

Introduction

This book defends a version of the old-fashioned view that the basic axioms of economics are “inexact” and that economics proceeds by deducing the consequences of these axioms in particular circumstances. The method of economics is deductive, and confidence in the implications of economics derives mainly from confidence in its axioms rather than from testing the implications of models that incorporate those axioms. Mistaken implications demand a change of model but rarely a change in the fundamental axioms. In looking back to this traditional methodology, I often defend economics and economists from unwarranted criticisms. The broad outlines of my views are shared by the leading contemporary commentators on economic methodology, such as Roger Backhouse, Nancy Cartwright, John Davis, D. Wade Hands, Uskali Mäki, Mary Morgan, and Julian Reiss, although often in different terms, and some may feel that I understate the differences. None of these thinkers agree with me on every detail. I also take issue with the views defended a generation or two ago by those attempting to derive economic methodology from the leading accounts of philosophy of science at that time.¹ In my view, many of the basic principles of economics can be regarded as inexact laws or as statements of tendencies, and the methods of theory appraisal that economists employ in practice are for the most part scientifically acceptable.

There is another aspect of economic methodology, whose influence is waning, that I shall not defend: the commitment to economics as a “separate science.” To insist that any acceptable

¹ Blaug 1980a, Boland 1982b, 1986, 1989, Caldwell 1982, Hands 1979, 1985a, 1985b, Klant 1984, Latsis 1976, Pheby 1988, and Rosenberg 1976.

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economic theory must, like current theory, aspire to capture the entire economic “realm” without drawing on the other social sciences has little justification and leads, I argue, to stagnation. The keys to the methodological peculiarities of economics lie in its structure and strategy.

WHAT IS ECONOMICS?

This book is concerned only with “mainstream” contemporary microeconomic and macroeconomic theory and general equilibrium theory. These are the best-known economic theories, the theories that have most influenced work in other social sciences, and the theories which have been most discussed by philosophers, economists, and other social theorists.

In focusing on mainstream economics, I avoid important questions about the definition and subject matter of economics. Phenomena do not come with the label “economic” attached to them. On the contrary, theorists have had to decide what counts as an economic phenomenon. Like every other science, economics must define its object while theorizing about it.

We are so accustomed to thinking about economies that we often fail to notice how remarkable it is that there are such “things.” As Marx points out, market societies are strange human creations. Although they are constituted by the attitudes, actions, and artifacts of human beings, markets possess a real objectivity, and they dominate the people whose actions perpetuate and constitute them. Although the “naturalness” of the domination of markets over human beings and the inevitability of market relations are, in Marx’s view, illusory, there is nothing illusory about the domination itself.

The fact that these human activities and products control human beings in market societies is part of what Marx means when he discusses “alienation.” Consider the following story:

A man was terribly down on his luck, out of work and desperate. He had only a few dollars left in his bank account. He decided to

try prayer. He went to his cash machine, got down on his knees, and prayed. When he checked his balance, he found that he was worth millions!²

Whether this is a story of divine intervention or electronic failure, the image of a human being on his knees in front of a cash machine epitomizes the objectivity of market relations and the subjection of individual human beings to them.

Markets not only constrain the choices of individuals; they rule nations as well. Lester Thurow argued, for example (quaintly from the perspective of 2022), that in order to compete with Japan, the United States must increase its rate of investment (1980, pp. 96–7), otherwise, he maintained, it would suffer economic decline. What enforces this supposed necessity?

The world market. But what is that? What are markets? How do they work? How can they dominate individuals and even whole nations? What are “economies”? What are the systems, norms, attitudes, and actions that economists study? What is “economics”? Attempts to answer these questions and to define economics are central to landmark works on economic methodology such as Mill’s “On the Definition of Political Economy and the Method of Investigation Proper to It” (1836) and Lionel Robbins’ *An Essay on the Nature and Significance of Economic Science* (1932, 1935).

Mill defines economics as “[t]he science which traces the laws of such of the phenomena of society as arise from the combined operations of mankind for the production of wealth, in so far as those phenomena are not modified by the pursuit of any other object” (1836, p. 323). “Substantive” definitions like this one link economic phenomena to matters of production and exchange, but most also carry with them commitments to a mode of explanation and a kind

² This story was reported to me by students in a philosophy of science course I was teaching in 1979 at the University of Maryland.

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of theory.³ Robbins, in contrast, offers a “formal” definition of economics as “the science which studies human behavior as a relationship between ends and scarce means which have alternative uses” (1932, p. 15). According to Robbins, economics is not concerned with production, exchange, distribution, or consumption as such. It is instead concerned with an aspect of all human action. Although economists have not in fact been able to draw the boundaries of their discipline in this way, they nevertheless like to think of their subject matter, as Robbins urges, as the consequences of rational choices in circumstances of scarcity. This vision has determined the questions theorists ask and the answers they are willing to accept. It is not the only possible vision of economics, and we shall see some of its limitations, but no alternatives will be explored here. To avoid unnecessary repetition, I usually omit the adjectives “neoclassical” or “mainstream” and just speak of “economics” when I am discussing mainstream neoclassical economics. This is a convenience, not a covert attempt to denigrate other schools of economics or to define them out of existence.

