Special Book Review Issue

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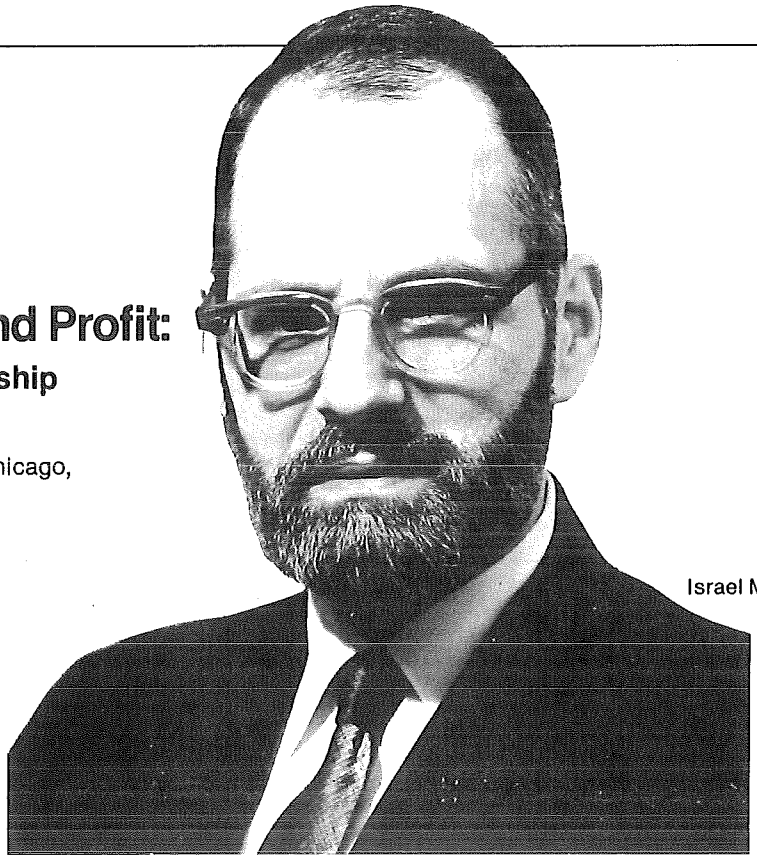
Perception, Opportunity, and Profit:

Studies in the Theory of Entrepreneurship

by Israel M. Kirzner, University of Chicago Press, Chicago, 1979, xiv + 274pp., $15.00



Israel M. Kirzner

Reviewed by Jack High

The essays that make up Israel Kirzner's new book, *Perception, Opportunity, and Profit,* both criticize and construct. They criticize economists' preoccupation with market equilibrium; they construct at least the rudiments of a theory of market process.

Kirzner's criticism of equilibrium theory goes deep. He doubts that maximizing behavior, the core of neoclassical modeling, will sustain a realistic theory of the market. Maximizing takes too much for granted, and leaves too much unexplained. It is too narrow to encompass much of what we see in the market. We need a broader base on which to build economic theory.

> Human action, in the sense developed by Mises, involves courses of action taken by the human being 'to remove uneasiness' and to make himself 'better off.' Being broader than the notion of economizing [i.e., maximizing], the concept of human action does not restrict analysis of the decision to the allocation problem posed by the juxtaposition of scarce means and multiple ends. The decision, in the framework of the human action approach, is not arrived at merely by mechanical computation of the solution to the maximization problem implicit in the configuration of the given ends and means. It reflects not merely the manipulation of given means to correspond faithfully with the hierarchy of given ends, but also *the very perception of the ends-means framework* within which allocation and economizing are to take place...Mises' *homo agens*... is endowed not only with the propensity to pursue goals efficiently, once ends and means are clearly identified, but also with the drive and alertness needed to identify which ends to strive for and which means are available. [Reference: p. 28. Kirzner is quoting himself from *Competition and Entrepreneurship.*]

A central theme of Kirzner's, first expressed in his *Economic Point of View* [1962] and recurring in all his later work, is that maximizing presupposes that everyone *knows* which ends to pursue and which means to employ. In the market, this knowledge requires everyone's plans to be coordinated, since the means one person employs almost always involve the actions of other people. How do people come to know about the ends they pursue, and the best means by which to pursue them? How do they come to know about the planned actions of others? What happens if people are mistaken in their perception of ends and means? To answer these questions in order to yield a theory of market change, Kirzner has proposed that we broaden economic behavior to include entrepreneurship.

For Kirzner, economic activity involves not only maximizing, but also alertness to opportunities for gain. We not only husband our resources, we also perceive new uses for them, so that they go even further than before. "This alertness is the entrepreneurial element in human action," [p. 7] and it means that "we see the entrepreneur as a creator . . . in the sense of his being the discoverer of an available opportunity." [p. 215]

We will have something to say about this conception of entrepreneurship later, but for now let us take Kirzner's entrepreneurship as given, and see how he sets in motion a market process.

In maximizing, the consumer or producer uses equilibrium prices. These prices are given to him, and their employment implies that the resulting plans to buy or sell can be carried out (although the maximization process says nothing about the actual carrying out.) Now, Kirzner says, "The difficulty with a theory of the market couched exclusively in Robbinsian [i.e., maximizing] terms is that in disequilibrium many of the plans of Robbinsian economizers are bound to be unrealized." [p. 6]

If we keep in mind that buyers and sellers are alert to opportunities for

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The *Austrian Economics Newsletter* is designed as a research and communications device for work in Austrian economics. As such, it is essential that we have the active support and cooperation of our readers. We need any information which would be of value to other Austrians and we welcome any suggestions for improving the *Newsletter*. The success of the *Newsletter* fundamentally depends on our ability to encourage the participation and involvement of our readers.

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Time, Uncertainty, and Disequilibrium:

Exploration of Austrian Themes

ed. by Mario J. Rizzo, Lexington Books, Lexington, MA, 1979, x + 237pp., $19.95

Reviewed by Frank Arnold

It is almost universally the case that conference directors and editors of the resulting collections must confront a tradeoff between the focus of subject area and the quality and creativity of the contributions. Mario Rizzo's balancing of these twin goals appears, for the most part, to have been toward wider focus, but higher quality papers. Despite the volume's broad compass, however, Rizzo's introductory essay imparts an overall coherence and suggests smooth conceptual transitions between the different papers and comments. Not merely a review of the contents, but an original paper in itself, this essay describes and interprets the theoretical boundaries within which the subsequent essays revolve.

The volume is subtitled, "Exploration of Austrian Themes," but many of the contributors are "non-Austrian". This is of interest in itself since it is informative for all economists to hear what non-Austrians have to say about traditionally Austrian concerns. Naturally, along with this comes independently valuable discussion of topics which are of intrinsic interest regardless of their source or surrounding tradition. The mixture of Austrians and non-Austrians as paper contributors and commentators (fortunately the comments *do* appear) is successful in producing comparison, integration, and advancement.

Of course, space does not permit detailed comments on each contribution, so I will merely touch on most of the major papers and concentrate instead on selected points of interest.

Two papers which were not presented at the original conference, but which are of obvious interest to any modern economist, are those by George Shackle and Stephen Littlechild. Followers of Shackle's work may sympathize when I say that his essay is, as usual, frustrating. Shackle continues to develop in this paper his radical view of decision-making under uncertainty. This view provides flavorful insights into problems which concern many economists, but Shackle never seems willing to continue the discussion to the point at which concrete differences of substantive explanation are apparent between his view and opposing approaches.

Thus, it seems frustrating because so much of what Shackle says is true, but of little consequence for any purpose other than exact description. It does little for our understanding of the

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Mario J. Rizzo

consequences of human action to constantly point out the methodological impurities of conventional *characterizations of* decision-making. A "one-to-one" map ("realistic?") implies the absence of abstraction, a crucial step in understanding. To claim that standard models of micro behavior are inevitably flawed due to their assumptions concerning information and the method by which individuals' choices are modeled, and from there to intimate that they are not useful indicates a kind of prejudice. Austrians are painfully aware of the virtue of reminding themselves of aspects of the world which are relevant in explaining and understanding complicated phenomena—the subjective nature of individuals' choices and evaluations of alternatives is one very important one. As John Hick's contribution to the volume alludes, however, it is not necessarily the only one.

Littlechild's comment on Shackle's paper begins with an excellent summary of the latter's argument. He then undertakes a comparison of the views of Shackle and Kirzner on the methodological foundations of entrepreneurship. Extremely interesting, Littlechild's analysis furnishes the reader with numerous questions and suggestions, and it, as well as Rizzo's introductory essay, points to a major problem area in entrepreneurship from either writer's perspective — the economics of asymmetrical ignorance and imagination.

Clearly, "imagination" and "creativity", as Shackle so often reminds us, are inherently subjective. However, similar to Israel Kirzner's nonmax-

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Time, Uncertainty, and Disequilibrium: Exploration of Austrian Themes

(Continued)

imized entrepreneurial quality of "alertness", after stating this fact, what new insights and discoveries do we obtain? The point is that economists have attempted to investigate asymmetries of learning behavior and information possession. Likewise, the Austrian analysis of competition as a process and related information concerns have proved immensely valuable in understanding the world. However, the residual unexplained aspects of human action and knowledge are not rendered concrete or understandable by postulating a "black-box" human characteristic called creativity or alertness.

At practically the other methodological extreme from the topics discussed by Shackle and Littlechild are the capital theory concerns in the John Hicks and Leland Yeager papers. Yeager develops fundamental objections to the non-choice-theoretic analysis which motivates the reswitching debate, and he largely succeeds in rendering the whole cluster of issues in those exchanges intelligible. The importance of time in the productive process is a cornerstone of Austrian thought and the value of that insight value is once again proven in Yeager's analysis.

Roger Garrison's comment on Yeager raises the problem, so far not satisfactorily elucidated, of defining exactly where and how the pure time preference theory of interest differs from the mutual determination method of Fisher. The standard answer is that the "objective opportunities" in Fisher's framework depend upon the rate of interest; hence, they cannot be considered a codeterminate of the interest rate. However, this does not get to the heart of the matter since it does not completely answer the question of exactly how technical productive opportunities *do* enter interest rate determination. The Yeager-Garrison exchange yields important ideas and hints on this issue.

