *every* student. By combining trusted author content with digital tools and a flexible platform, MyLab personalizes the learning experience and improves results for each student. Learn more about MyLab Economics. With our new enhanced Pearson eText, students will be able to interact with **Figure Animations** right in line with the text. Each chapter then concludes with a **Worked Problem** that consists of questions, solutions, and a key figure.

Deliver Trusted Content You deserve teaching materials that meet your own high standards for your course. That's why we partner with highly respected authors to develop interactive content and course-specific resources that you can trust — and that keep your students engaged. The **Economics in the News** stories address current issues that are likely to interest and motivate students, and are available to be assigned and auto-graded within MyLab Economics.

Empower Each Learner Each student learns at a different pace. Personalized learning pinpoints the precise areas where each student needs practice; giving all students the support they need — when and where they need it — to be successful.

Teach Your Course Your Way Your course is unique. So whether you'd like to build your own assignments, teach multiple sections, or set prerequisites, MyLab Economics gives you the flexibility to easily create *your* course to fit *your* needs. For instructors who want to make the most recent data a central part of their course, **Real-Time Data Analysis** exercises communicate directly with the Federal Reserve Bank of St. Louis's FRED site, so every time FRED posts new data, students can see the most recent data update automatically.

Improve Student Results When you teach with MyLab, student performance improves. That's why instructors have chosen MyLab for over 15 years, touching the lives of over 50 million students.

Developing Employability Skills

The economic way of thinking is a foundational skill for citizenship and career. Every feature of the text helps the student develop this skill, repeatedly using its central ideas of tradeoff; opportunity cost; the margin; incentives; the gains from voluntary exchange; the forces of demand, supply, and equilibrium; the pursuit of economic rent; and the tension between self-interest and the social interest.

The new section of Chapter 1, “Economists in the Economy”, identifies a further five general skills that are crucial for getting a job and developing a successful career. The table lists these skills and the features of this text that promote them.

CAREER SKILLS AND THE FEATURES THAT PROMOTE THEM

Skill	Feature
Critical thinking	Economics in the News At Issue
Analytical skills	The economic way of thinking Manipulation of models Application of models Graphical analysis
Math skills	Math appendices
Writing skills	Review Quiz and end-of-Chapter problems and applications as short-answer written assignments
Oral communication skills	Economics in the News and At Issue as topics for classroom discussion and debate

Table of Contents Overview and Flexibility

You have preferences for how you want to teach your course, and I've organized this book to enable you to choose your teaching path. The charts on pp. vi and vii illustrate the book's flexibility. By following the arrows through the charts you can select the path that best fits your preference for course structure. Whether you want to teach a traditional course that blends theory and policy, or one that takes a fasttrack through either theory or policy issues, this text gives you the choice.

Instructor Teaching Resources

The program comes with the following teaching resources.

