



Everything You Need in a Single Learning Path

SaplingPlus is the first system to support students and instructors at every step, from the first point of contact with new content to demonstrating mastery of concepts and skills. It is simply the best support for Principles of Economics.



For more information on SaplingPlus, visit www.macmillanlearning.com.

ECONOMICS

Fifth Edition

Paul Krugman

Graduate Center of the City University of New York

Robin Wells



Vice President, Program Management: **Charles Linsmeier**
Director of Content and Assessment: **Shani Fisher**
Executive Program Manager: **Simon Glick**
Marketing Manager: **Andrew Zierman**
Marketing Assistant: **Morgan Ratner**
Executive Development Editor: **Sharon Balbos**
Assessment Manager: **Kristyn Brown**
Assessment Editor: **Joshua Hill**
Consultant: **Ryan Herzog**
Director of Media Editorial: **Noel Hohnstine**
Media Editor: **Stephany Harrington**
Editorial Assistant: **Courtney Lindwall**
Director, Content Management Enhancement: **Tracey Kuehn**
Managing Editor: **Lisa Kinne**
Project Editor: **Martha Emry**
Director of Design, Content Management: **Diana Blume**
Interior Design: **Blake Logan**
Cover Design: **Lyndall Culbertson and Blake Logan**
Illustrations: **codeMantra, Network Graphics**
Illustration Coordinator: **Janice Donnola**
Photo Editor: **Cecilia Varas**
Photo Researcher: **Elyse Rieder**
Senior Workflow Project Supervisor: **Susan Wein**
Production Supervisor: **Lawrence Guerra**
Media Project Manager: **Andrew Vaccaro**
Supplements and Media Project Editors: **Jodi Isman and Lisa Kinne**
Composition: **codeMantra**

ISBN-13: 978-1-319-06660-4

ISBN-10: 1-319-06660-7

Library of Congress Control Number: 2017944023

© 2018, 2015, 2013, 2009 by Worth Publishers

All rights reserved.

Worth Publishers
One New York Plaza

Suite 4500
New York, NY 10004-1562
www.macmillanlearning.com

Cover Photos Credits

Credits are listed left to right.

Front Cover

First Row: Fireman, Kris Timken/AGE Fotostock

Second Row: Commuter train, tovovan/Shutterstock; Fruit stand, Richard A McMillin/Shutterstock

Third Row: Cows, Stockbyte/Photodisc; Business woman giving presentation, Tinpixels/Getty Images; Solar panels, iurii/Shutterstock

Fourth Row: Gas prices, Nickolay Stanev/Shutterstock; Depression era man holding sign, akg-images/The Image Works; Wall Street sign, Thinkstock

Fifth Row: Woman looking in microscope, Tetra Images/AGE Fotostock; Money exchange rates, Bankoo/Shutterstock; Shopping for a mobile phone, Juice Images/AGE Fotostock

Sixth Row: Busy Asian street, Tom Bonaventure/Getty Images; Construction workers, mikedray/Shutterstock; Cargo ship, EvrenKalinbacak/Shutterstock

Seventh Row: Baby having heartbeat checked, Darren Brode/Shutterstock; Powerlines, Brand X Pictures; Smoking coal power plant, iStockphoto/Thinkstock; Lightbulbs, fStop Images GmbH/Alamy

Eighth Row: Workers examining boxes, Jupiterimages/Getty Images; Infrastructure repair, Nightman1965/Shutterstock; Currency, Lucia Pitter/Shutterstock

Back Cover

First Row: Filing taxes, PTstock/Shutterstock

Second Row (left to right): Cargo containers, rodho/Shutterstock; Printing money, matthiashaas/Thinkstock; Coral reef and fish, John_Walker/Shutterstock

Third Row: Waiter, Steven Miric/Getty Images; Cupcakes, Tobias Titz/AGE Fotostock; Shopper deciding, Noel Hendrickson/Getty Images; Graduates, Prasit Rodphan/Shutterstock

Fourth Row: Flags, yui/Shutterstock; Cars in lot, Matushchak Anton/Shutterstock; Robotic arm for packing, wellphoto/Shutterstock

Fifth Row: Traffic, Artens/Shutterstock; Shopping in city street, Peathegee Inc/AGE Fotostock; Fracking rig, CSP_LonnyGarris/AGE Fotostock; Concert, Wittybear/Shutterstock

Sixth Row: Sushi, Ipatov/Shutterstock; Stacks of wood, Fedor Selivanov/Shutterstock; Soybean farm, Fotokostic/Shutterstock; Credit cards, Olleg/Shutterstock; Diamonds, The Adventurer/Shutterstock

About the Authors



Ligaya Franklin

PAUL KRUGMAN, recipient of the 2008 Nobel Memorial Prize in Economic Sciences, is a faculty member of the Graduate Center of the City University of New York, associated with the Luxembourg Income Study, which tracks and analyzes income inequality around the world. Prior to that, he taught at Princeton University for 14 years. He received his BA from Yale and his PhD from MIT. Before Princeton, he taught at Yale, Stanford, and MIT. He also spent a year on the staff of the Council of Economic Advisers in 1982–1983. His research has included pathbreaking work on international trade, economic geography, and currency crises. In 1991, Krugman received the American Economic Association's John Bates Clark medal. In addition to his teaching and academic research, Krugman writes extensively for nontechnical audiences. He is a regular op-ed columnist for the *New York Times*. His best-selling trade books include *End This Depression Now!*, *The Return of*

Depression Economics and the Crisis of 2008, a history of recent economic troubles and their implications for economic policy, and *The Conscience of a Liberal*, a study of the political economy of economic inequality and its relationship with political polarization from the Gilded Age to the present. His earlier books, *Peddling Prosperity* and *The Age of Diminished Expectations*, have become modern classics.