In "Uncertainty, Subjectivity, and the Economic Analysis of Law", Mario Rizzo demonstrates the applicability of Austrian ideas to new areas of research. In his detailed analysis of the pitfalls of nonjudiciously, and sometimes carelessly, applying economic concepts to the study of the common law, Rizzo's contribution represents an example of the power and fruitfulness (as Murray Rothbard's comment vigorously indicates) of subjectivist methodology when applied not just critically, but constructively.

Mario J. Rizzo

Most readers have at least a passing familiarity with Rational Expectations, but far fewer have had the opportunity to examine closely the critical, often implicit, assumptions involved. By carefully culling and integrating hints and passing comments in the literature, Gerald O'Driscoll, through his paper, provides a partial demystification of R.E. and an elucidation of deep-rooted differences between it and the Hayekian viewpoint.

Inevitably, there will be a few misfits in any collection of conference essays. Unfortunately this volume is no exception. Harvey Leibenstein presents us once again with his familiar "X"—inefficiency model. More interesting is Kirzner's careful comparison of Leibenstein's theory of the entrepreneur with his own. Harold Demsetz, in his paper, confuses libertarian political philosophy and Austrian economics and then goes on to discuss some standard law and economics propositions for which a few pages of Posner would suffice.

As a whole however, the volume is quite interesting and well worth careful study. The themes throughout the book are refreshing examples of forward-moving Austrian analysis. The ideas and essays are critical, constructive, and of interest to economists in general.

Time, Uncertainty and Disequilibrium

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Capital and Its Structure

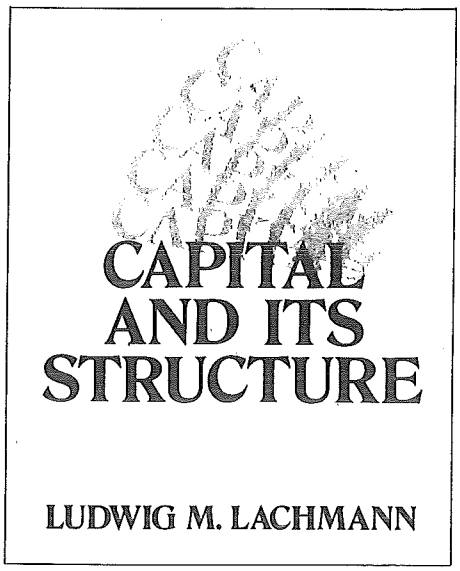
by Ludwig M. Lachmann, Sheed Andrews and McMeel, Kansas City, 1978, xvii + 130pp., $15.00/$4.95
Reviewed by Lawrence H. White

One of the most important contributions to capital theory in the history of economics, Ludwig M. Lachmann's *Capital and Its Structure*, is once again in print. Professor Lachmann explains in a new preface that the book, written in the anti-subjectivist 1950s, was to some extent "a gesture of defiance to the spirit of the age." More than twenty years later, the spirit of contemporary economic theory still merits such gestures. Indeed, capital theory has not advanced since the appearance of Hayek's *The Pure Theory of Capital* in 1941, as Lachmann notes.

Lachmann does not set out to advance capital theory here. This is a book *about* capital theory, not a book *of* capital theory. It provides a number of perceptive and valuable observations regarding important features of the structure of capital equipment in an economy, but does not engage in theoretical construction. It sets as its task a "morphology" of the forms which the structural pattern of capital may assume. It pursues this task only intermittently.

The reason Lachmann chooses to take a critical rather than a constructive tack is not difficult to discover. The new preface expresses his conviction that the Austrian theory of capital "from Böhm-Bawerk onward" — and this presumably includes Hayek's work — "offered little scope for the effects of individual action." Lachmann accordingly thought it urgent "to infuse a dose of subjectivism into this theory of capital and to relate capital phenomena to individual choices." In light of the unquestionable subjectivism and methodological individualism of Hayek's work, however, it is clear that lack of subjectivism—as subjectivism is usually understood—is not the shortcoming with Austrian theory of Lachmann's concern. Rather, Lachmann is concerned over the issue of theoretical determinativeness. The alternative preferred by Lachmann is theoretical indeterminativeness or, as I have elsewhere referred to Lachmann's preference for open-ended and non-exclusive theorizing, "theoretical pluralism". He regards the introduction of expectations into economic theory as the second subjectivist revolution, so that "subjectivism" means more for Lachmann than subjective value theory.

Each chapter of the book really stands alone as a separate essay. The lack of systematic approach to the topic is most evident in the frequency



with which, throughout the work, the author pauses to recapitulate his earlier argument and to sketch out his later argument.

The first chapter states some fundamental difficulties about capital theory, and outlines the plan of the book's attack upon them. Lachmann contends (p. 2) that capital theory is uniquely difficult due to the heterogeneity of capital resources: "Capital, as distinct from labor and land, lacks a 'natural' unit of measurement." This is not only an error, but—strange to say —an error due to insufficiently radical subjectivism. Neither land nor labor has a "natural" unit of measurement from an economic standpoint. Labor and land are no less heterogeneous than capital is. It is not true that "we may add head to head . . . and acre to acre" any more than we may "add beer barrels to blast furnaces". One head belongs to a butcher; another belongs to a chorus girl. One acre grows wine grapes; another holds parked cars. What Lachmann goes on to say about the inadequacy of a dollar measure of capital—that it falters outside of general equilibrium—holds equally true for land and labor. To his credit, however, Lachmann insightfully indicates later (p. 87 n. 1) the fundamental symmetry of capital and labor where both (or neither) are purchasable as assets.

Lachmann's emphasis on capital heterogeneity leads him to explode an important fallacy based on the still-prevalent view that capital goods may be regarded as homogeneous (pp. 6-7, 50). With a single capital good, all units of capital must be perfect substitutes, and new investment must reduce the yield of existing capital. Allowing for heterogeneity allows for complementarity among capital goods, so that which sort of new capital is introduced through investment makes a difference for the impact of investment on an existing capital good. Conversely, which sort of new capital will be introduced depends on the pattern of existing capital, "in the sense that 'investment opportunities' really mean 'holes in the pattern'." Here we have a marvelously succinct statement of the challenge facing the Kirznerian entrepreneur, namely to find such holes in the pattern as the entrepreneur envisions it.

Hayek's distinction between land and capital, what he called "permanent" and "non-permanent" resources, is rejected by Lachmann. The reasons given (p. 10) create the suspicion that Lachmann was misled by Hayek's admittedly imprecise terminology. Hayek was not concerned with distinguishing those resources whose input-streams would eventually dry up from those whose would not, but rather to distinguish those resources whose time-profiles of input service are inalterable ("land") from those resources whose time-profiles of service are alterable and whose use consequently requires intertemporal planning ("capital"). It is not that capital alone can be used up; it is that capital can be used up faster or slower, later or sooner, and that capital thus presents the unique problem of maintenance. As correctly understood, the distinction between capital and land is of some pertinence to Lachmann's concern with shifts of resources from one use to another.

Chapter Two, "On Expectations", is a gem of Lachmannian thought. It has recently been quoted at length by Brian Kantor in his article "Rational Expectations and Economic Thought", *Journal of Economic Literature* 17 (December, 1979). It is easily the book's most significant chapter, though it has little directly to do with capital. At the outset it poses the Lachmannian Conundrum: the expectations of an economic agent properly may be neither regarded as the determinate result of economic experience, nor treated as data independent of economic experience. Expectations are both caused and uncaused. The subjectivism of expectations differs from that of tastes, in that the econ-

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Introduction to Modern Austrian Capital Theory

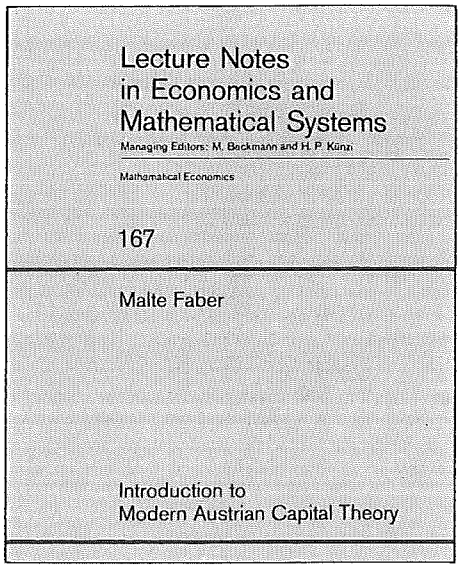
by Malte Faber, Springer-Verlag, New York, 1979, x + 196pp., $12.50
Reviewed by Roger W. Garrison

Six years ago Sir John Hicks' third book on capital theory appeared, bearing the title *Capital and Time: A Neo-Austrian Theory*. Critics who consider the tenets of subjectivism and methodological individualism to be central to the Austrian tradition questioned the validity of the subtitle. Ludwig Lachmann, in particular, argued that Sir John's work was inspired by Ricardo and Walras rather than by Menger and Hayek, and that his book is to be viewed as a specimen of formalism as opposed to subjectivism. It seemed clear at the time that Lachmann's own *Capital and Its Structure* and Hicks' *Capital and Time* were, methodologically speaking, at opposite ends of the spectrum. We now have evidence that only half of the spectrum was in view. In the book presently under review, which is part of a series of "Lecture Notes in Economics and Mathematical Systems," Sir John's subtitle is once again called into question. This time the objection is not that the analysis is formalistic but that the formal analysis is confined to the supply side of the market. Consumer preferences, time preferences in particular, should be given similar treatment.

If we were to travel the distance from Lachmann to Hicks, and then continue in the same direction beyond Hicks for a comparable distance, we would find Malte Faber. We can also locate Faber's end of the spectrum with respect to other contemporary authors who have contributed to the development of Austrian capital theory. While there is only one reference to Lachmann, there is none to Mises, Kirzner, or Rothbard. References to Hayek are limited to his *Pure Theory of Capital*. Neo-Austrian capital theory owes its existence, in the author's view, to such contributors as Bernholz, Fehl, Hicks, Jaksch, Reetz, and von Weizsacker.

