ENDORSEMENTS

“I envy the students who will have the opportunity to take a microeconomics course based on this brilliant textbook. Not only will they find it fascinating. It will change their lives, in every way, for the better.”

George Akerlof, Georgetown University, Nobel Laureate in Economics

“In a thick wall of textbooks about rational agents trading in perfect markets, Bowles and Halliday open up a window through which students can see economists at work as they seek answers to market failures, behavioral biases and all the obstacles that must be overcome to build a society that is fair and efficient. This book can change how economics is understood by students who will go on to help us find the answers.”

Oriana Bandiera, Sir Anthony Atkinson Professor of Economics, LSE, winner of the Yrjo Jahnsson Award

“This text will make for an exciting course—and one especially relevant to contemporary problems like inequality and climate change. Normally, students don’t see recent economic ideas until they reach the end of the book. Here such ideas are introduced starting in the first chapter.”

Eric Maskin, Harvard University, Nobel Laureate in Economics

“Teaching from Bowles and Halliday is very rewarding. Students are intrigued by coordination problems and enjoy the visual illustrations.”

Avanti Mukherjee, State University of New York at Cortland

“Bowles and Halliday’s textbook unusually puts at its core the key concepts of social sciences: the interactions (competition, conflict, and coordination) among individuals, groups, and firms. You will come away from this riveting reading understanding how economists deploy theory to help design impactful public policies, and why economics is essential to making this world a better place.”

Jean Tirole, Toulouse School of Economics, Nobel Laureate in Economics

“Bowles and Halliday is pure fun to teach and highly motivating for students, a true gem in the universe of microeconomics textbooks. It applies economic theory to the most pressing challenges of our time, including poverty, inequality, and climate change.”

Martin Leroch, Pforzheim University

“The best possible textbook for intermediate microeconomics. It deals with important real-world issues such as inequality, incorporates relevant political, sociological, and behavioural insights, and appropriately places the topics within their historical intellectual roots, while providing rigorous economic analysis.”

Giorgos Galanis, Goldsmiths, University of London

“I congratulate the authors on a job well done! Bowles and Halliday integrate recent economic insights into a classic curriculum of intermediate microeconomics without sacrificing on the formalism. I particularly liked the efforts they have gone to to make the book as pedagogical as possible.”

Amrish Patel, University of East Anglia
MICROECONOMICS
ABOUT THE AUTHORS

Samuel Bowles (PhD, economics, Harvard University) heads the Behavioral Sciences Program at the Santa Fe Institute. He has taught microeconomic theory to undergraduates and PhD candidates at Harvard University, the University of Massachusetts, and the University of Siena. His research has appeared in the *American Economic Review*, *Nature*, *Science*, *Journal of Political Economy*, *Quarterly Journal of Economics*, and *Econometrica*.

Textbooks that he has written or coauthored include *Notes and Problems in Microeconomic Theory* (1980), *Microeconomics: Behavior, Institutions and Evolution* (2005), *Understanding Capitalism* (2018), and with the global CORE team, *The Economy* (2017), and *Economy, Society and Public Policy* (2019), both open-access introductions to economics (for majors and nonmajors respectively).

Simon D. Halliday (PhD, economics, University of Siena, Italy) is an Associate Professor in the School of Economics at the University of Bristol. He has also taught game theory, microeconomics, industrial organization, and behavioral economics to graduate and undergraduate students at Smith College, the University of Cape Town, and Royal Holloway, University of London.

His research in experimental economics, behavioral economics, and economics education has been published in the *Journal of Economic Behavior and Organization*, *Journal of Behavioral and Experimental Economics*, the *Journal of Economic Education*, and elsewhere.
PREFACE

To its eighteenth- and early nineteenth-century founders, the subject of economics was the wealth of nations and people. This was no less true of Karl Marx, the most famous critic of capitalism, than it was of Adam Smith, whose *The Wealth of Nations* is considered the most powerful defense of the then emerging capitalist economic system.

Economics was at the time called political economy, and it sought to understand how and why society was being transformed as a result of capitalism, a novel way of organizing how people produce, exchange, and distribute the things we live on. Capitalism continues to change the world, and the task of economics is to understand this process, and how our economies might be made to work better for people today and in the future.

Welcome to *Microeconomics: Competition, Conflict, and Coordination*, and best wishes for your journey through its content. Let’s begin by saying how we came to think that economics is important and then explaining our strategy for how you can best learn to do economics.