ROBIN WELLS was a Lecturer and Researcher in Economics at Princeton University. She received her BA from the University of Chicago and her PhD from the University of California at Berkeley; she then did postdoctoral work at MIT. She has taught at the University of Michigan, the University of Southampton (United Kingdom), Stanford, and MIT.

Vision and Story of *Economics*

This is a book about economics as the study of what people do and how they interact, a study very much informed by real-world experience. These words, this spirit, have served as a guiding principle for us in every edition.

While we were driven to write this book by many small ideas about particular aspects of economics, we also had one big idea: an economics textbook should be built around narratives, many of them pulled from real life, and it should never lose sight of the fact that economics is, in the end, a set of stories about what people do.

Many of the stories economists tell take the form of models—for whatever else they are, economic models are stories about how the world works. But we believe that student understanding of and appreciation for models are greatly enhanced if they are presented, as much as possible, in the context of stories about the real world that both illustrate economic concepts and touch on the concerns we all face living in a world shaped by economic forces.

You'll find a rich array of stories in every chapter, in the chapter openers, Economics in Actions, For Inquiring Minds, Global Comparisons, and Business Cases. As always, we include many new stories and update others. We also integrate an international perspective throughout, more extensively than ever before. It starts with a new introduction and an opening story on China's Pearl River Delta that sets the stage for new attention to China's ascendance in the global economy. An overview of the types of narrative-based features in the text is on p. viii.

We also include pedagogical features that reinforce learning. For example, each major section ends with three related elements devised with the student in mind: (1) the Economics in Actions: a real-world application to help students achieve a fuller understanding of concepts they just read about; (2) a Quick Review of key ideas in list form; and (3) Check Your Understanding self-test questions with answers at the back of the book. Our thought-provoking end-of-chapter problems are another strong feature. The Work It Out feature appears in all end-of-chapter

problem sets, offering students online tutorials that guide them step-by-step through solving key problems. With the Fifth Edition, a new feature, Discovering Data exercises, offers students the opportunity to use interactive graphs to analyze interesting economic questions. An overview of the text's tools for learning is on p. ix.

Students also benefit from the impressive set of online resources that are linked to specific chapter content. These include several exciting new digital features as well as adaptive quizzing, tutorials, interactive activities, graphing questions, and data-analysis questions. All have been devised with the goal of supporting instructor teaching and student learning in principles of economics courses.

We hope your experience with this text is a good one. Thank you for introducing it into your classroom.

A handwritten signature in black ink, appearing to read 'Paul Krugman', written in a cursive style.

Paul Krugman

A handwritten signature in black ink, appearing to read 'Robin Wells', written in a cursive style.

Robin Wells

Engaging Students in the Study of Economics

We are committed to the belief that students learn best from a complete textbook program built around narratives, steeped in real life and current events, with a strong emphasis on global matters and with proven technology that supports student success.

Narrative Approach

This is a textbook built around narratives and stories, many pulled from real life. In every chapter, stories are used to teach core concepts and motivate learning. We believe that the best way to introduce concepts and reinforce them is through memorable, real-world stories; students simply relate more easily to them.

Global Focus

This book is unrivaled in the attention paid to global matters. We have thoroughly integrated an international perspective into the text, in the numerous applications, cases, and stories and, of course, in the data-based Global Comparison feature.

Technology That Builds Success

Economics is not just a textbook. It has evolved to become a complete program with interactive features designed and built to extend the goals of the text. This program encourages even stronger student engagement, mastery of the material, and success in the course.

interactive activity

Look for this Interactive Activity icon throughout the text to find materials that are enhanced by our online

What's New in the Fifth Edition?

Technology that offers the best value and price. Because students' needs are changing, our most powerful learning option is now our most affordable. SaplingPlus is a new digital solution that combines LearningCurve with an integrated e-Book, robust homework, improved graphing, and fully digital end-of-chapter problems including Work It Outs. And if print is important, a package with a loose-leaf copy of the text is only a few dollars more.

Discovering Data exercises help students interpret, analyze, share, and report on data. Students develop data literacy by completing these new interactive exercises, step-by-step problems that have students use up-to-the-minute FRED data.

Current events framed by the world's best communicators of economics. No other text stays as fresh as this one. The authors—who have explained economics to millions through trade books and newspaper columns—offer a new online feature, News Analysis, that pairs journalistic takes on pressing issues with questions based on Bloom's taxonomy. This complements the text's unparalleled coverage of current topics: sustainability, the economic impact of technology, pressing policy debates, and much more.

A richer commitment to broadening students' understanding of the global economy. With unparalleled insight and clarity, the authors use their hallmark narrative approach to take students outside of the classroom and into our global world, starting in the Introduction with a new opening story on the economic transformation in China's Pearl River Delta. The global focus is carried throughout in chapter openers, Economics in Action, Business Cases, and Global Comparisons. There is now more on the ascendance of China's economy, along with real-world stories about the economies of Europe, Bangladesh, and Japan, among many others.

Engaging Students with a Narrative Approach

2

Economic Models: Trade-offs and Trade

FROM KITTY HAWK TO DREAMLINER

BOEING'S 787 DREAMLINER was the result of an aerodynamic revolution—a super-efficient airplane designed to cut airline operating inputs and the first to use supertight composite materials.

