

**MODELS, MATHEMATICS, AND METHODOLOGY
IN ECONOMIC EXPLANATION**

This book provides a practitioner's foundation for the process of explanatory model building, breaking down that process into five stages. Donald W. Katzner presents a concrete example with unquantified variable values to show how the five-stage procedure works. He describes what is involved in explanatory model building for those interested in this practice, while simultaneously providing a guide for those actually engaged in it. The combination of Katzner's focus on modeling and on mathematics, along with his focus on the explanatory performance of modeling, promises to become an important contribution to the field.

Donald W. Katzner is Professor of Economics and former Department Chair at the University of Massachusetts, Amherst. His published research spans several areas, including microeconomic and general equilibrium theory; the methodology of building models and of analyzing phenomena when measures of appropriate variables are neither available nor reasonably constructible; the analysis of uncertain economic phenomena when it is inappropriate to employ notions of probability; the impact of culture on economic behavior; and organizational issues within the economic firm.

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Donald W. Katzner

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For my grandchildren:

Sadie Alexandra

Ethan Benjamin

and

Chloe Emerson

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Preface

My objective in this book is to bring into focus the interrelations between three elements or areas of investigation involved in economic explanation as well as the connections between those areas and economic explanation itself: first, the building of models as part of one possible approach to explaining economic phenomena; second, certain critical aspects of the mathematization that model construction frequently employs; and third, some features of the relevant methodological foundations upon which the model building explanatory program is based. I have commented on those aspects more expansively in the introduction and subsequent chapters that follow, and I have made some suggestions regarding the need to take a new view, not only of the status of economics as an explanatory discipline, but of the process of model building and in some respects the conceptual traps that arise in moving to real-world explanation.

In all that, of course, considerable and highly valuable contributions have been made by scholars whose efforts have preceded mine, and it is part of my intention to give full acknowledgment to the objectives that work has commanded. My present concern, however, is in the more practical and operational aspects of economic model building in a how-to-do-it sense, and while the more abstract issues of methodology that scholars have examined elsewhere inform my present argument, they do not engage my primary interest.

I should state that for the most part, I am an economic theorist who addresses methodological and philosophical issues that relate to my work through the lens of a practicing model builder. I believe that what I do and should be doing as an economist is to attempt to explain economic reality and thereby indirectly contribute to the making of economic policy and to matters that relate to the improvement of the human lot. The

methodological and philosophical issues that I confront are those that bear upon the pursuit of this goal, namely, those that are concerned with the real-economic-world meaning and significance of the analytical approaches and techniques that I use. Over the years, many of my methodological and philosophical ruminations have found their way in bits and pieces, some considerably more extensive than others, into various parts of my published work. Parts of that previous work will be reflected in the present volume and I therefore record my thanks to the publishers and the holders of copyright for permission to reproduce from the following:

“In Defense of Formalization in Economics,” *Methodus* 3, no.1 (June, 1991), pp. 17–24. Published by the International Network for Economic Method.

“Our Mad Rush to Measure: How Did We Get into this Mess?” *Methodus* 3, no. 2 (December, 1991), pp. 18–26. Published by the International Network for Economic Method.

“The Misuse of Measurement in Economics,” *Metroeconomica* 49 (1998), pp. 1–2. © John Wiley and Sons.

“The Significance, Success, and Failure of Microeconomic Theory,” *Journal of Post Keynesian Economics* 24 (2001), pp. 41–58. © Taylor and Francis.

“Introduction: Science, Social Science, and Measurement,” in my *Unmeasured Information and the Methodology of Social Scientific Inquiry* (Boston: Kluwer, 2001). © Springer.

“Why Mathematics in Economics?,” *Journal of Post Keynesian Economics* 25 (2003), pp. 561–574. © Taylor and Francis.

An Introduction to the Economic Theory of Market Behavior: Microeconomics from a Walrasian Perspective (Cheltenham: Elgar, 2006).

“Introduction: Culture, Economics, and Economic Behavior,” in *Culture and Economic Explanation* (London: Routledge, 2008). © Taylor and Francis.

Acknowledgments of more substantial reproductions of my earlier work appear in footnotes where appropriate.

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