Faber's treatment of the issues in capital theory is offered in the format of a textbook complete with problem sets at the end of each of the book's nine chapters. The argument builds from chapter to chapter, and continuity is maintained throughout. References and cross-references are abundantly supplied. The organization is remarkable, especially in view of the fact that several of the chapters are reworked papers published earlier, some co-authored with Peter Bernholz and others.

Although this review is addressed



to those uninitiated in mathematical economics, Faber's book is not. The preface indicates that the only prerequisite is a familiarity with Cramer's rule and the Kuhn-Tucker conditions. (Cramer's rule is a procedure that yields a *pro forma* solution to a set of simultaneous equations whose parameters have unspecified values. Kuhn-Tucker conditions are a set of conditions under which some stipulated variable takes on its maximum value.) But the author freely admits that some passages of the book are mathematically demanding. For the mathematically-trained economist the problem is not one of following the sequence of manipulations of the equations presented. As is typical of this literature, the problems are those of understanding precisely what economic concepts are being symbolized and understanding the full implications of all the simplifying assumptions that were required to allow the issues to be cast in a mathematical mold. If these problems are particularly telling in Faber's book, it is because his methodic and meticulous presentation reveals that the problems are inherent in his mode of analysis.

The limitations of mathematical analysis of economic issues can be illustrated by considering Faber's own introductory chapter. Two questions are identified which, according to the author, are the main concerns of Austrian capital theory: What is capital? Why is the rate of interest generally positive? That the book is aimed almost exclusively at answering the second question is not just a matter of taste. Given the techniques employed, an answer to the first question is completely out of reach. Representing capital with a symbol does not tell us what capital is. Constructing a model that allows for only one capital good and theorizing in terms of units of the capital good serves to skirt, rather than answer, the fundamental questions in capital theory.

In the second chapter, Faber provides a short guided tour through that portion of the history of Austrian capital theory which is relevant to his own contribution. The tour can be easily put into perspective. Faber begins with Böhm-Bawerk and follows those developments that gravitate toward the identification of purely technological relationships between inputs and outputs. This takes him from Böhm-Bawerk to Wicksell and then on to von Stackelberg, where a "theoretical dead-end" stifles further developments. (Böhm-Bawerk and Wicksell dealt only with continuous-input-point-output models. Von Stackelberg's contribution consisted of developing additional models characterized by alternative input-output configurations.)

In the mid-thirties von Neumann provided a way out of the theoretical dead-end by developing a model of general equilibrium based on the work of Walras and Cassel. This is explained in Faber's third chapter. The von Neumann model differs from those of Walras and Cassel in several respects. It recognizes, for instance, the possibility of "circular production," e.g. while coal may be used in the production of steel, steel is used in the production of coal. The model also allows for joint production, for the production of intermediate goods, and for the existence of several different production techniques for each good produced. But if the von Neumann model represents a highwater mark in technique, form, and generality, it represents a low-water mark in substantive economic content. The model includes no primary factors of production and permits no consumption! At the end of each period all outputs are employed as inputs for the next period. As Faber recognizes, the von Neumann model represents a "slave economy with the incessive [*sic*] increase in production as its only goal." The complete lack of any consumption activity strikes Faber as being "peculiar." The ultimate assessment, however, is that von Neumann's analysis is

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Capital, Expectations, and the Market Process:

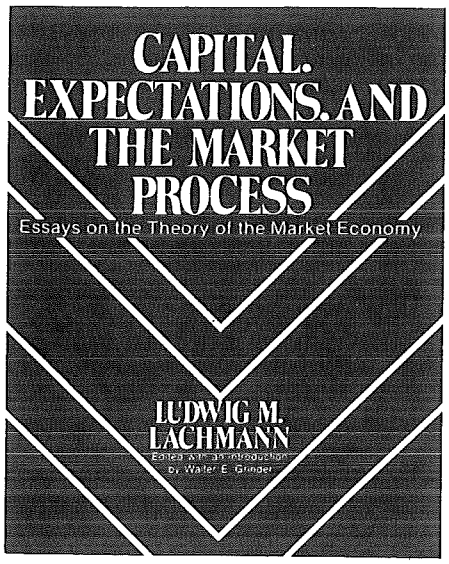
Essays on the Theory of the Market Economy, by Ludwig M. Lachmann, ed. with an Introduction by Walter E. Grinder, Sheed Andrews and McMeel, Kansas City, 1977, viii + 352pp., $15.00/$4.95 Reviewed by John B. Egger

As editor Walter Grinder points out in his excellent introduction, the eighteen essays in this volume are all, in one way or another, reflections of Ludwig M. Lachmann's basic view of economics. This view incorporates not only the examination of the unintended consequences of human action, but also the task of making social relations intelligible in terms of human purposes. A true understanding of social phenomena must include a causal explanation, and for this we must identify individual goals and purposes. The outlook required for this "intelligibility" is what Lachmann calls "radical subjectivism," most conveniently described simply as the requirement that the analyst look at the world through the eyes of, and with the mind of, the actor he is studying.

The dual nature of economics suggested by Lachmann (unintended consequences and the intelligibility of economic phenomena in terms of human purposes) may seem a bit artificial to Austrians, who have long insisted that the analysis of consequences must include causal hypotheses about individual purposes. One grows increasingly suspicious of attempts to analyze unintended consequences without harking back to the human purposes which bring them about. Nevertheless, it is surely true that comparative-static micro analysis attempts exactly this, and that in general the focus on "getting a testable result" so prevalent in modern economics encourages one to ignore this second aspect: explaining or understanding. Lachmann's dual emphasis is thus healthy.

Walter Grinder has arranged Lachmann's essays into four sections following the introduction. Such a classification must have been difficult. Parts 2 ("Setting the Stage") and 3 ("The Market Process"), for example, could almost have their titles and order reversed; both deal with method and history of thought. Thus, "Setting the Stage" includes articles on time and on expectations, and "The Market Process" has only one specifically on that. Parts 4 and 5 deal with capital theory and current policy, respectively.

Lachmann's emphasis on understanding of events in terms of human purposes strongly influences his views on the issues of these essays. While he finds formal, logical analysis appropriate to the "unintended consequences" aspect of economics, *verstehen* (translated as "understanding") is the method



— if it may be so called — necessary for relating human behavior to its underlying purposes or plans. He sees time not as the movement of clock hands but as a sort of medium in which knowledge changes. While clock hands certainly do move, and while this sort of time is relevant to the physical sciences, neoclassical capital theory (e.g., Jevons, or Hayek's *Pure Theory of Capital*), and Economics Part I (unintended consequences), time is significant for Economics Part II (understanding human purposes) if and only if it coincides with unexpected changes in knowledge. Expectations, so vital to understanding behavior, are formed by individuals' subjective interpretations of past events — the same objective circumstance can and often will be interpreted differently — and thus serve as the basis for divergent expectations. The market is seen, in the familiar Austrian fashion, as a process of communication and change; capital theory (in five essays including reviews of one book by Joan Robinson and two by Hicks) focuses on the heterogeneity of capital goods and the subjectivity of the expectations governing their use. Finally, Lachmann's policy observations derive mostly from his conviction that, however well-intentioned, programs of conscious planning almost certainly will interfere with the market process and do general harm.

A couple of Lachmann's points deserve special attention. For example, his dual view of economics calls for a bit more sympathy toward *formalism* than some Austrians seem prepared to give. In "Sir John Hicks as Neo-Austrian," he notes: "Experience has shown, however, that formal analysis on a fairly high level of abstraction is indispensable to our second task [tracing unintended consequences]." And two pages later: "As long as our sole aim remains to predict the unintended consequences of action it is legitimate enough to narrow the range of possibilities by means of restrictive assumptions in order to achieve 'results.'"

Nevertheless, the *other* part of economics, the part which is *essentially* Austrian, involves considerations which absolutely cannot be handled formally. Lachmann's wit is especially robust when searching for amusing ways to point out that formalism alone can say nothing about purposes, causality, or responses to unexpected change. Mises' methodological dualism is brought into economics itself. When a part of our study of an economic situation can legitimately exclude hypotheses about purposes, learning, or causality, we are temporarily suspending those aspects calling for *verstehen,* formulating a problem in no fundamental sense different from one of physical science, and are justified in adopting the Pure Logic of Choice. We can even use mathematical symbolism. But "we have to remember that, in a dynamic world there are economic problems that the logic of choice by itself cannot master. While it explains the designing of economic plans under given conditions, the revision of economic plans in the course of time, as well as the entire range of the problems of expectations, are outside the realm of logic."

That Lachmann's rejection of general equilibrium (GE) is significant is recognized by most Austrians. What seems less comprehensible is the apparent willingness of some of our brightest scholars to jump to GE's defense. While this view is common among economists insensitive to dynamic issues involving the discovery of new information, one would not have expected Austrians seemingly to think that the social benefits of the market system require, as a necessary condition, some sort of "tendency" to some sort of GE.

Certainly the modern economist must acquire considerable facility at equilibrium reasoning and at least some familiarity with GE. For this reason he must take special care not to confuse *spontaneous order* with general equil-

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Industry, Prices, and Markets

by W. Duncan Reekie, Halsted Press, New York, 1979, x + 166pp., $16.95
Reviewed by Stephen C. Littlechild

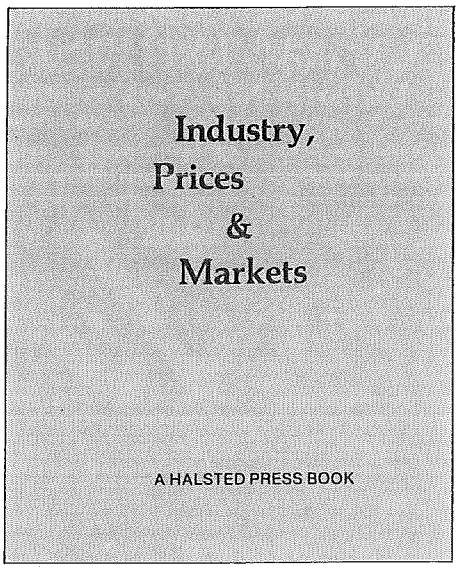
This slim volume constitutes an extremely valuable addition to the existing collection of textbooks on industrial organization. It is not intended as a more up-to-date or more comprehensive restatement of existing theories and evidence. Its purpose is to fill certain gaps in the textbook literature. As such, it is conceived as a supplement to, rather than as a replacement for, a more conventional text.