To ensure that the Dreamliner was sufficiently lightweight and aerodynamic, it underwent over 5,000 hours of wind-tunnel tests, resulting in subtle design changes that improved its performance, making it



The Wright brothers' model made modern airplanes, including the Dreamliner, possible.

more fuel efficient and less pollutant emitting than existing passenger jets. In fact, some budget airlines such as Norwegian Air (Europe's third largest budget airline) have been offering transatlantic flights at half the price of their rivals, expecting that the super-fuel-efficient Dreamliner will shrink fuel costs enough to make their discount strategy profitable.

The first flight of the Dreamliner was a spectacular advance from the 1903 maiden voyage of the Wright Flyer, the first successful powered airplane, in Kitty Hawk, North Carolina. Yet the Boeing engineers—and all aeronautic engineers—owe an enormous debt to the Wright Flyer's inventors, Wilbur and Orville Wright.

What made the Wrights truly visionary was their invention of the wind tunnel, an apparatus that let them experiment with many different designs for wings and control surfaces. Doing experiments with a miniature airplane, inside a wind tunnel the size of a shipping crate, gave the Wright brothers the knowledge that would make heavier-than-air flight possible.

Neither a miniature airplane inside a shipping crate nor a miniature model of the Dreamliner inside Boeing's state-of-the-art Transonic Wind Tunnel is the same thing as an actual aircraft in flight. But it is a very useful model of a flying plane—a simplified representation of the real thing that can be used to answer crucial questions, such as how much lift a given wing shape will generate at a given airspeed.

Needless to say, testing an airplane design in a wind tunnel is cheaper and safer than building a full-scale version and hoping it will fly. More generally, models play a crucial role in almost all scientific research—economics very much included.

In fact, you could say that economic theory consists mainly of a collection of models, a series of simplified representations of economic reality that allow us to understand a variety of economic issues.

In this chapter, we'll look at two economic models that are crucially important in their own right and illustrate why such models are so useful. We'll conclude with a look at how economists actually use models in their work. ■

WHAT YOU WILL LEARN

- What are economic models and why are they so important to economists?
- How do three simple models—the production possibility frontier, comparative advantage, and the circular flow diagram—help us understand how modern economies work?
- Why is an understanding of the difference between positive economics and normative economics important for the real-world application of economic principles?
- Why do economists sometimes disagree?

ECONOMICS >> in Action

An Economic Breakthrough in Bangladesh

Western news media rarely mention Bangladesh: it's not a political hot spot, it doesn't have oil, and it's overshadowed by its immense neighbor, India. Yet it is home to more than 160 million people—and although it is still very poor, it is nonetheless one of the greatest economic success stories of the past generation.

As recently as the 1980s, real GDP per capita in Bangladesh—which achieved independence from Pakistan in 1971, after a brutal war—was barely higher than it had been in 1950, when the country was so poor that it literally lived on the edge of starvation. In the early 1990s, however, the nation began a process of political and economic reform, making the transition from military rule to democracy, freeing up markets, and achieving monetary and fiscal stability. And growth took off, most notably with the rise of Bangladesh as a major exporter of clothing to Western markets. Real GDP per capita grew at over 7% per year, from the late 1980s through 2010, doubling over the twenty-year period from 1990 to 2010.

By 2015 real GDP per capita was almost 20 times what it had been in 1990. Other measures also showed dramatic improvements in the quality of life: life expectancy rose by a dozen years, child mortality fell by 70 percent, school enrollment rose sharply, especially for girls.

Make no mistake, Bangladesh is still incredibly poor by American standards. Wages are very low although rising, while working conditions are often terrible and dangerous—a point highlighted in 2013, when a factory complex collapsed, killing more than a thousand workers. But compared with its own past,



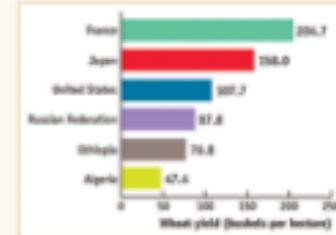
Although Bangladesh remains a very poor country, a high growth rate has improved living standards over the last 20 years.

Krugman/Wells, *Macroeconomics*, 5e, © 2018 Worth Publishers

CHARITABLE CONTRIBUTIONS WHEAT YIELDS AROUND THE WORLD

Wheat yields differ substantially around the world. The disparity between France and the United States that you see in this graph is particularly striking, given that they are both wealthy countries with comparable agricultural technology. Yet the reason for that disparity is straightforward: differing government policies. In the United States, farmers receive payments from the government to supplement their incomes, but European farmers benefit from price floors. Since European farmers get higher prices for their output than American farmers, they employ more variable inputs and produce significantly higher yields.

Interestingly, in poor countries like Algeria and Ethiopia, foreign aid can lead to significantly depressed yields. Foreign aid from wealthy countries has often taken the form of surplus food, which depresses local market prices, severely hurting the local agriculture that poor countries normally depend on. Charitable organizations like Oxfam have asked wealthy food-producing countries to modify their aid policies—principally, to give aid in



cash rather than in food products except in the case of acute food shortages—to avoid this problem.

Data from USDA, 2016.