ECONOMICS ENGAGED IN THE WORLD

Contrary to its reputation among students for being remote from reality, economics has always been about changing the way the world works. The earliest economists—the physiocrats in late eighteenth-century France and the mercantilists before them—were advisers to kings and queens of Europe. This tradition of real-world engagement is continued by today’s central bank macroeconomic managers addressing the economic shock of the Covid–19 pandemic, the economic development advisers and advocates of competing policies concerning intellectual property rights, or the global movements of goods and people. Economists have never been strangers to policymaking, constitution building, and attempts at economic reform for the betterment of people’s living conditions.

Alfred Marshall’s (1842–1924) *Principles of Economics*, initially published in 1890, was the first great text in what came to be called neoclassical economics. It opens with these lines:

Now at last we are setting ourselves seriously to inquire whether...there need be large numbers of people doomed from their birth to hard work in order to provide for others the requisites of a refined and cultured life, while they themselves are prevented by their poverty and toil from having any share or part in that life.... [T]he answer depends in a great measure upon facts and inferences, which are within the province of economics;
and this is it which gives to economic studies their chief and their highest interest.

The hope that economics might assist in alleviating poverty and securing the conditions under which free people might flourish in a sustainable global environment is at once economics’ most inspiring calling and its greatest challenge. Like many, both of us were drawn to economics by this hope.

One of us (Simon) grew up in Cape Town, South Africa, under the system of racial segregation called apartheid. He vividly remembers the demonstrations that finally brought that system down and the long lines of people waiting to vote in South Africa’s first democratic elections in 1994. He volunteered in the poor townships surrounding Cape Town teaching critical thinking and debating, skills required to make the new democracy work. Having initially followed his passion for theater and poetry, he switched in to economics to gain the analytical tools to understand and address his country’s challenges.

The other of your authors (Sam), having been a schoolboy in India and a secondary school teacher in Nigeria before turning to economics, naturally came to the field expecting that it would address the enduring problem of global poverty and inequality.

At age 11 Sam had noticed how very average he was among his classmates at the Delhi Public School—in sports, in school work, in just about everything. A question that he then asked his mother has haunted him since: “How does it come about that Indians are so much poorer than Americans, given that as people we are so similar in our abilities?” And so he entered graduate school hoping that economics might, for example, explain why workers in the US produced as much in a month as those in India produce in a year, and why the Indian population was correspondingly poor.

We now know that the many conventional economic explanations for the gap in standards of living between the two countries are part of the answer but far from all of it: by any reasonable accounting, the differences in the amount of machinery, land, and other capital goods per worker and in the level of schooling of the US and Indian workforces explain much less than half of the difference in output per hour of work.

It seems likely that much of the unexplained difference results from causes that until recently have been less studied by economists but which are a central theme of this book. Chief among these are differences in institutions, that is, differences in how the activities of the millions of actors in the two economies are coordinated by some combination of markets, private property, social norms, and governments.
WHAT SHOULD ECONOMICS BE ABOUT?

We do not think that we are atypical—either among our economics colleagues, or our students, or for that matter among people generally—in our hope that economics can contribute to improving the way these institutions work. The CORE Team—a global group of economic researchers and teachers who have created an open access introductory economics course (www.core-econ.org)—posed the following question to students around the world on the first day of their introductory classes: “What is the most pressing problem economists today should be addressing?” The results are summarized in the word cloud in Figure 1 (see p. xii).

The themes are remarkably consistent across universities and countries. Unemployment, inflation, and growth, all important topics in most macroeconomics courses, are on the minds of students. But inequality (along with “poverty”) is a much greater concern, as is environmental sustainability (and “climate change”). The future of work (robots, digitalization), globalization and migration, innovation, financial instability, and how governments work (“corruption,” “war”) are also present.

The microeconomic theory that you will learn has a lot to say about these issues. Included are tried-and-true workhorse concepts that you have probably already encountered, like opportunity costs, mutual gains from exchange, constrained optimization, and trade-offs. Also essential in understanding issues like those in the word cloud are concepts that have more recently risen to prominence among economists. Examples include the importance of cooperation and social (rather than entirely selfish) motivations and modeling strategic interactions among people, including conflicts over the distribution of the mutual gains from exchange.

“IF YOU ARE NOT DOING SOMETHING, YOU ARE NOT LEARNING ANYTHING!”

