"Again, Sanjit Dhami has written an utterly fascinating book – this time aimed at teaching behavioral economics to undergraduates. It is the perfect book for that. But it is also the perfect book for anyone who wants to know how behavioral economics fits into standard economics, and then, further, how it fits into the social sciences as a whole. Every economist, and every social scientist, will learn a lot and find great pleasure in *Principles of Behavioral Economics*."

George Akerlof, Nobel Laureate in Economics 2001; University Professor, Georgetown University

"A masterful blend of theory and empirical evidence, this is an essential resource for students and researchers, and a must-read for anyone interested in the future of economic thought."

Ernst Fehr, Professor of Economics, University of Zurich

"Sanjit Dhami, author of the definitive graduate textbook on behavioral economics, has brought his wisdom, eloquence, and clarity of writing to the creation of an equally impressive volume aimed at undergraduates. In-depth and comprehensive, this book is perfect for year-long course sequences or for intelligent laypeople who want to gain a deep familiarity with the field."

George Loewenstein, Herbert A. Simon University Professor of Economics and Psychology, Carnegie Mellon University

"Because of its rapid growth and many connections to other disciplines, behavioral economics has sometimes appeared to be a rich but somewhat disparate collection of theories and models, empirical findings, and puzzles. With this landmark textbook, we finally have a comprehensive, unified, and remarkably pedagogical treatment of the entire field, seamlessly integrated with micro and game theory, experiments, and real-world applications. It will undoubtedly become the reference textbook for undergraduate courses on the subject, and the natural entry point into the field for many other readers."

Roland Bénabou, Theodore A. Wells '29 Professor of Economics and Public Affairs, Princeton University

"In *Principles of Behavioral Economics: Microeconomics and Human Behavior*, Sanjit Dhami offers a companion volume, accessible to undergraduates, to his landmark graduate-level survey of behavioral economics, *Foundations of Behavioral Economic Analysis*. Like its predecessor, the companion volume is distinguished by its detailed yet readable coverage of theory and evidence and its balanced discussion of the philosophical and methodological differences and similarities between behavioral and neoclassical approaches to microeconomics. Interested undergraduates will gain from reading this masterful book."

Vincent P. Crawford, Professor, University of California, San Diego and University of Oxford

"This is an outstanding undergraduate textbook in behavioral economics. It not only highlights key results in the field but also conveys the excitement of our ongoing quest to make economics truer. I highly recommend it to all."

Xavier Gabaix, Pershing Square Professor of Economics and Finance, Harvard University

Principles of Behavioral Economics

Principles of Behavioral Economics, written by an acknowledged leader in the field, provides a comprehensive introduction to one of the most exciting areas of modern economics. It demonstrates how models of economic theory can be enriched by using interdisciplinary insights from psychology, sociology, evolutionary biology, and neuroscience to build the basis for a more empirically supported set of economic principles. Unique in its level of completeness, rigor, and lucidity, the book highlights the important link between theoretical and empirical economics by demonstrating the usefulness of a range of data sources such as observational data, lab data, survey data, and neuroeconomic data. This field-defining textbook argues that behavioral economics is not just a supplement to mainstream economics. Taking behavioral economics seriously requires a total rethink, and eventual transformation, of potentially every area of economics.

- Written in an engaging style suitable for a broad range of students, with calculus only used as and when necessary
- Covers both basic theory and promising topics on the current research frontiers, highlighting the link between theoretical and empirical economics
- Extensive set of end-of-chapter exercises with a full solutions manual for lecturers available online
- An online only chapter on neuroeconomics.

Sanjit Dhami is Professor of Economics at the University of Leicester. He is the author of the seven-volume book, *The Foundations of Behavioral Economic Analysis* (2020), the leading graduate book in the area. He is also the coauthor, with Cass Sunstein, of *Bounded Rationality: Heuristics, Judgement, and Public Policy* (2022). His research has addressed fundamental questions in behavioral economics and has spanned some of its major areas, such as decision making under risk and uncertainty, other-regarding preferences, time discounting, game theory, and bounded rationality.

Principles of Behavioral Economics

Microeconomics and Human Behavior

Sanjit Dhami
University of Leicester

CAMBRIDGE
UNIVERSITY PRESS

Shaftesbury Road, Cambridge CB2 8EA, United Kingdom

One Liberty Plaza, 20th Floor, New York, NY 10006, USA

477 Williamstown Road, Port Melbourne, VIC 3207, Australia

314-321, 3rd Floor, Plot 3, Splendor Forum, Jasola District Centre, New Delhi - 110025, India

103 Penang Road, #05–06/07, Visioncrest Commercial, Singapore 238467

Cambridge University Press is part of Cambridge University Press & Assessment, a department of the University of Cambridge.

We share the University's mission to contribute to society through the pursuit of education, learning and research at the highest international levels of excellence.

www.cambridge.org
Information on this title: www.cambridge.org/highereducation/isbn/9781009422338

DOI: 10.1017/9781009422314

First published 2025

A catalogue record for this publication is available from the British Library

A Cataloging-in-Publication data record for this book is available from the Library of Congress

ISBN 978-1-009-42233-8 Hardback
ISBN 978-1-009-42229-1 Paperback

Additional resources for this publication at www.cambridge.org/dhami

Dedicated

To my parents

Contents

13 Neuroeconomics

Figures

Tables

Preface

Authors who write graduate books do not often publish an undergraduate book on the same subject. Perhaps writing the graduate book imparts a sobering recognition of the potential challenges of writing an undergraduate book. In 2016, I completed an advanced treatment of behavioral economics that took me nearly 12 years to write.[1] While immensely rewarding, this involved major sacrifices in my professional and personal life. I did not imagine then that I would write an undergraduate book on behavioral economics. Several factors contributed to my decision to write such a book.