Krugman/Wells, *Microeconomics*, 5e, © 2018 Worth Publishers

BUSINESS CASE
Parking Your Money at PayPal



At first glance, leaving significant sums in PayPal accounts seems counterintuitive for two reasons. First, these accounts aren't protected by federal deposit insurance. Second, they pay no interest. But upon closer examination, this behavior makes good economic sense. People will typically hold only a tiny fraction of their wealth in their PayPal account, thereby making the lack of federal deposit insurance an acceptable risk. And interest rates on bank accounts are so low at the time of this writing (around 0.01% in Spring 2017) that leaving that interest is a reasonable price to pay to avoid the hassle of moving funds back and forth between a bank account and a PayPal or Venmo account. The result is that more people are behaving like one user quoted by the *Wall Street Journal*, who gave notice a while before transferring funds out of her Venmo account to her regular bank account: "I'm starting to intentionally keep my money in there a bit longer."

But will PayPal/Venmo or something like it begin to make major inroads into traditional banking? Some analysts think so. Others suggest, however, that conventional banks will find ways to make mobile payments easier, and that rising interest rates will lure customers back to conventional bank deposits. Time will tell.

QUESTIONS FOR THOUGHT

1. PayPal accounts aren't covered as part of the money supply. Should they be? Why or why not?
2. In 2016, only around 25% of mobile phones in the United States were smartphones. In 2017, that number increased to more than 80%. How does this situation play into the PayPal story, and how does it fit into the broader picture of monetary history?
3. How might future actions by the Federal Open Market Committee affect the future of PayPal and similar services?

Officially, PayPal, the electronic funds-transfer firm—which is also the owner of Venmo, a mobile-phone payment service that has become extremely popular—is considered a bank. Instead, regulators consider it a money transmitter, an entity that sends your money somewhere rather than holding it and keeping it safe.

However, as users accumulate substantial sums in their PayPal accounts, that distinction has started to look questionable. Venmo users, in particular, often seem willing to let incoming payments sit in their accounts until the funds are spent. As a result, PayPal's accounts were estimated to total more than \$11 billion in 2016. If those billions were considered bank deposits, PayPal could be considered among the 50 largest banks in the United States.

Krugman/Wells, *Macroeconomics*, 5e, © 2018 Worth Publishers

- To engage students, every chapter begins with a compelling story. **What You Will Learn** questions help students focus on key chapter concepts.
- So students can immediately see economic concepts applied in the real world, **Economics in Action** applications appear throughout chapters.
- To provide students with an international perspective, the **Global Comparison** feature uses data and graphs to illustrate why countries reach different economic outcomes.
- So students can see key economic principles applied to real-life business situations, each chapter concludes with a **Business Case**.

Engaging Students with Effective Tools for Learning

ECONOMICS >> *in Action*

When Money Isn't Enough



For those who purchased WWII ration coupons illegally, the right to consumer surplus had a steep price.

The key insight we get from the concept of consumer surplus is that purchases yield a net benefit to the consumer because the consumer typically pays a price less than his or her willingness to pay for the good. Another way to say this is that the right to buy a good at the going price is a valuable thing in itself.

Most of the time we don't think about the value associated with the right to buy a good. In a market economy, we take it for granted that we can buy whatever we want, as long as we are willing to pay the market price.

But that hasn't always been true. For example, during World War II the demands of wartime production created shortages of consumer goods when these goods were sold at prewar prices. Rather than allow prices to rise, government officials in many countries created a system of rationing. To buy sugar, meat, coffee, gasoline, and many other goods, you not only had to pay cash; you also had to present stamps or coupons from books issued to each family by the government. These pieces of paper, which represented the right to buy goods at the government-regulated price, quickly became valuable commodities in themselves.

As a result, illegal markets in meat stamps and gasoline coupons sprang into existence. Moreover, criminals began stealing coupons and even counterfeiting stamps.

The funny thing was that even if you had bought a gasoline coupon on the illegal market, you still had to pay to purchase gasoline. So what you were buying on the illegal market was not the good but the right to buy the good at the government-regulated price. That is, people who bought ration coupons on the illegal market were paying for the right to get some consumer surplus.

>> Quick Review

- The demand curve for a good is determined by each potential consumer's **willingness to pay**.
- **Individual consumer surplus** is the net gain an individual consumer gets from buying a good.
- The **total consumer surplus** in a given market is equal to the area below the market demand curve but above the price.
- A fall in the price of a good increases **consumer surplus** through two channels: a gain to consumers who would have bought at the original price and a gain to consumers who are persuaded to buy by the lower price. A rise in the

>> Check Your Understanding 4-1

Solutions appear at back of book.

1. Consider the market for cheese-stuffed jalapeno peppers. There are two consumers, Casey and Josey, and their willingness to pay for each pepper is given in the accompanying table. (Neither is willing to consume more than 4 peppers at any price.) Use the table (i) to construct the demand schedule for peppers for prices of \$0.00, \$0.10, and so on, up to \$0.90, and (ii) to calculate the total consumer surplus when the price of a pepper is \$0.40.

Quantity of peppers	Casey's willingness to pay	Josey's willingness to pay
1st pepper	\$0.90	\$0.80
2nd pepper	0.70	0.60
3rd pepper	0.50	0.40
4th pepper	0.30	0.30

Krugman/Wells, *Microeconomics*, 5e, © 2018 Worth Publishers

- To reinforce learning, sections within chapters conclude with three tools: an application of key concepts in the **Economics in Action**; a **Quick Review** of key concepts; and a comprehension check with **Check Your Understanding** questions. Solutions for these questions appear at the back of the book.
- **Pitfalls** teach students to identify and avoid common misconceptions about economic concepts.