This phrase is our motto when it comes to learning. Economics is not just something you learn. It is something you do. Think of studying economics as learning a new language. Mastering a large vocabulary and the grammatical rules is essential, but it is not the same as speaking the language.

The test of what you have learned after studying this book is not just what you know, but what you can do with it. Doing economics is what you can say or write—the case you can make for or against a proposed economic policy, the analysis of the reasons for some new development in the global economy—in other words what you can do as a result of what you know.

Like mastering a new language, doing economics is essential to learning the subject. And also like a language, you will learn to do economics more readily if you have a clear need to know.

We begin each chapter with a real-world problem or example that can be better understood using the concepts and models to be introduced in
Figure 1  Student replies to the question "What is the most pressing problem economists today should be addressing?" The size of the font is proportional to the frequency with which subjects mentioned the word or term. The top panel records 3769 student responses from 10 countries and 20 universities. The bottom panel is from 2019 based on 807 students in four universities in Colombia, the UK, and the US. Surprisingly, professional economists at the New Zealand Treasury and central bank and new hires at the Bank of England responded very similarly to students. The less frequently mentioned—smaller font—topics are more readable in the individual word clouds from each of the 25 samples of students that you can access at https://tinyco.re/6235473

With permission from CORE Economics Education.

(a) Word cloud with a 2020 sample of students

(b) Word Cloud with topics consolidated over time

the chapter. These opening paragraphs suggest the need to know what is to follow. The empirical examples also serve as a reminder that the point to the model is to understand the world; and as we proceed through chapters we will ask: How good a job does this particular model do in that respect?

You may be curious about the names we have given to the economic actors in our models. Many are the actual names of members of the team that worked with us to bring this book to you, from around the world including China, India, Chile, Mexico, the US, Germany, and South Africa.

At the beginning of each chapter is a set of learning objectives phrased as new capacities to do things that most likely you were unable to do before. We place great emphasis on your ability to solve problems in which there are right and wrong answers. But it is also important to learn how to formulate arguments and hypotheses about questions that are thus far unanswered, some of which may remain so, and to express economically
informed opinions on issues that will continue to be debated due to the fact that people's values differ.

Interspersed with the contents of the chapters, but offset by boxes, are two important resources:

**Mathematics notes** M-notes contain the details of mathematical derivations and other analyses as well as worked examples that illustrate the mathematical models in the text. Many of the M-Notes present analysis using calculus of points made in the body of the text using verbal or graphical reasoning.

**Checkpoints** are self-tests to confirm that you understand the content of the section. The first step in “doing economics” is by checking your understanding of the passage you have just read.

At the end of each chapter, you will find the following:

**Important ideas** The main ideas in each chapter are provided in a list. At the end of the book, you will also find that all the definitions of the book are included in the Glossary at the end of the book for you to consult and improve your understanding. Mastering the use of these terms is essential to doing economics. Try using each of them in a complete sentence of your own.

**Making connections** Provides some guidance in seeing how the ideas in each chapter are connected to each other and to other themes in the book, so that you will be able to draw together the 'big picture' about the main messages and themes of the book. Try restating these connections making use of the terms in important ideas. Or better yet: make a mind map using the important ideas and making connections features.

**Mathematical notation** The book contains a variety of important mathematical tools to help model the various economic ideas in the book. To assist you with your reading of each chapter and to understand better each model you encounter, we provide a table of the mathematical notation you will encounter in that chapter.

We use the margins of the book for a variety of purposes:

**Definition** We define important terms in the margins where they first are introduced. All of the definitions are collected in the Glossary.

**Reminder** We put reminders in the text often to help you to see the connections of ideas throughout the book.
Example An example will often illustrate an idea with a relevant example of a person, firm, or country making decisions that are similar to those described in the text.

Fact check When we need to verify or illustrate an idea with data or an empirical example we will do so with a fact check.

History These introduce you to some of those people who have contributed to economics or to relevant historical facts.

M-Check If an idea requires a brief mathematical clarification that does not require its own M-Note, then we may convey that in a margin note.

As is the case with any first edition of a text there inevitably will typographical errors and other things we would like to correct, and that others using the book should know about. Refer to our list of errata at https://tinyurl.com/bhmicro for the current list. If you find what you think is a mistake, do please add the error you’ve found and your name. If we add your suggested error to our list we will acknowledge the first person to point it out to us.

