Capital, Profits, and Prices

An Essay in the Philosophy of Economics

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Preface

A teacher of mine once commented that capital theory is mostly metaphysics. This book takes his jocular comment more seriously than he intended. It investigates what contemporary philosophy of science can contribute to understanding and solving the puzzles that capital and interest present. It also considers what understanding capital and interest theory can contribute to philosophy of science and philosophy of social science. Although my inquiry into capital theory borrows heavily from well known work in the philosophy of science, I was neither able, nor content, to apply ready-made philosophical wisdom to the mysteries of capital. New philosophical tools needed fashioning. Old philosophical questions demanded new and more detailed answers. In the course of clarifying the problems in capital theory, I hope to contribute to the philosophy of science—particularly to the understanding of the role and legitimacy in the sciences of rough generalizations and simplifications. I offer an original construal of the structure of equilibrium economics and a critical appraisal of our knowledge concerning capital and interest. This book is addressed to those who have an interest in philosophy of science or in the theoretical foundations of economics. It does not presuppose extensive knowledge either of philosophy or of economics, although most of the material will be more familiar to economists.

So many people have helped me directly or indirectly in writing this book, that at times I have felt as if I were merely a compiler of their wisdom. For help with the first draft of this book, I am deeply indebted to Sidney Morgenbesser. He helped by providing not only criticisms and suggestions, but also a model of uncompromising intellectual integrity and decency. Ronald Findlay and Isaac Levi, were indispensable. Without having drawn heavily on their fund of knowledge and good sense, I could never have written the first draft of this book. I am indebted to Columbia University for conferring on me the Bancroft Award, which provided the incentive to revise this work and publish

it. J. Richard Fehler and Subiah Mani read the whole of the manuscript and made numerous suggestions. Others who helped with the early draft are Ernest Alleva, Elizabeth Blackmar, Brian Butters, Steven Cardin, Ellen Farrell, Catherine Kautsky, Kelvin Lancaster, Howard Stein, Carol Tatge, Bob Tashman, and Barbara Hohol. During the past two years I have learned a great deal from my colleagues at the University of Maryland, particularly from Margaret Atherton, Lindley Darden, Philip Ehrlich, Conrad Johnson, Eva Kittay, Jerry Levinson, Robert Schwartz, Dudley Shapere, Allen Stairs, Stephen Stich, Frederick Suppe, and Lars Svenonius, all of whom read parts of this manuscript. Materials from this book were delivered to audiences at the City University of New York, the University of Maryland, Michigan State University, the 1980 meetings of the Philosophy of Science Association, the University of Pittsburgh, the State University of New York at Stony Brook, and at Virginia Polytechnic Institute and State University. I am indebted to members of all those audiences. The postscript is an adaptation of my "How to Do Philosophy of Economics" (1980), while materials from my "Are General Equilibrium Theories Explanatory?" (1981) are incorporated into chapters 6 and 7. Lindley Darden, Alexander Rosenberg, and Paul Thagard read the whole of this manuscript and offered detailed and useful criticisms and suggestions. The General Research Board of the University of Maryland provided support for my investigation in chapter 7 of *ceteris paribus* clauses in economics. The National Science Foundation (Grant # SES 8007385) is supporting work on the questions raised in chapter 9 concerning causal judgments in economics. I would like to thank Leslie Bialler for his expert editorial assistance. The errors which have withstood all this help are, of course, mine.

Now, in whatever science there are systematic differences of opinion—which is as much to say, in all the moral or mental sciences, and in Political Economy among the rest; in whatever science there exist, among those who have attended to the subject, what are commonly called differences of principle, as distinguished from differences of matter-of-fact or detail,—the cause will be found to be, a difference in their conceptions of the philosophic method of the science. The parties who differ are guided, either knowingly or unconsciously, by different views concerning the nature of the evidence appropriate to the subject. They differ not solely in what they believe themselves to see, but in the quarter whence they obtained the light by which they think they see it. (*Mill 1836:141*)

Introduction

The social sciences raise perplexing methodological and epistemological questions. Economics, as the most developed social science, deserves particular philosophical scrutiny. To what extent does its methodology resemble that of the natural sciences? What is the structure of economic theory? What is the subject matter of economics? What is the relationship of its subject matter to that of other disciplines? What special difficulties do economists face? To what extent does economics provide knowledge of its subject matter? In answering these questions, one may hope to understand better the prospects, problems and limitations of the social sciences in general.