First, despite several books on the subject at this level, I felt that a comprehensive and definitive treatment that could potentially define behavioral economics at the undergraduate level was missing. Behavioral economics is relatively young, and it is the next generation of economists who are pursuing their undergraduate degrees now that are likely to make the most exciting and important advances in the future. In my view, in order to fire their imagination and interest, they needed a book that would not just collect, in one place, the most important principles of the subject, but also bring the cutting edge of research in the field within their grasp.

Second, the widespread and pernicious practice of teaching empirics-free, theory-only, courses in microeconomics and game theory in universities is hugely damaging. It flies in the face of everything that we know about the scientific method in the natural sciences. For this reason, this book is also intended to serve as a companion text for traditional courses in economic theory in order to provide students with the relevant empirical evidence for traditional and behavioral theories. In a welcome and growing trend, a few enlightened instructors in microeconomics and game theory courses have already introduced some of the insights from behavioral economics, often gratifyingly from my advanced book, into their courses.

Third, in economics, there is still a great deal of confusion caused by homespun methodological positions taken by some of the leaders in economic theory. Yet, these positions bear no relation to the scientific method and are inimical to progress. Several undergraduate offerings in behavioral economics try to tread a delicate diplomatic path in the middle, which muddies the waters further and sometimes serves to confuse and misguide students on the purpose of economic theory. I wished to write a book that would outline the scientific approach quite clearly in the introduction and follow it up in the rest of the book. In the natural sciences, teaching and research is already steeped in these methods.

[1] Dhami (2016). *The Foundations of Behavioral Economic Analysis*. Oxford University Press: Oxford. This was subsequently edited, updated, and split into seven volumes published by Oxford University Press in 2019–2020.

Fourth, I wished to convey the excitement and fun offered by a course in behavioral economics. This is only possible by tightly weaving theory and empirics together, tracing out the feedback process between the two, and solving concrete and tangible problems that students can relate to. In this, I simply follow the best practice in the natural sciences, although to some in economics this may appear to be novel.

I started by pointing out that authors of graduate books do not typically write undergraduate books. However, economists know of at least two well-known and celebrated exceptions. The first is Hal R. Varian's books on microeconomics and the second is Walter Rudin's books on mathematical and functional analysis. I was greatly encouraged by both while thinking through the plan for writing this book. In particular, Walter Rudin's undergraduate book *Principles of Mathematical Analysis* that many PhD students in economics are required to master, provided the motivation for the title of this book.

I had initially planned on writing a short introduction to behavioral economics not just for economists but also for other social and behavioral scientists. As a matter of fact, I started writing such a book for the Cambridge University Press' Elements Series. However, it soon became clear that this format was too restrictive for the sort of book I had in mind. In the event, this book offers the reader a comprehensive, lucid, state of the art treatment of the subject matter. I have not shied away from including advanced and challenging material in the book, but the main technical requirement to read the book is modestly set at basic high school maths. Calculus is sparingly used, and only when absolutely essential. As such, the book can be taught at any stage of the undergraduate degree, although it might perhaps be more suitable for second and third year students.

I am greatly indebted to Ernst Fehr for drawing up a template for a significant and important chapter on neuroeconomics that is only available online to keep the length of the printed version more manageable. I learned a great deal from Ernst's comments and suggestions, not just on this chapter, but also on other parts of the book, particularly Part II. Vincent Crawford kindly shared some of his exercises for Part IV.

Teimuraz Gogsadze spent considerable time to carefully read the entire book at all stages, offering invaluable comments and corrected several typos and errors. Mehar Chauhan offered useful suggestions on several parts of the book. She also used her background in psychology and neuroscience to painstakingly draw many illustrations, in color, for the chapter on neuroscience. Narges Hajimoladarvish, Junaid Arshad, Emma Manifold, Ayush Agarwal, and Caspar Kaisar read selected parts of the book and offered very useful advice and suggestions. Jacob Seifert and Paul Schaefer assisted with proofreading parts of the final draft. I am extremely grateful to all these individuals who understood the public goods nature of this project and generously offered their time and advice.

A separate solutions manual, written jointly with Teimuraz Gogsadze, is available to instructors. It contains the solutions to all exercises at the end of each part of the book. It also contains unsolved problems for further thought that are not present in the book.

Over the years I have been supported and encouraged in my work by many individuals and they have significantly contributed to my understanding of the subject in their diverse roles as friends, mentors, coauthors, and academic referees. Without implicating any of them for the shortcomings of this book, I would like to thank Ali al-Nowaihi, Vincent Crawford, Martin

Dufwenberg, Ernst Fehr, Herbert Gintis, Klaus Schmidt, Dennis Snower, Cass Sunstein, and Peter Wakker.

A project of this size always requires enormous support from the family. I would like to thank my entire family for their support and encouragement. My son, Sahaj, helped me to choose the book cover. I dedicate this book to my parents, Manohar and Baljeet, my two role models in life, who have always been a source of unconditional love, support, strength, and encouragement.