- End-of-chapter **Work It Out** skill-building problems provide interactive step-by-step help with solving select problems from the textbook.
- **Discovering Data** exercises offer students the opportunity to use interactive graphs to analyze interesting economic questions.

PITFALLS

DEMAND VERSUS QUANTITY DEMANDED


When economists say “an increase in demand,” they mean a rightward shift of the demand curve, and when they say “a decrease in demand,” they mean a leftward shift of the demand curve—that is, when they’re being careful.

In ordinary speech most people, including professional economists, use the word demand casually. For example, an economist might say “the demand for air travel has doubled over the past 15 years, partly because of falling airfares” when he or she really means that the quantity demanded has doubled.

It’s OK to be a bit sloppy in ordinary conversation. But when you’re doing economic analysis, it’s important to make the distinction between changes in the quantity demanded, which involve movements along a demand curve, and shifts of the demand curve (see Figure 3-3 for an illustration). Sometimes students end up writing something like this: “If demand increases, the price will go up, but that will lead to a fall in demand, which pushes the price down . . .” and then go around in circles.

If you make a clear distinction between changes in demand, which mean shifts of the demand curve, and changes in quantity demanded, which means movement along the demand curve, you can avoid a lot of confusion.

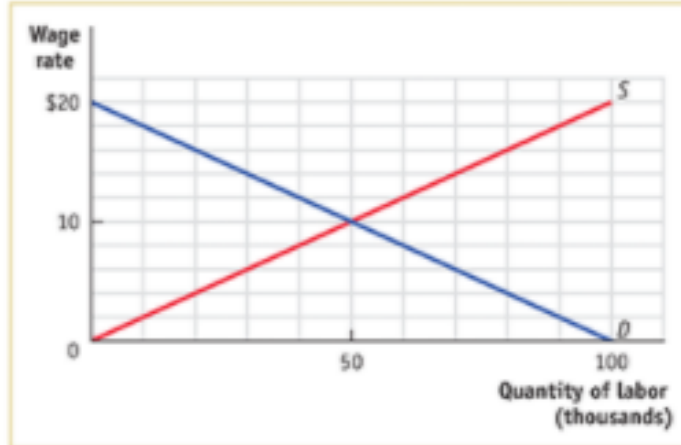
Krugman/Wells, *Microeconomics*, 5e, © 2018 Worth Publishers

3.  Access the Discovering Data exercise for Chapter 16 online to answer the following questions.
- How much did the monetary base change in the last year?
 - How did the change in the monetary base help in the government’s efforts to finance its deficit?
 - Why is it important for the central bank to be independent of government policy makers?

Krugman/Wells, *Macroeconomics*, 5e,
© 2018 Worth Publishers

WORK IT OUT Interactive step-by-step help with solving this problem can be found online.

15. There is only one labor market in Profunctia. All workers have the same skills, and all firms hire workers with these skills. Use the accompanying diagram, which shows the supply of and demand for labor, to answer the following questions. Illustrate each answer with a diagram.



- What is the equilibrium wage rate in Profunctia? At this wage rate, what are the level of employment, the size of the labor force, and the unemployment rate?
- If the government of Profunctia sets a minimum wage equal to \$12, what will be the level of employment, the size of the labor force, and the unemployment rate?
- If unions bargain with the firms in Profunctia and set a wage rate equal to \$14, what will be the level of employment, the size of the labor force, and the unemployment rate?
- If the concern for retaining workers and encouraging high-quality work leads firms to set a wage rate equal to \$16, what will be the level of employment, the size of the labor force, and the unemployment rate?

Engaging Students with Technology

The technology for this new edition has been developed to spark student engagement and improve outcomes while offering instructors flexible, high-quality, research-based tools for teaching this course.



NEW! Sapling Plus combines powerful multimedia resources with an integrated e-Book and the robust problem library of Sapling Learning, creating an extraordinary new learning resource for students. Online homework helps students get better grades with targeted instructional feedback tailored to the individual. And it saves instructors time preparing for and managing a course by providing personalized support from a PhD or Master's level colleague trained in Sapling's system.

NEW! Pre-Lecture Tutorials foster basic understanding of core economic concepts before students ever set foot in class. Developed by two pioneers in active-learning methods—Eric Chiang, Florida Atlantic University, and José Vazquez, University of Illinois at Urbana–Champaign—this resource is part of the SaplingPlus learning path. Students watch Pre-Lecture videos and complete Bridge Question assessments that prepare them to engage in class. Instructors receive data about student comprehension that can inform their lecture preparation.

<< LearningCurve Adaptive Quizzing

Embraced by students and instructors alike, this incredibly popular and effective adaptive quizzing engine offers individualized question sets and feedback tailored to each student based on correct and incorrect responses.

Questions are hyperlinked to relevant e-Book sections, encouraging students to read and use the resources at hand to enrich their understanding.



NEW! Graphing Questions >>

Powered by improved graphing, multi-step questions paired with helpful feedback guide students through the process of problem solving. Students are asked to demonstrate their understanding by simply clicking, dragging, and dropping a line to a predetermined location. The graphs have been designed so that students' entire focus is on moving the correct curve in the correct direction, virtually eliminating grading issues for instructors.



Work It Out >>

These skill-building activities pair sample end-of-chapter problems with targeted feedback and video explanations to help students solve problems step-by-step. This approach allows students to work independently, tests their comprehension of concepts, and prepares them for class and exams.

Trade-Offs and Trade Work II (Out) Question 1 of 4

Atlantis is a small, isolated island in the South Atlantic. The inhabitants grow potatoes and catch fish. The accompanying table shows the maximum annual output combinations of potatoes and fish that can be produced. Obviously, given their limited resources and available technology, as they use more of their resources for potato production, there are fewer resources available for catching fish.