Supplements available to instructors at www.pearsonhighered.com/irc	Features of the Supplement
Instructor's Manual <i>Microeconomics</i> Instructor's Manual by Laura A. Wolff, Southern Illinois University <i>Macroeconomics</i> Instructor's Manual by Russ McCullough, Ottawa University	<ul style="list-style-type: none"> ● Chapter-by-chapter overviews ● List of what's new in the thirteenth edition ● Ready-to-use lecture notes
Solutions Manual <i>Microeconomics</i> Solutions Manual and <i>Macroeconomics</i> Solutions Manual by Mark Rush, University of Florida	<ul style="list-style-type: none"> ● Solutions to Review Quizzes ● Solutions to the end-of-chapter Study Plan Problems and Applications ● Solutions to the end-of-chapter Additional Problems and Applications
Test Bank New questions for the <i>Microeconomics</i> Test Bank by Svitlana Malsymenko, University of Pittsburgh, and James K. Self, Lee College New questions for the <i>Macroeconomics</i> Test Bank by Luke Armstrong, Austin Community College, and Alexandra Nica, University of Iowa Mark Rush, University of Florida, reviewed all questions to ensure their clarity and consistency	<ul style="list-style-type: none"> ● Nearly 13,000 multiple-choice, true/false, short-answer, and graphing questions with these annotations: <ul style="list-style-type: none"> ■ Difficulty level (1 for straight recall, 2 for some analysis, 3 for complex analysis) ■ Type (Multiple-choice, true/false, short-answer, essay Topic (The term or concept the question supports) AACSB learning standard)
Computerized TestGen	<ul style="list-style-type: none"> ● TestGen enables instructors to: <ul style="list-style-type: none"> ■ Customize, save, and generate classroom tests ■ Edit, add, or delete questions from the Test Item Files ■ Analyze test results ■ Organize a database of tests and student results.
PowerPoints	<ul style="list-style-type: none"> ● Slides include: <ul style="list-style-type: none"> ■ Lectures with all the textbook figures and tables animated and speaking notes from the Instructor's Manual ■ Large-scale versions of all textbook figures and tables, animated for instructors to incorporate into their own slide shows ● A student version of the lectures with animated textbook features. ● Accessibility PowerPoints meet standards for students with disabilities. Features include, but not limited to: <ul style="list-style-type: none"> ■ Keyboard and Screen Reader access ■ Alternative text for images ■ High color contrast between background and foreground colors

Acknowledgments

I thank my current and former colleagues and friends at the University of Western Ontario who have taught me so much. They are Jim Davies, Jeremy Greenwood, Ig Horstmann, Peter Howitt, Greg Huffman, David Laidler, Phil Reny, Chris Robinson, John Whalley, and Ron Wonnacott. I also thank Doug McTaggart and Christopher Findlay, co-authors of the Australian edition, and Melanie Powell and Kent Matthews, co-authors of the European edition. Suggestions arising from their adaptations of earlier editions have been helpful to me in preparing this edition.

I thank Rebecca Stein for her thoughtful suggestions and constructive criticism that brought extensive improvement to my treatment of health-care, public goods, and externalities; Yoram Bauman for careful and helpful reviews of my coverage of environmental externalities; and Sameh Ajlouni of Yarmouk University for spotting an error.

I thank the several thousand students whom I have been privileged to teach. The instant response that comes from the look of puzzlement or enlightenment has taught me how to teach economics.

It is a special joy to thank the many outstanding people at Pearson who contributed to the concerted publishing effort that brought this edition to completion. Denise Clinton played a major role in the evolution of this text since its third edition, and her insights and ideas can still be found throughout this new edition.

Donna Battista, Vice President, Business Publishing, is hugely inspiring and has provided overall direction to the project.

As ever, Adrienne D'Ambrosio, Director of Portfolio Management, played a major role in shaping this revision and the many outstanding supplements that accompany it. Adrienne brings intelligence and insight to her work and is the unchallengeable pre-eminent economics director. Ashley Bryan, Portfolio Manager, directed the development of this edition. Heather Johnson, Project Manager, oversaw the production and design process, coordinated the photo research program, and worked with rights and permissions advisors. Nancy Freihofer, Content Producer, provided a steady hand throughout the revision process and managed the team of supplements authors.

Digital Content Team Lead Noel Lotz managed a complex and thorough reviewing process for the content of MyLab Economics; and Melissa Honig, Digital Studio Project Manager, ensured that all our media assets were correctly assembled.

Tricia Murphy, Senior Product Marketer, and Carlie Marvel, Senior Field Marketing Manager, provided inspired marketing strategy and direction.

Catherine Baum provided a careful, consistent, and intelligent copy edit and accuracy check, and wrote original news articles for *Economics in the News*. And Heather Johnson with the other members of an outstanding editorial and production team at Integra kept the project on track on a tight schedule.

I thank all of these wonderful people. It has been inspiring to work with them and to share in creating what I believe is a truly outstanding educational tool.

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Classroom experience will test the value of this book. I would appreciate hearing from instructors and students about how I can continue to improve it in future editions.

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