Economics is an integrated body of knowledge, and it is best learned in a cumulative way, mastering a set of concepts and going on to use those concepts in mastering additional concepts. What this means, practically, is that it is best to study earlier chapters before moving on to later ones. Sections labeled “application” however provide illustrations of how the ideas and models being taught in a particular chapter can be used, and these do not introduce new material that is essential to the chapters that follow.

Microeconomics is waiting for you. Just do it!

Samuel Bowles and Simon D. Halliday
Santa Fe Institute, Santa Fe, New Mexico, US, and
University of Bristol, Bristol, UK.
GUIDE TO THE ONLINE RESOURCES

As well as the boxes and features presented in the chapters to aid you in doing economics, we have a wealth of online resources to support your learning.

Our interactive graphs allow you to explore key models in a dynamic way, and we have also provided video material and a Mathematics Appendix to further explain figures and mathematics.

Test your knowledge with interactive multiple-choice questions and push your understanding of economic problems further with mathematical questions.

Discussion questions and further-reading recommendations prompt you to think around the issues.

Access the online resources by going to: www.oup.com/he/bowles-halliday1e
ACKNOWLEDGMENTS

Our most heartfelt thanks go to Duncan Foley, who first had the idea of this text and initiated work on it with us, contributing important elements of its content. His commitment to rethinking microeconomics has been an inspiration.

We have also borrowed and learned from the pedagogical and content innovations of The CORE Team's introductory open access texts, *The Economy; Economy, Society and Public Policy;* and *Doing Economics.* We have especially benefited from the advice of Wendy Carlin, who heads the CORE Team. A conversation with Margaret Stevens was the inspiration for Chapter 4. Weikai Chen and Martin Leroch provided detailed comments on the entire manuscript, proposing substantial improvements. Daniele Girardi and Avanti Mukherjee taught drafts of the book over the past many years; their comments have made the book much better. Sahana Subramanyam prepared the index and helped us correct errors and ambiguities in the text.

Many other test teachers have contributed to the project as it has progressed: Elizabeth Anat, Xiao Jiang, Rishabh Kumar, Sai Madhurika Mamunuru, Lisa Saunders, Markus Schneider, Gregor Semeniuk, and Daniele Tavani in the US, Paul Cowell, Giorgos Galanis, Thaana Ghalia, and Sebastian Ille in the UK, Ihsaan Bassier and Justine Burns in South Africa, Martin Leroch in Germany, Arjun Jayadev and Anand Srivastava in India, Seçil Akin and Erkan Gurpinar in Turkey, Marcelo Caffer in Uruguay, Hernán Bejarano in Mexico, and Mark Levin in Russia.

Many people generously shared data and helped us create compelling economic narratives, including The CORE Team, John Adams, Karishma Ajmera, Robert Axtell, Doyne Farmer, Nigel Franks, Anders Fremstad, Mauro Gallegati, Gianfranco Giulioni, Diana Greenwald, Arjun Jayadev, Chris Kempes, Alan Kirman, Francois Lafond, Seung-Yun Oh, Mark Paul, Giacomo Piccoli, William A. Pizer, Steven Sexton, Eileen Tipoe, and Jessika Trancik.

We were fortunate to be able to engage an outstanding team of researchers in creating the book: Morgan Barney, Nicolas Bohme-Oliver, Harriet Brookes-Gray, Weikai Chen, Scott Cohn, Bridget Diana, Jesus Lara Jauregui, and Anoushka Sharma. Bridget Diana produced the interactive figures for the enhanced e-text with essential help from Chris Makler. Riley Boeth and Madeleine Wettach also provided valuable research assistance. The "Microeconomics Revolution" working group suggested many improvements: Nicolas Bohme-Oliver, Joshua Budlender, Pedro De Almeida, Bridget Diana, Kuo-Chih Huang, Chirag Lala, and Lisa Saunders. Anmei Zhi created the cartoons.

The Behavioral Sciences Program at the Santa Fe Institute was an optimal environment for the development of our ideas over many years, hosted meetings of our team, and provided financial support to the project. Caroline Seigel of SFI Library provided essential help. Smith College provided additional support for our research team.

We are also grateful to Felicity Broughton, Jonathan Crowe, Keith Faire, Judith Lorton, Jon McGreevy, Amber Stone-Galilee, and their colleagues at Oxford University Press for their part in bringing our book to you.
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