Using the data in the table, place the points in the accompanying graph to depict Atlantis's production possibilities frontier.



Krugman/Wells, Microeconomics, 5e, © 2018 Worth Publishers

<< NEW! Discovering Data Exercises help students interpret and analyze data by completing interactive, stepped-out exercises that use up-to-the-minute FRED data. These exercises help students develop data literacy and synthesizing skills, encourage economic analysis based on recent trends, and build an understanding of the broader economy.



Powerful Support for Instructors

FOR ASSESSMENT

Test Bank Fully revised for the Fifth Edition, the Test Bank, authored by Syon Bhanot, Swarthmore College, and Kevin Beckwith, Salem State University, contains multiple-choice and short-answer questions to help instructors assess students' comprehension, interpretation, and ability to synthesize.

End-of-Chapter and Work It Out Questions The in-text end-of-chapter problems have been converted to a multiple-choice format accompanied by answer-specific feedback. **Work It Out** activities walk students through each step of solving an end-of-chapter problem using choice specific feedback and video explanations for each step.

Homework Assignments Each chapter concludes with homework of various question types, including graphing questions featuring our updated graphing player, providing instructors with a curated set of multiple-choice and graphing questions that are easily assigned for graded assessment.

Practice Quizzes Designed to be used as a study tool for students, Practice Quizzes allow for multiple attempts as students familiarize themselves with chapter content.

ADDITIONAL RESOURCES

A Gradebook This useful resource offers clear feedback to students and instructors on individual assignments and on performance in the course.

LMS integration Included so that online homework is easily integrated into a school's learning management system and that an instructor's Gradebook and roster are always in sync.

Instructor's Resource Manual Authored by Tori Knight, Carson-Newman University, this manual offers instructors teaching materials and tips to enhance

the classroom experience, along with chapter objectives, outlines, and other ideas.

Solutions Manual Prepared by the authors of the text, this manual offers detailed solutions to all of the text's end-of-chapter problems and the Business Case questions.

Interactive Presentation Slides These brief, interactive, and visually interesting slides, authored by Solina Lindahl, California Polytechnic State University, San Luis Obispo, are designed to hold students' attention in class with graphics and animations demonstrating key concepts, real-world examples, hyperlinks to relevant outside sources (including videos), and opportunities for active learning.

Additional technology resources available to support Krugman and Wells



Krugman/Wells, *Microeconomics*, 5e, © 2018 Worth Publishers



For longtime users, a new version of **LaunchPad** is available with the Fifth Edition *Microeconomics* and *Macroeconomics* splits. It includes an interactive e-Book, pre-built units offering instructors ready-made assignments with LearningCurve quizzes, graded homework, graphing questions, and Work It Out skill-building activities.



Krugman/Wells, *Microeconomics*, 5e, © 2018 Worth Publishers

FlipItEcon is available as a standalone resource or integrated with the SaplingPlus learning path. Developed by two pioneers in active-learning methods—Eric Chiang, Florida Atlantic University, and José Vazquez, University of Illinois at Urbana–Champaign—FlipIt gets students actively involved in learning economics in a fresh way. Students watch Pre-Lectures and complete Bridge Question assessments before class, helping them prepare for class so they can be engaged. FlipIt also gives instructors data about student comprehension that can inform their lecture preparation.

WHAT'S NEW IN THIS EDITION?

There are 67 new opening stories, Business Cases, and Economics in Action applications in this edition—a third of these stories are new, ensuring that the Fifth Edition is truly current and relevant. Many other stories have been updated and refreshed.

13 New Opening Stories

A Day in the Megacity
Big City, Not So Bright Ideas
Making Decisions in Good Times and Bad
Regulators Give Bridgestone a Flat Tire
Greek Tragedies
China Hits the Big Time
Liftoff
Paying for a Hidden Empire
Hard Times in Helsinki
Different Generations, Different Policies
Spending Our Way Out of a Recession
Not So Funny Money
Old Books and New Ideas

18 New Business Cases

How Priceline Revolutionized the Travel Industry
Uber Gives Riders a Lesson in Supply and Demand
Ticket Prices and Music's Reigning Couple, Jay-Z and Beyoncé

Why Taxi Medallion Lenders Are Feeling Like Roadkill

Microsoft's Internal Carbon Tax

Freedom from Fries

Bricks-and-Mortar Retailers Go Toe to Toe with Mobile Shopping Apps

The Dollar Shave Club: How to Avoid a Case of Razor Burn

Snapchat and Instagram: Not Your Grandmother's Social Networking Platforms

Ruby Hill Farm: The ACA and Freedom to Farm

Walmart Gives a Hike

PURE—A Company that Withstands Hurricanes

Betting on Bad Numbers

TaskRabbit

Raising the Bar(code)

Toyota Makes Its Move

Parking Your Money at PayPal

Dining and Dollars in Buenos Aires

36 New Economics in Action Applications

The Fundamental Law of Traffic Congestion

Economists: What Are They Good For?

Why Price Controls in Venezuela Proved Useless

China and the Global Commodities Glut of 2016

State Tax Choices

Solar Disputes

Airbnb and the Rising Cost of Privacy

Biotech: The World's Biggest Loser

Is Salmon a Luxury? It Depends

Lower Gasoline Prices and the Urge to Splurge

Finding the Optimal Team Size

How the Sharing Economy Reduces Fixed Cost

Farmers Know How

The Monopoly That Wasn't: China and the Market for Rare Earths

The (R)Evolution of the American High-Speed Internet Market

Is It a Beer-opoly or Not?