Unfortunately, these questions concerning economics are not clearly posed and are not easy to answer. In this book I shall consider only one esoteric area within economics, the theory of capital and interest and of their relations to exchange values. Examining this area in detail helps with these general philosophical questions.

I am focusing on capital and interest theory because I believe that it is essential to concentrate on a limited area of economics. As this book illustrates, answers to general philosophical questions concerning economic theory require detailed examination of economic theory. No single work can examine more than a small part of economic theory in the required detail. The philosophical issues addressed in this essay do, however, arise in much of economics and my conclusions apply to more than just the theory of capital and interest.

My method demands that in conducting a philosophical inquiry into economics one consider some specific aspect in detail. The reasons for choosing the theory of capital and interest instead of some other topic are twofold. First, that theory is of considerable theoretical importance. As I shall explain in chapter 1, one's views concerning capital and interest are intimately tied to one's general perspective on economics. Second, the issues in capital and interest theory are emotionally charged. People have passionate views, for example, on why the

rate of interest or profit is normally positive. Capital and interest theory is thus especially suitable for studying how descriptive and normative issues interact in economics and how ideology matters to economic theory.

The idea of conducting a philosophical inquiry into capital theory was suggested by a course of lectures given by John Eatwell on Value Theory in the Fall of 1977 at Barnard College (see Eatwell 1975c). In thinking about the so-called Cambridge Controversy in capital theory of the 1960s, I came to the conclusion that philosophical disagreements lay behind the economic controversy and constituted an important part of it. I thus saw capital and interest theory not simply as an interesting subject for philosophical scrutiny, but as one to which the philosopher could hope to contribute directly. Mill's comments quoted above apply well to the controversies in capital theory.

Capital theory deals with many different questions. One would like to know what capital goods are. What contribution do they make to an economy's wealth and possibilities for growth? What factors influence the size and composition of the economy's stock of capital goods? How are the prices and rentals of capital goods determined? These questions are difficult and important, but not nearly as mysterious as the questions concerning *capital*, with which I shall be concerned. In an economy in which one can freely make investments and receive returns on them, one can normally expect one's money to be fruitful and to multiply. How does ownership of a certain quantity of money permit one to receive income? What determines the distribution of income between those who possess "capital" and those who don't? How is capital related to capital goods? Capital not only earns interest or profits,[1] but, after one allows for various complications, competition among owners of capital leads (given freedom to redirect one's capital) to a rough equality of returns on investments. Those whose earnings are low will shift their investments. Although some theorists now believe that it is senseless to speak of a resultant uniform rate of return (rate of profit or interest), a traditional problem of the theory of capital and interest has been to explain what determines this rate of return.

The answers given to the many questions concerning capital are at least as diverse as the questions themselves. I shall be particularly interested in theories of the relations between capital, interest, and

[1] There are many differences between the interest a pensioner earns at a savings bank, the dividends General Motors pays its stockholders, the profits real estate speculators garner and the corporate profits oil companies can barely count. Yet at the level of theoretical abstraction at which I shall proceed, it is not even necessary to distinguish between interest and profits. In chapter 1 I explain why.

prices. It is difficult to explain briefly in an introduction what these theories are about, since their subject matter is theoretical and controversial. Speaking loosely, we may say that capital goods are reproducible commodities which can be used to make other commodities. We may or may not want to include goods workers consume (which are, in a sense, needed for production) as capital goods. Although an individual regards his or her money as capital, the capital that a whole economy possesses is certainly not just a quantity of money. The quantity of capital a society possesses should measure the quantity and the quality of the capital goods it has. Heavily industrialized nations possess more capital than do hunters and gatherers. Destructive wars decrease the amount of capital a nation possesses. To speak of the quantity of capital goods poses difficult problems. In what units can one add together tractors and microprocessors to get a single sum? After one corrects for inflation, economists generally suppose one can get some indication of this quantity by considering the total *value* of all capital goods.