Nevertheless, Dr. Reekie's book does more than merely fill some gaps in existing literature. The author clearly identifies a systematic set of difficulties with conventional neoclassical theories and suggests that an alternative and little-known approach, which has been developed mainly by Austrian writers following the early classical economists, constitutes a more adequate basis for economic analysis. Essentially, the recommended approach views competition as a dynamic process rather than an equilibrium state.

Chapter 1 sets the scene for the rest of the book. It contains some brief remarks comparing three schools of thought. The British "engineering tradition" (E.A.G. Robinson and P. Sargant Florence) emphasized the concept of the optimum size of the firm, but ultimately failed to explain the co-existence of different sizes of firms, and even the existence of firms at all. The structure-conduct-performance link developed by American writers (J.S. Bain) is flawed by its use of perfect competition as a bench mark. In contrast, the ignorance of buyers and sellers in the market leads to a competitive process embodying rivalry and trial and error. Only by bringing forward this rivalrous competitive process to the center of the stage, suggests the author, can industrial organization theory cease to be in deep intellectual trouble.

The remainder of the book develops these ideas in greater detail. We shall comment briefly on a few points.

Chapter 2 provides a variety of evidence showing that there has been no overwhelming tendency for the whole of an industry's output to become concentrated in one large firm or factory, or even one *size* of firm or factory, as would be the case if long-run average cost curves were L-shaped, or even U-shaped with the minimum at some large scale. It is one of the merits of the book that empirical data are frequently and naturally juxtaposed with theoretical



predictions. Some account might usefully have been taken of recent empirical work by S.J. Prais and others which suggests that there *has* been a gradual tendency to increased concentration in British industry. In part, this can be accounted for by a random process of growth, which Dr. Reekie is concerned in later chapters to defend.

Chapter 3 examines the deficiencies of the neoclassical model as a prescriptive instrument. It outlines why perfect competition is held to be efficient (because price is equal to marginal cost), then asks whether, in the light of this, government should attempt to create perfect competition or require prices to be equal (or proportional) to marginal costs. It is not clear that this material is appropriate in a book which is primarily concerned to explain industrial organization, rather than to analyze alternative government policies. It is certainly necessary to indicate why the concept of perfect competition is theoretically appealing, but there simply is not space to deal adequately with the concepts of "government failure" and behavior of regulatory agencies.

The structure-conduct-performance doctrine suggests that high concentration will lead to higher profits, and a variety of empirical studies have provided some support, albeit weak, for this view. Chapter 4 is a valuable summary of a few very recent studies, notably by Brozen, which do *not* support this view. An alternative approach developed by Demsetz is based on the assumption that firms differ in their ability to lower costs or improve products. Here, as in some of Brozen's work, the economy is seen as in the process of change rather than in an equilibrium state. The importance of Demsetz' results suggests that the Austrians have perhaps been too reticent in deriving and testing qualitative empirical predictions from their analyses.

Chapter 5 discusses the development of oligopoly theory to handle the problem of new entry, with occasional references to current cartels (IATA and OPEC). Finally, the role of entry and profit in the process theory is outlined. There are a number of important ideas here which deserve to be more widely known. For example, the conventional approach finds no role for profit except as resulting from monopoly. By assumption, *all* profit is harmful to the economy. But if profit can result from innovation, or merely from superior alertness leading to improved coordination, then profit may well be socially beneficial. Government policies aimed at eliminating excess profit (and reducing the "social cost of monopoly") may well turn out to be fundamentally misconceived.

It is difficult to understand why oligopoly theorists have not been led earlier to the notion of a process. The notorious "Sylos postulate" (that potential entrants expect incumbent firms to maintain their output levels in the face of entry) is an assumption which serves to characterize an equilibrium situation, but which cries out in vain for an explanation (based on learning over time) of why firms come to adopt this implausible view. Again, the analysis of barriers to entry has focused upon the magnitude of profits generated for the incumbent firm — for example, the discussion of advertising has been concerned with whether new entrants have to spend more or less money on promotion than do incumbent firms. There is no explanation of how a firm comes to be an incumbent in the first place, and what properties and consequences this process of becoming an incumbent possesses. One of the merits of Kirzner's *Competition and Entrepreneurship* is precisely to provide a theory of incumbency, and incidentally to point out how competition for a monopoly position may be beneficial.

Chapter 6 outlines the Austrian theory of entrepreneurship and relates it to conventional accounts of choice and exchange. Students will find it reassuring to begin with familiar diagrams of indifference curves and

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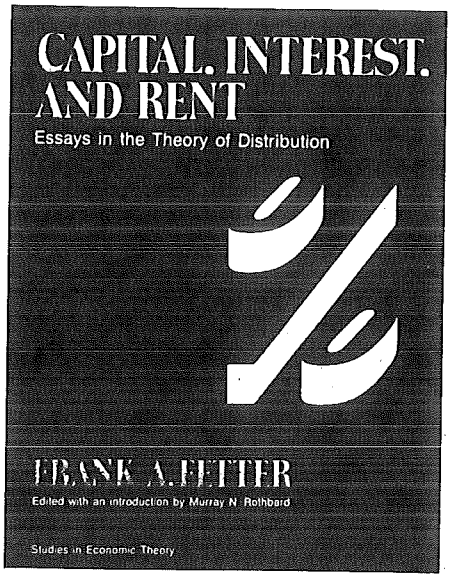
Capital, Interest, and Rent: Essays in the Theory of Distribution

by Frank A. Fetter, ed. with an Introduction by Murray N. Rothbard, Sheed Andrews and McMeel, Kansas City, 1977, 400pp. $12.00/$4.95

Reviewed by Israel M. Kirzner

This book is a most valuable collection of "all the essays in which Fetter developed and presented his theory of distribution"; it is prefaced by a substantial and characteristically scholarly *Introduction* by Professor Rothbard, to whose editorial vision and initiative our gratitude is due for this volume. Frank A. Fetter (1863-1949) was, of course, a leading American economic theorist of the early years of this century, teaching at Cornell from 1901 to 1911, at Princeton from 1911 to 1931, and serving as President of the American Economic Association in 1912. During the course of a prolific and distinguished career of scholarly writing, commencing from about 1894 and continuing until the year of his death, Fetter made a particularly brilliant series of contributions to the theory of distribution, most of them during the years from 1900 to 1904. In these papers Fetter carried forward the radical reformulation of economic theory which had begun with the marginal utility revolution of the 1870's, but which, at the turn of the century, was still far from being complete. Along with the new insights learned from the marginal utility theorists there remained pervasive and incongruous traces of earlier misunderstandings. These were particularly troublesome in the area of distribution theory, in the treatment of rent theory, interest theory, the concept of capital. Fetter attacked these problems with keenness of insight, with profound clarity of understanding, and with a delightfully lucid literary style. In the course of his essays he challenged some of the leading theorists of his time, including particularly Böhm-Bawerk, Marshall, J.B. Clark, and Irving Fisher. From his work there emerged a unified theory of distribution which fits illuminatingly into the broader framework of modern, subjectivist economic theory. (In this respect Fetter offers a striking similarity to Phillip Wicksteed — whose work is nowhere quoted in this volume, and in whose own work Fetter is himself not mentioned either.) Professor Rothbard is to be warmly congratulated for his excellent idea of collecting these papers and offering them to the present day student. Not only can the modern reader learn a great deal of the history of modern economics from this volume; these papers also demonstrate how economic theorizing can be engaged in by a master. It is a rare pleasure, these days, to encounter economic reasoning



so elegantly presented, so powerfully yet lucidly argued.

The *Introduction* is a gem in its own right, giving us Murray N. Rothbard, the economist, at his very best. Careful and wide scholarship, perceptive interpretation and keen criticism of Fetter's contributions, characterize this brilliant introductory essay. Probably the most provocative statement in the *Introduction* is Professor Rothbard's opening sentence describing Fetter as "the leader in the United States of the early Austrian school of economics." This may come as a distinct surprise to the reader of this volume, who encounters Fetter's numerous, trenchant, no-punches-pulled attacks on Böhm-Bawerk, and Fetter's dismissal of the Austrian school as having "stopped short of any lasting contribution to better concepts of capital and income" (p. 159). The reader may also recall Schumpeter's asserting it to be "not quite correct" to classify Fetter as an "Austrian" *(History of Economic Analysis,* p. 874). Yet Rothbard's claim can be defended. While it is difficult to discover any "early Austrian school" in U.S. twentieth-century economics, to which present-day U.S. Austrians might look back with filial pride, it cannot be denied that Fetter's own work is thoroughly imbued with insights from the earlier Austrians whom he describes (p. 75) as holding the center of the stage in the post-1885 theoretical developments. That Fetter, while paying his respects to his Austrian forebears, is prepared to push forward the frontiers of knowledge by his own efforts (one thinks particularly, in this regard, of his splendidly consistent pure time preference theory of interest), can provide a useful model for today's Austrians.

To seek, in this review, to examine Fetter's contributions in detail would, in view of Rothbard's own comprehensive *Introduction*, surely be a mistake. Rather than attempting to duplicate Rothbard's treatment, the reviewer begs permission to dwell critically on one small part of that treatment. It may be confidently hoped that many economists will be stimulated by this outstanding volume to an appreciation of the roots of modern Austrian economics, and to making their own contributions to its further wholesome development.