The Case Against Chocolate Producers Melts

The Demise of OPEC

Abbondanza!

Hits and Flops in the App Store

American Infrastructure Gets a D+

Twenty-First Century Piracy

Help Wanted at Flex!

Greece's Costly Surplus

Structural Unemployment in Spain

An Economic Breakthrough in Bangladesh

The Rise, Fall, and Return of the Productivity Paradox

What's the Matter with Italy?

To Shale and Back

Sticky Wages in the Great Recession

A Tale of Two Stimuli

Trying to Balance Budgets in a Recession

Reducing Implicit Liabilities

Up the Down Staircase

Japan's Escape Attempt

Strong Dollar Woes

Acknowledgments

Our deep appreciation and heartfelt thanks go out to **Ryan Herzog**, Gonzaga University, for his hard work and extensive contributions during every stage of this revision. Ryan's creativity and insights helped us make this Fifth Edition possible. And special thanks to our three accuracy checkers of page proofs, to whom we are most grateful: Barbara Alexander, Babson College, Dixie Dalton, South-side Virginia Community College, and Thomas Dunn.

We must also thank the many people at Worth Publishers for their work on this edition: Chuck Linsmeier, Shani Fisher, Simon Glick, Sharon Balbos, Lukia Kliossis, Courtney Lindwall, Emily Schmid, Lindsay Neff, Kristyn Brown, and Joshua Hill in editorial. We thank Andrew Zierman, Tom Digiano, Tom Acox, and Travis Long for their enthusiastic and tireless advocacy of this book. Many thanks to the incredible production, design, photo, and media teams: Tracey Kuehn, Lisa Kinne, Susan Wein, Martha Emry, Blake Logan, Deb Heimann, Cecilia Varas, Elyse Rieder, Chris Efstratiou, Andrew Vaccaro, and Daniel Comstock.

Our deep appreciation and heartfelt thanks to the following reviewers, whose input helped us shape this Fifth Edition.

Seemi Ahmad, *Dutchess Community College*
Barbara Alexander, *Babson College*
Osbourne Allen, *Miami Dade College*
Gabriel Azarlian, *California State University, Northridge*
David Barber, *Quinnipiac University*
Sandra Barone, *Gonzaga University*
Klaus Becker, *Texas Tech University*
Doris Bennett, *Jacksonville State University*
Syon Bhanot, *Swarthmore College*
Stacey Brook, *University of Iowa*
Kevin Brown, *Asbury University*
Basanta Chaudhuri, *Rutgers University*
Greg Colson, *University of Georgia*

Patrick Crowley, *Texas A&M University, Corpus Christi*
Dixie Dalton, *Southside Virginia Community College*
Joseph Dipoli, *Salem State University*
Thomas Dunn
Mohammadmahdi Farsiabi, *Wayne State University*
Irene Foster, *George Washington University*
John Gahagan, *Shoreline Community College*
Jason Gurtovoy, *Cerritos College*
Ian Haberman, *Hunter College*
Ryan Herzog, *Gonzaga University*
Grover Howard, *Shoreline Community College*
Mervin Jebaraj, *University of Arkansas*
Dennis Kaufman, *University of Wisconsin, Parkside*
Noreen Lephardt, *Marquette University*
An Li, *Keene State College*
Ross Mohr, *Chapman University*
Soloman Namala, *Cerritos College*
Alexandre Olbrecht, *Ramapo College of New Jersey*
Ram Orzach, *Oakland University*
Jennifer Pakula, *Cerritos College*
Tove Rasmussen, *Southern Maine Community College*
Jason Reed, *Wayne State University*
Jack Reynolds, *Navarro College*
Tim Reynolds, *Alvin Community College*
Luis Rosero, *Framingham State*
Elizabeth Sawyer-Kelly, *University of Wisconsin, Madison*
Jake Schild, *Indiana University*
Aschale Siyoum, *Catholic University of America*
Mark Sniderman, *Case Western Reserve University*
Ralph Sonenshine, *American University*
James Sterns, *Oregon State University*
Henry Terrell, *George Washington University*
Jill Trask, *Tarrant County College—Southeast*
Magda Tsaneva, *Clark University*
Phillip Tussing, *Alvin Community College*
Nathaniel Udall, *Alvin Community College*
Sujata Verma, *Notre Dame de Namur University*
Aimee Vlachos-Bullard, *Southern Maine Community College*
Xiao Wang, *University of North Dakota*
Michael Williams, *Prairie View A&M University*
Kelvin Wont, *University of Minnesota*
Hyun Woong Park, *Allegheny College*

Kristen Zaborski, *The State College of Florida*

We are indebted to the following reviewers, class testers, focus group participants, and other consultants for their suggestions and advice on previous editions.