Given this sketchy notion of what capital is, we can see that the relations between capital, interest, and prices are puzzling. An individual's capital (which may be in the form of money or of commodities) enables that individual to earn interest. If the capital is invested in a machine, the sum of the rentals the machine earns over its lifetime is thus greater than the machine's cost. Why? How does the price system adjust itself so that owners of capital can earn interest? This is perhaps the central question: Why are there normally profits? For Ricardo (1817) and Marx (1967), profit or interest is part of the surplus of goods (or of the value of goods) produced after all inputs, including labor, are replaced. Capitalists are able to appropriate a portion of the surplus because of their ownership of the means of production. According to Ricardo and Marx, profits are thus not a payment for a commodity or service.

From the neoclassical revolution in economic theory of the 1870s until the development of intertemporal general equilibrium theories after World War II, most economists regarded capital as either itself a scarce input needed for production or as a proxy for some other scarce input. The rate of interest was in their view the price of this input. This input was, however, a rather mysterious entity. For J. B. Clark (1902), it was a permanent "fund of productive wealth." Böhm-Bawerk and the Austrian school of economists were critical of attempts to regard capital as itself some entity which contributes to production. Instead they stressed the connections between interest and time or "waiting." Böhm-Bawerk (1888) suggested that people can produce

more if they produce in a more roundabout way. If they pick berries, they get food right away. If people instead make plows, domesticate animals, and tend their crops, they must employ a much longer period of production, but they get a much larger output. Currently available stocks of commodities give people the power to use more efficient roundabout methods of production. People are thus willing and able to repay the owners of these commodities with interest, if the owners will advance these stocks. Present goods are, according to Böhm-Bawerk, also more valuable than future goods for subjective reasons. Capital is not some entity that contributes to production. "Waiting," that is, deferring consumption to permit a lengthening of the period of production, contributes to production. Interest is the price of this "waiting." In everyday life, capital appears to earn interest. According to the Austrian theorists appearances are misleading. Capital appears to earn interest only because its value roughly indicates the quantity of waiting or the degree of roundaboutness.

Since World War II, general equilibrium theorists have shown how in principle to derive interest from productive contributions and subjective valuations of capital goods without taking capital itself to be an input into production or an indicator of some other single input like "waiting." In empirical research economists nevertheless make use of more traditional theories, like Clark's, since the general equilibrium approach is difficult or impossible to apply. Other contemporary economists have resurrected Ricardo and regard interest as part of the surplus of output over input. Controversy concerning all these positions (and many others) has been incessant. The greater part of this book is devoted to clarifying and assessing the positions sketched in the last few paragraphs.

In considering theories of the relations between capital, interest, and prices I shall be discussing a good deal of economics. In chapters 1 and 2 I shall, in a roughly historical manner, explain why theories of the relations between capital, interest, and prices are important and what problems they face. In chapter 3 I shall develop the Austrian theory, which I regard as the most intelligible of traditional neoclassical theories of these relations. In chapter 4 I shall argue that while the Cambridge Controversy does not *refute* the Austrian theory or demonstrate any logical error in it, the critics have shown that traditional neoclassical theories, including the Austrian theory, are *unfounded*. Chapters 5 through 7 develop and criticize general equilibrium approaches to the relations between capital, interest, and prices. Chapter 8 sets forth Sraffa's neo-Ricardian contribution and criticizes some extravagant claims which have been made on its behalf. Chapter 9 will

argue that the differences between general equilibrium theories of the relations between capital, interest, and prices and neo-Ricardian theories are conceptual and methodological. In chapters 6, 7 and 9, I explore these conceptual and methodological issues. In chapter 10 I reach generally negative conclusions: (1) Economists know little about the relations between capital, interest, and prices. The problem is not a lack of interesting theorems, but a lack of confirmation for these theorems. (2) Many economists adhere so tenaciously to what I shall call "equilibrium theory" that they restrict their methodological options unreasonably. (3) More resources should be devoted to exploring the as yet unproven possibilities of piecemeal theorizing like that exemplified by Sraffa's work.