Professor Rothbard credits Fetter with a "brilliant criticism" of Böhm-Bawerk's famous "third ground" (in which Böhm-Bawerk claimed to explain that present goods are worth more than future goods as a result of the greater productivity of the former.) Rothbard cites Fetter as showing this argument to be "totally invalid" by pointing out that "capital goods are really *future* goods". When a firm hires workers or buys capital goods, Rothbard argues, it "is really buying *future* goods in exchange for a present good, money". The "capitalist-entrepreneur hires or invests in factors now and pays out money (a present good) in exchange for productive services that are future goods" (pp. 11-12).

This reviewer wishes, with respect, to question the use of a terminology that may foster unnecessary confusion. When a firm hires, let us say, a truck, the truck is certainly, in one obvious sense at least, a present good: it does exist now. Similarly when it hires the services of laborers, these services are provided in the present. What Professor Rothbard (quite correctly) means, of course, is that the *final consumption output,* to which the truck and the labor services make their contribution, will become available only in the future. However, this perfectly correct and useful insight does not require us to say that when a firm buys a truck it is merely buying future consumption goods. It is entirely in order (and perhaps more simple) to say that the firm (a) buys present capital goods and services; and then (b) puts these present productive goods and services to work in time-consuming production processes — in the course of which production proc-

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Capital, Interest, and Rent

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esses these present intermediate goods ripen and mature into the final consumption goods to be available in the future. The capitalist producer in so doing is of course sacrificing present goods *for the sake of* the consumption goods to be available only in the future. But this does not require us to say that the truck *is* nothing but a future good.

Strictly for illustrative purposes let us imagine Knight's Crusonia plant (an edible plant that grows at a fixed rate). Say that one pound of the plant today will grow into two pounds of the plant next year. An entrepreneur buys a pound of Crusonia today. Has he bought a present good or a future good? Clearly the pound of Crusonia he has bought is in one sense a present good, it *can* be consumed today. Nonetheless, since the purpose in buying it is, let us imagine, in order to obtain the two pounds that will be available (if present consumption is abstained from) next year, it is quite correct to say that the present one pound of plant is the key to two pounds of future plant — and it may hence seem harmless to describe the one pound of present plant as not being a present good at all, but as simply *being* "two pounds of future plant". However (quite apart from the Hayekian criticisms of this Knightian view of present capital goods as guaranteeing a flow of future outputs — as if such output will be *automatically* forthcoming, without need for entrepreneurial decisions at all), such a formulation unhelpfully conceals the distinction between means and ends. One pound of present plant may be seen as the end goal of earlier growth processes. It may also be seen as present means for the achievement of future ends. It does not seem helpful to describe present means *as being* nothing but future ends. Rather we focus attention on the doubly Austrian insight that, while means tend to assume the value of the ends which they are expected to produce, nonetheless, where the ends are available only in the future, the present value of the presently available means equals the value of their future output only after discounting for time preference.

Frank A. Fetter

Fetter does (on p. 184) as Rothbard cites, write that it "would be far more consistent use of language to call intermediate, or productive, agents 'future goods' than present goods", — but this does not appear to be the basis for an attempted *refutation* by Fetter of Böhm-Bawerk's third ground. After all, if Böhm-Bawerk were to argue that one pound of Crusonia plant today is more valuable today than the prospect of one pound of Crusonia plant next year, (because of the greater productivity of the former), this cannot immediately be shown to be nonsense merely by asserting that the present pound of plant *is* two pounds of future plant. Rather, in emphasizing the future output of which present capital goods represent the inchoate form, Fetter appears simply to be challenging the *parallelism* claimed by Böhm-Bawerk to exist between the third ground and the other two grounds. In the other grounds it is argued that present enjoyments are valued today more highly than future enjoyments are valued today. In the third ground, on the other hand, it is argued that present intermediate goods (i.e. present means) expected to ripen into valuable future enjoyments, are valued today on the basis of these valuable future enjoyments. In this third ground, therefore, there is no comparison between the present valuation of present enjoyments and that of future enjoyments — only the insight that the value of present means depends on the value of future ends. This represents a criticism of Böhm-Bawerk's understanding of the relation between the third ground and the other grounds; it does not seem intended as a refutation of it. For *this* Fetter had, of course, devastating and thoroughly Austrian arguments — forged, ironically enough, by none other than Böhm-Bawerk himself.

"Galbraithian Truth and Fallacy,"
George Gilder, *Forbes*, November 12, 1979, pp. 117-130.

Though directed at John Kenneth Galbraith, much of George Gilder's criticism applies equally to more mainstream economists. Indeed, his essentially Austrian arguments call into question much of contemporary industrial organization theory. The Austrian flavor of Gilder's writing is clear from his dismissal of "perfect competition" which he argues,

> actually comes to mean no competition at all: an equilibrium in which companies can change neither prices nor products and can essentially affect neither supply nor demand. Perfect competition thus excludes most competitive behavior.

The similarity with Kirzner's writing is also apparent in Gilder's views on entrepreneurial innovation:

> . . . the very essence of capitalism is the competitive pursuit of transitory positions of monopoly . . . these monopoly positions tend to be short-lived. But they are the goal of business activity, the focus of creative entrepreneurship, the motivation of research and development.

Galbraith, like many contemporary economists, views large, non-innovative firms (e.g. Ford and GM) as typical of the future pattern of the economy.

A prime insight Gilder offers is that the importance of such firms in a dynamic economy is usually greatly exaggerated. The superior efficiency of large firms is their routinized mass production which results "from many years of making the same thing and incrementally improving it and perfecting the means of producing and selling it." But they have become efficient (in a static sense) at the cost of ability to innovate.

Economic change comes rather from the small innovative company. IBM, though resourceful and creative as large companies go, has missed out on most of the important developments in its field. Far from being a dangerous monopoly, it is beset by numerous more innovative companies. The profits earned by those competitors result from their lead times in introducing innovations. It is they, not IBM, who earn (transitional) "monopoly profits."

The Galbraithian vision of the future is one of further "rationalization," as small firms merge and are brought under centralized management. Those firms, in turn, become subject to a national economic plan. Such a vision, Gilder forces us to conclude, could be realized only at the expense of curtailing innovation.

Capital and Its Structure

(Continued from page 4)

omist may treat tastes as data anterior to economic action. While economics cannot explain tastes, Lachmann gives economics the two-fold task of applying the *verstehende methode* (empathetic interpretation) and the compositive method (invisible-hand explanation) to the expectation-formation and expectation-revision of economic agents and to their consequences.

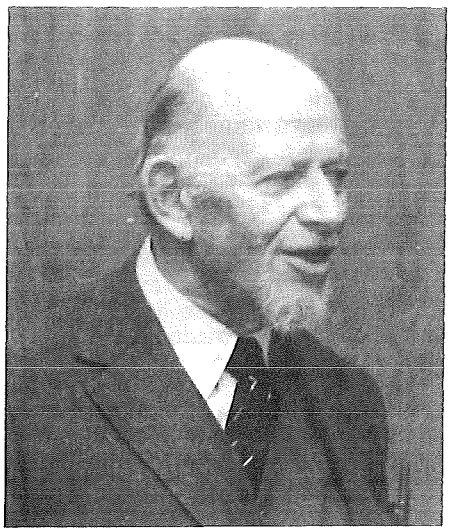
Hayek tackled this second task by explaining the functioning of the price system as a means for coordinating the activities of diffuse economic agents. Prices embody information that allows individual agents to form the largely correct and convergent expectations regarding one another's actions that are necessary for mutual success of plans. Lachmann oddly dismisses this idea as a neoclassical over-simplification, valid only in "a quasi-stationary state in which changes are few and far between". For Lachmann, as for Shackle, ongoing unexpected change makes equilibration problematic. He speaks somewhat cryptically of the insufficiency of price information, of how price signals may be "jammed" or delayed or obsolete before reception, or misinterpreted upon arrival, and of the possible disequilibrating actions of headstrong speculators. Yet he acknowledges (p. 25) that there exists a "continuous process of exchange and transmission of knowledge which effectively integrates a market society."

Lachmann expresses his desire for a "process analysis" of the role of expectation-revision within "the larger process of the transmission of knowledge". He himself does not provide anything that could be called a theory of expectations, but he does valuably indicate the major *explananda* of such a theory (or theories). The final pages of Chapter Two are given over to a vain attempt to assign significance to a distinction between "meaningful" and "meaningless" price movements. In the attempt there is much resort to personification of the market, surely an odd device for an avowed subjectivist and methodological individualist.

For the third through seventh chapters the author returns his attention to the immediate tasks of capital theory. "The theory of capital," he avers (p. 35), "has to explain why capital goods are being used in the way they are." Lachmann attaches great significance to the undeniable fact that, in a world of unforeseen technical progress, "there can be few fixed capital goods which year after year are used in the same manner." What is wanting is a tracing out of how this fact, once realized by entrepreneurs, influences their plans regarding putting fixed capital into place. A firm can vary its capital combination not only by buying and selling capital goods (p. 42), but also by employing versatile capital goods and by leasing rather than buying. Lachmann expresses skepticism toward the notion that the market for capital equipment tends toward equilibrium, or that a potential equilibrium position even exists.

Chapter IV provides an illuminating discussion of the dependence of "complementarity" and "substitutability" of capital goods on the temporal standpoint from which a production plan is surveyed. This is followed by discussion of the problem of defining "capital structure", and of deciding whether such a thing can exist "in dynamic reality". Lachmann adopts Hayek's view of dynamic equilibrium as intertemporal consistency of planned actions. Equilibrating forces do operate in the real world, we are told, but so do disequilibrating forces. As examples of the latter are cited "unwillingness to learn", though such an attitude must be contrary to the pursuit of success, and (even more curious) the Patent Law. The ability of the price system to promote coordination is limited by such phenomena as "price inflexibility". Lachmann fleetingly suggests intriguing reasons for "rigid prices" and — wandering afield — for "product differentiation" in a world of imperfect knowledge concerning consumer tastes. The most valuable segment of this chapter is a discussion of the roles of forward markets and the stock exchange in promoting convergence of expectations. (The Kantor article quotes at length from this discussion.) Lachmann then turns to an effective critique of Keynes' view of the stock exchange.

