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978-0-521-83408-7 - The Analytics of Uncertainty and Information: Second Edition

Sushil Bikhchandani, Jack Hirshleifer and John G. Riley

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THE ANALYTICS OF UNCERTAINTY
AND INFORMATION
SECOND EDITION

There has been explosive progress in the economic theory of uncertainty and information in the past few decades. This subject is now taught not only in departments of economics but also in professional schools and programs oriented toward business, government and administration, and public policy. This book attempts to unify the subject matter in a simple, accessible manner. Part I of the book focuses on the economics of uncertainty; Part II examines the economics of information.

This revised and updated second edition places a greater focus on game theory. New topics include posted-price markets, mechanism design, common-value auctions, and the one-shot deviation principle for repeated games.

Sushil Bikhchandani is a professor in the Anderson School of Management at the University of California, Los Angeles. His interests include auctions, market institutions, herd behavior, and information economics. Professor Bikhchandani has published in numerous academic journals, including *Theoretical Economics*, *Operations Research*, *Journal of Economic Theory*, *Journal of Political Economy*, and *Econometrica*.

Jack Hirshleifer (August 26, 1925–July 26, 2005) was an American economist and long time professor at the University of California, Los Angeles. He taught at the University of Chicago from 1955 to 1960, and thereafter at UCLA until 2001. Professor Hirshleifer was well known for his work on uncertainty and information in economics, the economic analysis of conflict, and bioeconomics. His undergraduate textbook, *Price Theory and Applications*, went into seven editions. A 1958 article by Hirshleifer began the triumphant comeback of Irving Fisher's theory of capital and interest, now deemed canonical.

John G. Riley is Distinguished Professor of Economics at the University of California, Los Angeles. A Fellow of the Econometric Society, his research has appeared in eminent journals such as the *American Economic Review*, *Econometrica*, *Journal of Political Economy*, *Quarterly Journal of Economics*, *Review of Economic Studies*, *Journal of Economic Theory*, and the *RAND Journal of Economics*. Professor Riley is the author of *Essential Microeconomics* (Cambridge University Press, 2012) and co-author, with the late Jack Hirshleifer, of the first edition of *The Analytics of Uncertainty and Information* (Cambridge University Press, 1992).

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SUSHIL BIKHCHANDANI

University of California, Los Angeles

JACK HIRSHLEIFER

JOHN G. RILEY

University of California, Los Angeles



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In Memoriam: Jack Hirshleifer

The origins of this book go back to the mid-1970s at UCLA, when Jack and I decided to team teach a course on uncertainty and information. The first year we sat in on each other's lectures, and I certainly learned a lot, not just about how to extract insights from formal economics models, but also how to teach the material. After some years we were invited to write on these topics for the *Journal of Economic Literature*, and the first edition grew out of this effort. We both worked hard on the project, but even when I was satisfied, Jack demanded more. If an argument was not immediately transparent, it was sent back to the drawing board.

As a result of our joint project we became friends, and it was always a pleasure to join Jack for lunch at UCLA or in one of our homes. Even at the end of his life, when his body was ravaged by sickness, Jack's mind was as curious as ever. His range of interests stretched to the boundaries of economics and beyond. I never fully lost my sense of awe.

Originally, we were going to work on the second edition together with our colleague and friend "Bikh." Our goal was to add new applications and insights. Alas, Jack left us too soon. Given the clarity of much of the first edition, many of the original chapters have been only lightly edited. Therefore Jack's words and wisdom continue to resonate. It will be up to the reader to decide if we have retained the level of clarity demanded by Jack. Certainly, this was our aspiration.

John G. Riley