Carlos Aguilar, *El Paso Community College*

Seemi Ahmad, *Dutchess Community College*

Terence Alexander, *Iowa State University*

Innocentus Alhamis, *Southern New Hampshire University*

Morris Altman, *University of Saskatchewan*

Farhad Ameen, *State University of New York, Westchester Community College*

Giuliana Campanelli Andreopoulos, *William Patterson University*

Becca Arnold, *San Diego Mesa College*

Dean Baim, *Pepperdine University*

Jeremy Baker, *Owens Community College*

Christopher P. Ball, *Quinnipiac University*

David Barber, *Quinnipiac College*

Jim Barbour, *Elon University*

Janis Barry-Figuero, *Fordham University at Lincoln Center*

Sue Bartlett, *University of South Florida*

Hamid Bastin, *Shippensburg University*

Scott Beaulier, *Mercer University*

Richard Beil, *Auburn University*

David Bernotas, *University of Georgia*

Joydeep Bhattacharya, *Iowa State University*

Marc Bilodeau, *Indiana University and Purdue University, Indianapolis*

Kelly Blanchard, *Purdue University*

Joanne Blankenship, *State Fair Community College*

Emma Bojinova, *Canisius College*

Michael Bonnal, *University of Tennessee, Chattanooga*

Milicia Bookman, *Saint Joseph's University*

Ralph Bradburd, *Williams College*

Mark Brandly, *Ferris State University*

Anne Bresnock, *California State Polytechnic University, Pomona*

Douglas M. Brown, *Georgetown University*

Joseph Calhoun, *Florida State University*

Colleen Callahan, *American University*

Charles Campbell, *Mississippi State University*

Douglas Campbell, *University of Memphis*

Randall Campbell, *Mississippi State University*

Kevin Carlson, *University of Massachusetts, Boston*

Joel Carton, *Florida International University*

Andrew Cassey, *Washington State University*
Shirley Cassing, *University of Pittsburgh*
Semih Cekin, *Texas Tech University*
Sewin Chan, *New York University*
Mitchell M. Charkiewicz, *Central Connecticut State University*
Joni S. Charles, *Texas State University, San Marcos*
Adhip Chaudhuri, *Georgetown University*
Sanjukta Chaudhuri, *University of Wisconsin, Eau Claire*
Eric Chiang, *Florida Atlantic University*
Hayley H. Chouinard, *Washington State University*
Abdur Chowdhury, *Marquette University*
Kenny Christianson, *Binghamton University*
Lisa Citron, *Cascadia Community College*
Timothy Classen, *Loyola University Chicago*
Maryanne Clifford, *Eastern Connecticut State University*
Steven L. Cobb, *University of North Texas*
Barbara Z. Connolly, *Westchester Community College*
Stephen Conroy, *University of San Diego*
Thomas E. Cooper, *Georgetown University*
Cesar Corredor, *Texas A&M University and University of Texas, Tyler*
Chad Cotti, *University of Wisconsin, Oshkosh*
Jim F. Couch, *University of Northern Alabama*
Attila Cseh, *Valdosta State University*
Maria DaCosta, *University of Wisconsin, Eau Claire*
Daniel Daly, *Regis University*
H. Evren Damar, *Pacific Lutheran University*
James P. D'Angelo, *University of Cincinnati*
Antony Davies, *Duquesne University*
Greg Delemeester, *Marietta College*
Sean D'Evelyn, *Loyola Marymount University*
Ronald Dieter, *Iowa State University*
Patrick Dolenc, *Keene State College*
Christine Doyle-Burke, *Framingham State College*
Ding Du, *South Dakota State University*
Jerry Dunn, *Southwestern Oklahoma State University*
Robert R. Dunn, *Washington and Jefferson College*
Christina Edmundson, *North Idaho College*
Hossein Eftekari, *University of Wisconsin, River Falls*
Ann Eike, *University of Kentucky*
Harold Elder, *University of Alabama*
Tisha L. N. Emerson, *Baylor University*
Hadi Salehi Esfahani, *University of Illinois*

Mark Evans, *California State University, Bakersfield*
William Feipel, *Illinois Central College*
Rudy Fichtenbaum, *Wright State University*
David W. Findlay, *Colby College*
Mary Flannery, *University of California, Santa Cruz*
Sherman Folland, *Oakland University*
Cynthia Foreman, *Clark College*
Robert Francis, *Shoreline Community College*
Amanda Freeman, *Kansas State University*
Shelby Frost, *Georgia State University*
Frank Gallant, *George Fox University*
Robert Gazzale, *Williams College*
Bruce Gervais, *California State University, Sacramento*
Satyajit Ghosh, *University of Scranton*
Stuart Glosser, *University of Wisconsin, Whitewater*
Robert Godby, *University of Wyoming*
Fidel Gonzalez, *Sam Houston State University*
Julie Gonzalez, *University of California, Santa Cruz*
Michael G. Goode, *Central Piedmont Community College*
Douglas E. Goodman, *University of Puget Sound*
Marvin Gordon, *University of Illinois at Chicago*
Kathryn Graddy, *Brandeis University*
Alan Gummerson, *Florida International University*
Eran Guse, *West Virginia University*
Alan Day Haight, *State University of New York, Cortland*
Mehdi Haririan, *Bloomsburg University*
Robert Harris, *Indiana University and Purdue University, Indianapolis*
Hadley Hartman, *Santa Fe College*
Clyde A. Haulman, *College of William and Mary*
Richard R. Hawkins, *University of West Florida*
Mickey A. Hepner, *University of Central Oklahoma*
Ryan Herzog, *Gonzaga University*
Michael Hilmer, *San Diego State University*
Tia Hilmer, *San Diego State University*
Jane Himarios, *University of Texas, Arlington*
Jim Holcomb, *University of Texas, El Paso*
Don Holley, *Boise State University*
Alexander Holmes, *University of Oklahoma*
Julie Holzner, *Los Angeles City College*
Robert N. Horn, *James Madison University*
Scott Houser, *Colorado School of Mines*
Steven Husted, *University of Pittsburgh*