Chapter Five undertakes a reinterpretation of Böhm-Bawerk's theory of capital, particularly of his thesis concerning the superior productivity of more roundabout methods of production. The undertaking stumbles at the very outset when Lachmann identifies interest with the income obtained by owners of capital goods. The income of a machine-owner is rather a stream of *rental* payments, explicit or implicit, for use of that machine. Interest is the income to "capital" only if, when referring to "capital", we have in mind a fund-of-waiting concept. Lachmann avowedly does not, having defined capital (p. 11) as "the (heterogeneous) *stock of material resources*". When capital-owners "reshuffle capital goods in order to obtain a higher income", then, the income obtained is not interest but rents.



Ludwig M. Lachmann

Lachmann's definition of the interest *rate* as "the overall rate of exchange of present for future goods . . . an intertemporal exchange rate" (p. 75) is right on target. It is followed by a lucid explanation of the equilibrating processes by which the market converges on the equilibrium (or "natural") rate. This is in turn followed by a less than satisfactory explanation of the phenomenon of positive rates of interest. The proffered explanation, based entirely on physical intertemporal transformation possibilities, oddly (for a subjectivist account) neglects the role of subjective time-preference. And it does no more than establish the impossibility of a negative rate, not (as claimed) the necessity of a positive rate. It in no way rules out a zero rate of interest.

According to Lachmann's interpretation of Böhm-Bawerk (p. 79), "the principle of roundabout production is, correctly interpreted, a theorem about economic progress." Lachmann draws this conclusion by misidentifying a lengthening of investment periods with capital accumulation. The Böhm-Bawerkian thesis has nothing to do with accumulation of capital in the sense of growth in the stock of material resources. The superior productivity of

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Capital and its Structure

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roundabout methods has nothing to do with the division of labor in a horizontal sense. Lachmann is really presenting a thesis very different from Böhm-Bawerk's in arguing (p. 85) that "increasing returns to the use of capital" are responsible for the higher productivity of more capital-intensive methods of production and thereby responsible for growth of output under capital accumulation.

The following chapter, "Capital Structure and Asset Structure", conducts, in the author's words, a "rather fragmentary survey of interrelationships in the capital sphere". It concludes with a discussion of the capitalist as an entrepreneur.

Of major interest is the final chapter, "Capital in the Trade Cycle". Lachmann puts his theoretical pluralism up front (p. 100): "The Trade Cycle cannot be appropriately described by means of one theoretical model. We need a number of models each showing what happens when certain potential causes become operative. The many models that have been constructed by economists in the past are therefore not necessarily incompatible with each other." He critically considers two models, the Hicksian model and the Austrian model. The Austrian model is given a fairly sympathetic restatement, although, in light of Lachmann's concern with expectations, it is puzzling that no reference is made to Hayek's classic essay "Price Expectations, Monetary Disturbances and Malinvestments" (Chapter IV of *Profits, Interest and Investment*). A final section takes up the problems of the so-called "secondary deflation". Here Lachmann's pluralism shines through. We are told "there may be much room for Keynesian nostrums" (p. 119) in "an underconsumption crisis". We are given the quasi-Schumpeterian notion that "weak booms" are due to a combination of innovation and price inflexibility. And we find the rather sophisticated idea that the absence of comprehensive futures markets means inevitable inconsistencies in plans regarding resources available at future dates, inconsistencies which manifest themselves as industrial fluctuations. This last idea is unfortunately not fleshed-out theoretically by the author.

This is not a book for those impatient to *do* capital theory. It makes the task look dismayingly intractable. It is rather a book for those willing to appreciate the humbling complexity of capital and its structure.

Introduction to Modern Austrian Capital Theory

(Continued from page 5)

"clear, precise and consistent." Faber does note that Koopmans, with support from Champernowne, is on the record with the judgment that von Neumann's model is "rather poor economics."

Faber seeks to preserve the technique while correcting for deficiencies in substance. The core chapters of his book (Chapters 4, 5, and 6) are directed toward this end. Matrix algebra is used to construct a "modified special case of the generalized von Neumann model." The modification consists of introducing a demand for consumption goods; the speciality derives from restricting the model to a single capital good and a single consumption good; and the generalization is achieved by relaxing the assumption of a steady state. Summarizing the payoff of the core chapters, Faber states that the von Neumann model as modified allows us to "demonstrate that superiority, roundaboutness and impatience or neutrality of time preference are sufficient conditions for the interest rate to be positive." (This can be compared with the position of Mises, Fetter, Rothbard, and Kirzner that (positive) time preference alone is both a necessary and a sufficient condition for a positive rate of interest.)

Chapter 7 discusses the "Schumpeter-von Böhm-Bawerk controversy on the rate of interest in the stationary state" in terms of the modified von Neumann model. The final two chapters compare the author's own work with other approaches to capital theory. Chapter 8 deals with neoclassical capital and growth theory, and chapter 9 considers Hicks' neo-Austrian theory of capital. The most significant differences stem from Faber's treatment of demand.

While we should applaud Faber for introducing demand into the analysis, we should applaud with one hand only. For he treats demand (as well as supply) in terms of a centrally planned economy. Even in the short section at the end of Chapter 4 entitled "Decentralizing the Decisions," he finds it necessary to assume that there is only one consumer or that there is a "ministry of consumption," and whoever is pulling the demand strings is a price-taker. This highly stylized formulation draws attention to other features of Faber's analysis which will undoubtedly trouble the reader who learned his Austrian capital theory from Mises and other Austrian subjectivists. There are no market processes in Faber's model. There are no money prices that convey market information. In fact, there is no money in the model. Expectations about the profitabilities of alternative investments (or about anything else) play no role at all. Each investment is immune from risk and uncertainty, and all investments are assumed to be perfectly coordinated. Thus, the model has no use for entrepreneurs. And despite all the discussion about multiple periods, the temporal structure of production, and roundaboutness, Faber is actually offering us a timeless model. It is timeless in the sense that there is no analytical distinction between the past, the present, and the future. This is sometimes called "meta-static" analysis. Production and consumption may take place over time, but all the economic *decisions* about what to produce and how to produce it are made on the seventh day of creation by the central planning authority and the ministry of consumption.

What leads an economist to produce such a model? Observers of the economics profession, who have witnessed the emergence in recent years of technique-bound theorists, will recognize Malte Faber as the paradigm case. Throughout his book, Faber has allowed the applicability of the mathematical method to define the scope of his study. As a result, almost all the economic issues traditionally considered important have remained a good distance out of his reach. The willingness to forsake subject matter in order to preserve technique, we should note, has been the hallmark of formalism for some time. It was the profession's formalistic tendencies in the mid-thirties that provoked Hayek to remark, "[F]rom time to time it is probably necessary to detach one's self from the technicalities of the argument and ask quite naively what is it all about."

Capital, Expectations, and the Market Process:

(Continued from page 6)

ibrium. Because this distinction is rooted in the very nature of the Austrian contribution to economics, the treatment given it by the school's most promising scholars is disturbing. Indeed, the recent exchange (*AEN*, Fall '79) between Lawrence White and Professor Lachmann suggests that neither writer is sufficiently careful about this distinction. For White they stand while for Lachmann they fall, but each has them doing so together.

Although Lachmann addresses the issue of equilibration at several places in this book (notably in "Ludwig von Mises and the Market Process"), the key to the spontaneous-order/general-equilibrium distinction is in his contrast of "open" with "closed" modes of thought ("Model Constructions and the Market Economy," p. 123). GE, even the Hayekian version, is a "closed" concept, preventing any venture into territories of new knowledge. The market economy, however, "by its very nature is an 'open system' " because we can never specify completely the future knowledge of those participating in it. The "open mode of thought" to which Lachmann refers will seem strange, either frightening or exhilirating (maybe both), to those steeped in GE reasoning, but the nature of the whole Austrian contribution can never be grasped without the shift from the closed to the open mode of thought. To paraphrase Mises (very loosely), much more is involved than stuffing another variable into an objective function.

Furthermore, is it not obvious that the spontaneous order which has fascinated economists off and on since Smith has little if anything to do with perfect foresight? Is it not apparent that we can have (and have had) smoothly functioning societies in which, despite most controversies being resolved peacefully in the marketplace, innovation and uncertainty about others' future actions were common?

Perhaps it would be fair to interpret Lachmann's point as being that any study of the market which precludes new knowledge is unrealistic — and fatally so. But we need not cast the spontaneous order baby out with the general equilibrium bathwater. The former is an "open" concept which, while incomprehensible without "arbitrage" concepts of entrepreneurship, leaves plenty of room both for innovators who shake up existing knowledge and for perennially contradictory expectations. GE, as a "closed" concept, is the formalist's first love but seems quite out of place in a *verstehen* view of economics.

The issue for which Ludwig Lachmann is best known centers on expectations and general equilibrium. It has long been noted that movement toward a long-run equilibrium takes time, but since over time our tastes and technology change, we never really get there. Lachmann argues that even if we ignore changes in tastes and technology, each new event which we might have (before reading him) considered a move toward equilibrium will be interpreted differently by each individual; it will portend something different to everyone, and will guide each to modify his expectations, and hence plans, differently — quite likely making them no more nearly consistent with each others' than before. Plans will change, but we have no reason to expect them to become more nearly interpersonally consistent.

Ludwig Lachmann's work, some of it, will be controversial among Austrians for some time. Maybe it's because he's pulling us into unfamiliar and challenging implications of our own subjectivist paradigm. In any case, his writings are certainly an antidote for anyone who still sees the Austrian contribution as any form of equilibrium construction, like the intertemporal capital structure. One must wonder, though, how well Austrians are communicating to other economists when Karl Borch, in his review of this book (*JEL*, Dec. '78), sees no difference between the "understanding" of *verstehen* and what mathematical economists "understand" about people when they argue about the properties of convex topological spaces.