Mainstream economics in 2022 is not the same field that it was in 1992. Although there has been little change in the fundamental theory, which I call “equilibrium theory,” there have been huge changes in what economists are doing with their theory. Constraints on economic modeling have relaxed. Economists have been increasingly willing to gather empirical data, often by means of experimentation and historical research, and to use techniques of causal and statistical modeling to bring data to bear on specific questions about policies, markets, and other institutions. Courses in microeconomics, which spell out equilibrium theory and teach students how to use it in modeling specific markets, remain a large and essential part of

³ Indeed, Mill also defines economics in terms of the causal factors with which it is concerned. This dual specification in terms of causes and domains is crucial to the notion of economics as a separate science. The contrast between Mill and Robbins is thus less than it may appear, especially since the notion of a specifically economic “realm” has persisted. See §7.4.

the economics curriculum. But equilibrium theory has moved from the foreground to the background in economic research and applications. For that reason, it may be even more important to clarify its content and role than when its presence and influence were more obvious. At first glance, much of contemporary economics may look like applied statistics. But, on a second glance, economic models are distinctive. What makes them distinctive is, as this book explains, the discipline imposed by the content and structure of equilibrium theorizing.

METHODOLOGY AND THE PROBLEM OF THEORY ASSESSMENT

This is a book on economic methodology. But what is *that*? What might an investigation of economic methodology accomplish? There are at least four answers.

First, investigators may want to know how the discipline of economics “works” now and how it has worked in the past. They may want to know answers to questions such as: How does one succeed as an economist? What character traits, stylistic preferences, or values are encouraged among economists? To what extent are the aims of economists bound up with the policy demands that are made of them? One may want to know the answers to these sociological and historical questions simply because one wants to understand the discipline, or one may have further aims, which answers to these questions may help one to achieve. One might want, for example, to learn how to get tenure in an economics department, to understand how empirical knowledge is possible, or to convict some group of economists of methodological error.

Second, one may study methodology to help assess aspects of economics from a practical or policy perspective. The questions that motivate such assessments are varied: What role should economics play in the curriculum of secondary schools or colleges? What role should economists play in policy-making? To what extent should other inquiries model themselves after economics? Philosophers

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are supposed to have a significant role in such practical evaluation (see Rorty 1979, p. 4).

The third reason to be interested in economic methodology is my reason. I would like to understand better how people learn about the social world around them. By seeing how economists have succeeded – and failed – in acquiring knowledge of aspects of social relations and institutions, one may be able to determine how best to study social phenomena: to what extent social inquiry ought to resemble inquiry in physics, how much humans can know about social phenomena, and what limits social inquiry encounters. If, as I believe, such philosophical inquiry is itself a kind of social inquiry, the whole project might appear paradoxical. I defend it in Chapter 15.

Most of those who study economic methodology do so for a fourth reason: because they want to improve it or to help economists to practice it better. Just as economists may seek to improve monetary policy or the tax structure, or compliance with the principles of either, so students of economic methodology may seek to improve the way economic theories are generated and tested and the incentives that encourage economists to undertake certain kinds of study and to avoid others. Such ambitions make sense only if there is some way to determine whether one methodological rule is superior to another. Practical efforts to improve economic methodology will thus depend on philosophical theories concerning knowledge acquisition. For one of the most important senses in which methodological norm N may be superior to norm M is if one is more likely to learn something if one follows N than if one follows M . The practical methodological implications of my views are drawn together and defended in Chapter 15.

Many people regard economic methodology as concerned exclusively with the problem of theory *appraisal*: the problem of distinguishing good theorizing and good economic theories and models from bad theorizing, bad theories, and bad models. Although theory appraisal is a central issue, to which several chapters are devoted, there are other philosophically demanding questions to ask about

economic theory and practice. One should also inquire about the *structure* of microeconomics, macroeconomics, and general equilibrium theory, about the *strategy* and *heuristics* that guide work in contemporary economics, about the *goals* of economic theorizing, and about the relations between economic theory and policy questions. These questions are important in themselves and in order to understand theory appraisal in economics. One should also ask more detailed questions that do not fall neatly under these general rubrics. Many of these questions are normative. For example, although one can ask the purely descriptive question “what are the goals of economics?” when philosophers ask about goals, they pose the normative question of what the ultimate goals of sciences ought to be.⁴

A READER’S GUIDE

The central problem of theory appraisal is best deferred until after a discussion of the content, structure, and strategy of economic modeling and an introduction to the philosophy of (social) science. Yet readers would be impatient with so much introductory material. Accordingly, I have placed a selective discussion of philosophy of science in the Appendix, which has been organized for easy use. I hope readers will find it a helpful reference. Those without any background in the philosophy of science may want to read it straight through before starting Chapter 1, even though in many instances the Appendix refers back to philosophical analyses in the preceding chapters.

Introductory material concerning economic modeling could not be placed in a second appendix, for how one understands this material determines how well one grasps the structure and strategy of economics, which comprise the subject matter of Part I. I hope that the way in which the first few chapters present the economic

⁴ It is not obvious how one should go about answering such questions, but rather than address explicitly such “metamethodological questions” – such questions concerning the methodology of the methodology of economics – I show how to answer them by doing methodology.