In carrying out my philosophical inquiry into the theory of capital and interest, I deal with a number of general questions. Some of the most important of these are:

(1) What is the subject matter of economic theory?
(2) What is the logical structure of an economic model? How are models and theories related to one another? Do economic theories explain anything? If so, what structure do such explanations have? What other than explanatory worth might they have?
(3) Does economics have any laws? If the fundamental generalizations of economics are not laws, how are they to be analyzed? In what ways are they general? What sort of evidence can one have for them?
(4) How are the many simplifications upon which economists rely to be analyzed? Under what conditions are they legitimate?
(5) What kinds of theoretical strategies are employed in economics? How are we to assess such strategies?
(6) What is the role of ideology in economic theory?

What I shall say about these questions applies to more than just theorizing concerning capital and interest.

These six questions cross the boundaries between economics and philosophy. My attempts to answer them should be of interest to philosophers as well as to economists, since the answers have important implications for epistemology and the philosophy of science. In order to make my argument accessible to both philosophers and economists, I have presupposed very little knowledge of either field. Except for a few details, everything I have to say should be comprehensible to readers with no training in either discipline. Those who would like to consider my philosophical contributions without studying any more economic theory than is absolutely necessary can work backwards

from the summary in §3 of chapter 10. I urge economists to think seriously about the more philosophical sections in this book, because I believe that the philosophy I present is indispensable to understanding and evaluating theories of the relations between capital, interest and prices. The conclusions I reach concerning the merits of the theories discussed and concerning the structure and program of neoclassical economics cannot be reached without philosophical analysis. Besides, despite the low regard economists sometimes profess for philosophizing, economic theorists continue to write a great deal on methodology. I hope in this book to make a sober contribution to this extensive and uneven literature.

Yet this is not a traditional essay on the methodology of economics. Some philosophers and some economists may, indeed, find my intentions puzzling. In what sense does economics deserve "philosophical scrutiny"? What is a philosopher doing writing a book on theories of the relations between capital, interest, and prices? In what sense of the word "philosophical" are questions like "what is the subject matter of economics?" philosophical ones? What sort of enterprise am I undertaking? Philosophers have questions to answer concerning the methodology of the sciences and the manner in which the sciences provide us with knowledge. Economists have important questions to answer concerning their subject matter and discipline. Historians have questions to answer concerning past economic work. Yet these questions appear distinct. Why are they joined together in this book?

Although questions of academic taxonomy are of little intrinsic interest, I owe the reader an explanation of why I undertook this inquiry and how I pursued it. There is, after all, the traditional philosophical task of reflecting on what one is doing. A serious question for the philosophy of science is "What is the philosophy of science and how is it related to the sciences?" How distinct are the concerns of economists, historians of economics, and philosophers of economics? What sort of scholar is a philosopher of economics?

The reader impatient to know my general answers to these questions should turn to the postscript. I hope, however, that my inquiry itself answers these questions. Unfamiliar approaches are clearer in practice than in precept.

It is artificial to separate philosophical work from reflections on that work, to write about how to do philosophy of economics separately from doing philosophy of economics. It is particularly misleading to begin with methodological discussion and present the work which follows as the application of that methodology. Philosophy of science develops along with the sciences. Its methods develop with its conclusions. It is less misleading to begin with an actual investigation and to present the methodological discussion as a summing up and reflection on that investigation. Let us follow this order and proceed directly to examine theories of the relations between capital, interest, and prices.