Reviewers for this Issue

Jack High is now completing his UCLA dissertation entitled "Disequilibrium Economics: Survey and Analysis." **Frank Arnold** is pursuing a Ph.D. at Harvard University. **Lawrence White** is a UCLA graduate student currently working on the history and theory of free banking. **Roger Garrison** is writing a University of Virginia dissertation on Wicksell, and is teaching at Auburn University. **John Egger** is working on a Ph.D. in economics at NYU. **Stephen Littlechild** is currently teaching a course on the economic thought of Mises and Hayek at Stanford University and is a Professor of Commerce at the University of Birmingham. **Israel Kirzner,** the author of *Competition and Entrepreneurship,* is Professor of Economics at NYU. **Mark Brady** is pursuing a Ph.D. at NYU.

Perception, Opportunity, and Profit

(Continued from page 1)

gain, the disparity between plan and reality is significant; this disparity will induce buyers and sellers to change their plans. A seller who depletes his inventory sooner than expected will raise his price; a seller who accumulates unwanted inventory will lower his price, and so on. Thus does entrepreneurship lead, when the market is in disequilibrium, to market change.

Kirzner uses entrepreneurship to derive several attributes of the market, the most important of which are:

1) Market prices change because of the self-interested action of the traders. This is an advance over Walrasian stability analysis. In the latter,

> Price changes come about not through the deliberate decisions of any market participants, since everyone is a price taker, but in some unexplained way, such as through the agency of an imagined Walrasian auctioneer . . . In other words, the theory of market process the approach provides us is not a 'choice-theoretic' one, and is thus a major departure from the microeconomic method usually associated with price theory [p. 19]

The profit maximization approach takes product, production technique, and input and output prices as fixed data to each producer. In Kirzner's approach each of these results in part from entrepreneurship. Each is a part of the ends-means framework, which is subject to change as the producer spots new opportunities in the market. Hence Kirzner's theory does not require that the market be in equilibrium, and explains change in the market (in particular the changes in price) as the result of entrepreneurship.

2) The market process is actuated by competition for profits. Having made market price a variable of choice for each trader, Kirzner has had to drop the notion of perfect competition, a notion that is widely recognized as an awkward tool for building a theory of market change. As he puts it,

> One cannot, without logical strain, postulate market participants who at all times see themselves as price takers, able to buy and sell all they choose at going prices, while simultaneously discussing the excess demand or supply being continually generated by these prices until equilibrium has been reached. [pp. 19-20]

Kirzner substitutes entrepreneurial competition for perfect competition.

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Perception, Opportunity, and Profit: Studies in the Theory of Entrepreneurship

(Continued)

Entrepreneurial competition is competition for profit:

> . . . where resources within a society leave opportunities for improvement via exchange, production, or some combination of both, they will appear as opportunities for entrepreneurial profit. The lure of profit will lead entrepreneurs to discover these opportunities and pursue them until, through the competitive entrepreneurial process, resources have been relocated in an equilibrium that eliminates both the profit opportunities and the misallocation . . . The process depends heavily on the likelihood that, whenever anyone perceives an opportunity for improvement, he will be motivated by the lure of profit to exploit that opportunity. [p. 92]

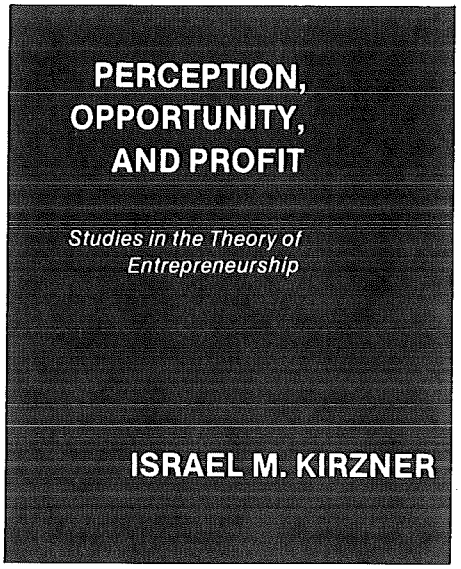
3) *The market is an equilibrating process.* Equilibrium is a state in which everyone's plans are consistent. It is a state in which everyone carries out his intended actions with the intended results. Knowledge is so extensive that everyone's plans are "based on the expectation of just those actions of other people which those other people intend to perform." [p. 14. Kirzner is quoting Hayek in this passage.]

Disequilibrium is a state in which plans are inconsistent. It is a state in which some people will not be able to carry out their plans. It is a state of partial ignorance of the opportunities one faces in the market.

It is these inconsistent plans, born of ignorance, that constitute profit opportunities. "The imperfection of knowledge that obtains in the disequilibrium market creates the price divergences between resource costs and product revenues that constitute the opportunities for profitable entrepreneurship . . ." [p. 110]

Entrepreneurship, which notices and exploits these pockets of ignorance, will at the same time eliminate them. The elimination of profit opportunities is what Kirzner means by market equilibration. Equilibrium is reached when no such opportunities remain.

Ignorance of other people's plans creates profit opportunities in Kirzner's theoretical scheme. These opportunities will be present even if all buyers and sellers trade at the same disequilibrium price, but as a rule, ignorance of other people's plans will result in more than one price being charged for the same good. Especially if we look upon a set of inputs as equivalent, economically, to the output into which they are transformed, we see that different prices for the same good will be common in a disequilibrium market. Profit opportunities are essentially arbitrage opportunities. Anyone who notices and acts upon a price discrepancy lessens that discrepancy between prices, and moves the market towards equilibrium.



Before considering Kirzner's theory more deeply, let us briefly review how Kirzner has fabricated his theory of market process, using entrepreneurship as his main thread.

Entrepreneurship is alertness to opportunity for profit. In equilibrium, where everybody's plans mesh, no such opportunities are available. In disequilibrium, where plans are inconsistent, profit opportunities are available, usually in the form of different prices for the same good. Entrepreneurs compete to exploit these opportunities, and in the process reduce or eliminate them, thereby moving the market towards equilibrium. Once the market has reached equilibrium, the process stops.

The differences between Kirzner's market process and Walrasian *tâtonnement* should be apparent. Kirzner's theory employs entrepreneurship; stability analysis does not. Kirzner's theory permits more than one price to exist for a good, requires agents to change prices, and looks upon competition as an active process of striving for profits. Stability analysis does none of these.

The differences between Kirzner's market process and search theory are not so apparent. Search theory posits price distributions, and it allows for ignorance and for learning. So how does search, which is built on the notion of maximizing the expected value of a probability function, differ from market process, which is built on the notion of entrepreneurship? Answering this question will allow us to probe more deeply into Kirzner's theory.

The most important essays in this book are "Economics and Error," "Knowing about Knowledge," and "Alertness, Luck, and Entrepreneurial Profit" (chapters 8-10). Here Kirzner gives us his most detailed exposition of entrepreneurship to date, and he starts by examining the relationship between economics and error.

In search theory, there is room for ignorance, but not for error. A searcher may not find the highest bidder for his services, but this is no mistake. He does not find the highest bidder because it is not economical for him to. Search is costly, and the additional revenues of search will not, on average at least, repay the additional expenses.

Kirzner's entrepreneur, however, can err. Entrepreneurship is alertness to opportunity, and the failure to notice an opportunity is an error. The failure to see what is there to be seen is different than deliberately foregoing knowledge because that knowledge is costly to acquire. In search theory, ignorance is planned; in market process theory, ignorance is not planned.

The difference between planned and unplanned ignorance is Kirzner's subject in "Knowing about Knowledge: A Subjective View of the Role of Information." Search theory explains planned ignorance as the rational corollary of costly information. In Stigler's elegant phrasing, "Information costs are the costs of transportation from ignorance to omniscience, and seldom can a trader afford to make the entire trip." [p. 142]

Planned ignorance, Kirzner points out, has a paradoxical flavor to it. He quotes Boulding as saying, "There are things that we ought to know, *and which we do not know that we ought to know,* that remain largely unknown and unsought for." [p. 139] While some ignorance might be planned, the ignorance of which Boulding speaks is not planned, and will not be removed by search because, as he says, it is not sought for. Unplanned ignorance will be removed only by unplanned, or spontaneous, learning.

Kirzner's theory of the market focuses on spontaneous learning. He

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Perception, Opportunity, and Profit: Studies in the Theory of Entrepreneurship

(Continued)

does not deny search; on the contrary, he recognizes that the decision to search may itself be an entrepreneurial discovery undertaken because it yields profit. But the market process itself "essentially consists not in a series of deliberate searches for information.... It consists in the spontaneous translation of as yet unexploited exchange opportunities into opportunities for pure profit..." [p. 151]

The difference between planned and unplanned ignorance, and between deliberate search and spontaneous learning, is what distinguishes search theory from market process. Entrepreneurship cannot, in Kirzner's view, be subsumed under maximizing probability functions.

In distinguishing search from entrepreneurship, Kirzner emphasizes the spontaneity of entrepreneurial discovery. Can entrepreneurship then be rational, in the sense of being purposeful, or is it merely the product of chance? This is the question Kirzner takes up in "Alertness, Luck, and Entrepreneurial Profit." He vigorously denies that entrepreneurship is merely luck; "It will not do to imagine entrepreneurial activities as being carried on without the conscious aim to capture profit opportunities," but his denial brings with it an abrupt switch. In distinguishing entrepreneurship from luck, Kirzner appears to change the meaning of entrepreneurship.

Kirzner defines entrepreneurship as alertness to opportunities for profit. Nothing in this definition requires uncertainty. The definition requires ignorance, because the opportunity had not been discovered earlier; it requires error, because the opportunity could have been discovered earlier, but the definition does not require uncertainty. Yet Kirzner distinguishes entrepreneurship from luck by binding it to uncertainty.