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background is of value to students of economics and that it may even be of interest to trained theorists. Although the first five chapters contain many familiar analyses and can be skimmed by readers with a solid background in economics, they should not be skipped altogether, for they define the questions that the rest of the book attempts to answer, and they provide initial sketches of important philosophical distinctions.

Chapter 1 focuses on the conception of rationality that is incorporated in contemporary economics and is central to it. After presenting ordinal utility theory, I offer a critique of revealed preference theory and an introduction to expected utility theory. If one wants to understand economics, the modeling of rationality is the place to begin.

Chapter 2 presents consumer choice theory and an example of a simple *economic model*, and it makes preliminary comments on the apparent empirical anomalies consumer choice theory faces. Its material is well known, although textbooks rarely develop the connections between specific models and fundamental theory as explicitly.

Chapter 3 carries out the same tasks for the theory of the firm and for general equilibrium theory. In doing so, it pulls together the discussions of the first three chapters to offer a general sketch of the causal structure and basic principles of mainstream economics. It takes issue with the view, which used to be dominant, that general equilibrium theory is the fundamental theory of contemporary economics. I maintain that what I call “equilibrium theory,” not general equilibrium theory, is fundamental.

Chapter 4 sketches the contemporary theory of economic welfare. It argues that welfare economics is a theoretically driven discipline, whose questions are determined more by equilibrium theory than by practical problems of economic welfare. Section 4.4 explains why economists embrace perfect competition as a moral ideal. Chapter 4 also explains why one finds among welfare economists an anomalous combination of moral authority and moral agnosticism.

Chapter 5 provides a fragmentary introduction to macroeconomics that shows that contemporary macroeconomics is dependent both on equilibrium theory and on dubious methodological strictures. This chapter also broaches important questions concerning reduction, accounting identities, and causation.

The remaining three chapters of Part I attempt to say more precisely and generally what economic theories and models are and to characterize their overall structure and strategy. Chapter 6 is concerned with theories and models in economics. It surveys philosophical conceptions of theories and defends a view of theories as sets of lawlike statements that are systematically interconnected. It argues that models should be understood as conceptual explorations without empirical commitments. They are definitions of predicates or kinds of systems. Models can be *used* to theorize, explain, or predict, when one offers “theoretical hypotheses” asserting that parts of the real world belong to the extension of the predicate a model defines.

Chapter 7 is concerned with the global strategy and structure of economic theory. After arguing that Thomas Kuhn’s and Imre Lakatos’ notions of “paradigm” and “research program” are in some ways misleading and, in any case, not sufficiently detailed to be immediately applicable to economics, Chapter 7 sketches the structure and strategy of economics as an inexact and separate science and comments on the role of abstract general equilibrium theories in this enterprise. Chapter 8 concludes Part I with an illustrative case study of Paul Samuelson’s influential overlapping-generations model.

Part II focuses on problems of theory assessment. I develop my views of confirmation and theory appraisal in Chapters 9, 10, and 13, which are the most important chapters in this part. Chapters 11 and 12 are devoted to criticizing the views of others and may be skipped by those who are not interested in the views I criticize.

Chapter 9 develops the traditional conception of economics as an inexact science that investigates deductively the implications of assumptions that are believed to be true statements of tendencies,

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but that are only approximately true as generalizations concerning behavior. I consider several interpretations of the problematic notion of inexactness or approximate truth and argue for an account that combines a view of inexactness in terms of tendencies with an account in terms of vague implicit qualification. Chapter 9 explains how statements of tendencies can be true.

Chapter 10 considers what conditions must be met if one is to have good reason to accept tendency claims or inexact laws, and it presents an interpretation of J. S. Mill's deductive method, which still appears to dominate methodological practice in economics.

This view of theory assessment was challenged several decades ago, and in the second half of the twentieth century it was replaced by more "positivistic" or "modernist" views of economic methodology, which I criticize in Chapter 11. In developing and criticizing the views of Terence Hutchison, Paul Samuelson, Fritz Machlup, Milton Friedman, and Tjalling Koopmans, this chapter highlights the "methodological schizophrenia" of many economists, in which methodological pronouncements and practice contradict one another.

Chapter 12 criticizes Karl Popper's and Imre Lakatos' views on theory appraisal, which have been particularly influential among writers on economic methodology, although their influence has waned. Popperian critics of economics are right to claim that economists seldom practice the falsificationism that many preach, but, in contrast to authors such as Mark Blaug (1980), I argue that the problem is with the preaching, not with the practice: falsificationism is not a feasible methodology. Although Lakatos provides more resources with which to defend economics than does Popper, his views are also inadequate and for a similar reason. Both Popper and Lakatos deny that there is ever reason to believe that scientific statements are close to the truth or likely to be true, and neither provides a viable construal of tendencies. In denying that such reasons to accept generalizations have a role in either engineering or in theoretical science, Popper and Lakatos are implicitly calling for a radical and destructive transformation of human practices.