Here are two examples Kirzner uses to differentiate entrepreneurship from luck. Example 1:

> Crusoe has become aware of the certain opportunity to convert a lesser-valued good into a more highly valued good . . . he can, by laboring in his apple orchard, convert hours of time, valued cheaply at their worth as leisure, into bushels of highly valued apples. If the possibilities of conversion are indeed assured without shadow of doubt, then no entrepreneurial profit is to be discovered in this kind of case.[pp. 159 - 160]

Example 2:

> Crusoe spends his time uneconomically catching fish . . . with his bare hands. One day he begins a net-making or boat-building undertaking. . .let us ask why Crusoe begins to build his boat today rather than yesterday. The answer must surely be that it is only today that Crusoe has persuaded himself that building a boat is better use of his time than catching fish. Nothing has changed since yesterday except that Crusoe has discovered that his time is more valuably spent in building the boat than in catching fish. [pp. 161 - 162]

In the first example Crusoe captures no profit from his discovery that he can use his time better. In the second example Crusoe does capture profits because, Kirzner argues, Crusoe must "follow his entrepreneurial hunch. In following this hunch, rather than sticking to yesterday's time-honored groove, Crusoe may, if his hunch is correct, capture results that were hitherto beyond his reach." [p. 167] In other words, Crusoe captures profits because he is uncertain about the results of his action.

In another passage, Kirzner explicitly connects uncertainty to entrepreneurship:

> . . .the notion of purely maximizing activity is at best a limiting case, describing a hypothetical situation from which *all* Knightian uncertainty is imagined to have been exhausted. But human action never does occur in such a vacuum . . . Entrepreneurial vision permeates and suffuses all human action. [p. 167]

Knightian uncertainty permeates market activity, and no theory of the market will be complete without taking account of it. Moreover, Kirzner's notion of entrepreneurship does not of necessity exclude such uncertainty. But neither does his notion necessarily include uncertainty, and uncertainty should not serve as the distinguishing characteristic between entrepreneurship and luck.

In falling back on uncertainty to distinguish between entrepreneurship and luck, Kirzner concedes that spontaneous discovery and luck are always intertwined to some extent. This he need not do. Much of the mental activity that precedes our action takes us from general to particular knowledge, and this activity is sufficient to account for entrepreneurship.

For example, we hold money because we know generally that we will want to purchase goods in the future, but exactly what goods, and when, and from whom, and at what price we do not know. We move from general to particular knowledge by keeping our eyes, ears, and mind open to the world about us. Similarly, businessmen know generally that they want to earn profits, and they are therefore alert to discovering those particular circumstances that permit them to capture profits. Even though the particular facts were not known before they were discovered, we would not regard their discovery as luck, though he did not know beforehand what he would discover. An alert and active mind is under the control of the possessor, who is always partly responsible for what his consciousness finds.

We might wish to call this kind of mental activity search, but it is not the kind of search that allows one to enumerate all the possible outcomes and attach probability weights to them. It is not the kind of search with which search theory is concerned.

Whether mental activity that takes us from general to particular knowledge is the only kind of activity that will justify purposeful, spontaneous discovery is not at issue here. All I wish to suggest is that spontaneous learning can be accounted as purposeful without relying on uncertainty. So, therefore, can entrepreneurship.

This review has focused almost entirely on Kirzner's view of the market process, and has done so purposefully. The concern that economists have about the relevance of their theory to economic life, and their enormous efforts to construct a realistic theory of market change endow Kirzner's work on the market process with a very special importance. However, this focus has left other material, important in its own right, unseen and unconsidered. Especially worthy of mention is Kirzner's application of entrepreneurship to the subject of property rights. Kirzner has, I believe, amended Nozick's entitlement theory of property in an important respect, and his contribution should form part of any future debate about distributive justice. He also has some interesting material on entrepreneurship in the history of economic thought. But, in the short run at least, *Perception, Opportunity, and Profit* will stand or fall on its own contribution to our understanding of market dynamics.

Industry, Prices, and Markets

(Continued from page 7)

Edgeworth boxes, but these diagrams are abandoned when entrepreneurship is introduced. Can it not be represented diagrammatically? Some reference also to the implications of error for the equilibration (or otherwise) of the market process would be appropriate.

The location of this chapter is not altogether satisfactory. It is true that, coming as it does toward the end of the book, the ideas of entrepreneurial competition can be presented as a solution to the difficulties previously experienced with other theories. On the other hand, the student cannot see these problems explicitly reworked and solved in entrepreneurial terms, and the remarks at the end of each previous chapter may not be fully comprehensible without the knowledge from chapter 6. An alternative approach would have been to expound the basic Austrian ideas at greater length at the beginning (splitting chapter 1 into two chapters), then to illustrate the competing approaches on a series of problems throughout the book.

Chapter 7 is rather different from the others. It is a survey of several attempts to provide a theory of the existence, scope and nature of the firm, where no previous theory existed. It is not primarily a critical chapter, and the process theory is not seen as remedying defects in other theories. The student will perhaps feel overwhelmed by the variety and novelty of ideas presented here. He may also not appreciate at least one significant difference between the Austrian and other approaches. For the most part, the latter deal (either explicitly or implicitly) with uncertainty and control as problems involving random variables i.e. factors whose existence is known and whose magnitude can to some extent be ascertained, if thought worthwhile, by the expenditure of time and money. The Austrians, on the other hand, have interpreted entrepreneurship as alertness to opportunities whose very existence was previously not known. Thus, for Kirzner, one cannot delegate entrepreneurship, since to do so implies knowing the existence of what is to be discovered! This is a topic on which more research is needed. How far is it possible to predict the general nature and extent of discoveries? What if anything, is the meaning of "managerial discretion" within the Austrian model? Is it useful to think of "hierarchies of entrepreneurship"?

In the final chapter, the author discusses briefly a number of issues that have been raised in the book, notably Shackle's idea of a "kaleidic" society of unexpected change, and examines some implications for public policy. It is well worth pointing out that governments as well as firms are ignorant of the future (indeed, of many aspects of the past and present), so that any institutional structure must be evaluated against a background of ignorance and incentives for learning. However, as in the first chapter, the discussion may be too brief to be useful to the student.

Dr. Reekie's book provides a fascinating glimpse of the forthcoming battle between alternative economic theories. In one corner, we have the prevailing neoclassical view in which the extent of competition is determined by the number of firms in the market: a large number of firms implies perfect competition and efficient resource allocation, a small number implies monopoly and restricted output. In the other corner, we have the older classical/Austrian view in which the extent of competition depends upon the ease of entry: freedom of entry implies competition (and even a single incumbent may be unable significantly to restrict output if there is competition for this market), whereas artificial restrictions on entry facilitate monopoly restrictions even if there are numerous incumbents (witness New York taxi drivers).

If Dr. Reekie's book is obscure and over-compressed in some places, its brevity is also a merit, for it enables the author to provide a vigorous broadbrush sketch of the two alternative approaches. Though the student may occasionally be confused in detail, he will have no doubt as to the general direction of the argument. He will discover insights and approaches which no other text provides and will thereby be led to an important and growing literature. This literature to some extent centers on the Austrian camp, but far exceeds its boundaries. If, as Kuhn suggests, the replacement of one paradigm by another is intimately reflected in the rewriting of textbooks, then the revolution has begun.

Three of the books reviewed in this issue were published in the *Studies in Economic Theory* series by Sheed Andrews and McMeel. The series is sponsored by the Institute for Humane Studies, from whom they should be ordered (IHS, 1177 University Drive, Menlo Park, CA 94025). It has just been announced that the series will be continued by New York University Press. Books published in this series to date are:

Gerald P. O'Driscoll, Jr., *Economics as a Coordination Problem: The Contributions of Friedrich A. Hayek* (1977)
Ludwig von Mises, *Liberalism: A Socio-Economic Exposition* (1978)
Murray N. Rothbard, *America's Great Depression* (1975)
Israel M. Kirzner, *The Economic Point of View: An Essay in the History of Economic Thought* (1976)
Edwin G. Dolan, ed., *The Foundations of Modern Austrian Economics* (1976)
Murray N. Rothbard, *Man, Economy, and State: A Treatise on Economic Principles* (1978)
Frank A. Fetter, *Capital, Interest, and Rent: Essays in the Theory of Distribution,* ed. with an Introduction by Murray N. Rothbard (1977)
Louis M. Spadaro, ed., *New Directions in Austrian Economics* (1978)
Ludwig M. Lachmann, *Capital, Expectations, and the Market Process: Essays on the Theory of the Market Economy,* ed. with an Introduction by Walter E. Grinder (1977)
Laurence S. Moss, ed., *The Economics of Ludwig von Mises: Toward a Critical Reappraisal* (1976)
Ludwig von Mises, *The Ultimate Foundation of Economic Science: An Essay on Method* (1978)
Ludwig M. Lachmann, *Capital and Its Structure* (1978)

Other publishers represented in this issue are: Halsted Press, 605 Third Avenue, New York, NY 10016; University of Chicago Press, 5801 Ellis Ave., Chicago, IL 60637 *(Cost and Choice* is in their Midway Reprint series.); Springer-Verlag, 175 Fifth Ave., New York NY 10010; Lexington Books, 125 Spring St., Lexington, MA 02173.

Although *LSE Essays on Cost* is now out of print, copies are available for $12 postpaid from RLA Book Service, 2 Washington Square Village, Suite 13-G, New York, NY 10012.

Cost and Choice: An Inquiry in Economic Theory,

by James M. Buchanan, University of Chicago Press, Chicago, 1979, xvi + 104 pp., $6.00

LSE Essays on Cost,

ed. by James M. Buchanan and G.F. Thirlby, Weidenfeld and Nicolson, 1973, x + 290 pp.

Reviewed by Mark Brady

First published in 1969, Professor Buchanan's important essay on subjective cost has recently been reissued as a Midway Reprint. The author's primary purpose is to clarify the concept of cost and to explore the implications of his analysis for a number of issues in applied economics. He also traces the evolution of ideas in the conception of cost, emphasizing the contributions emanating from the tradition associated with the London School of Economics.

Crucial to Buchanan's thesis is a clear distinction between cost in predictive theory and cost in a theory of choice. The former

> is the cost of the familiar textbook diagrams, the objectively-identifiable magnitude that is minimized. It is the market value of the alternate product that might be produced by rational reallocation of resource inputs to uses other than that observed. This market value is reflected in the market prices for resource units; hence, cost is measured directly by prospective money outlays...In the strict sense, this theory is not a theory of *choice* at all. Individuals do not choose; they behave predictably in response to objectively-measurable changes in their environment. [p. 42]

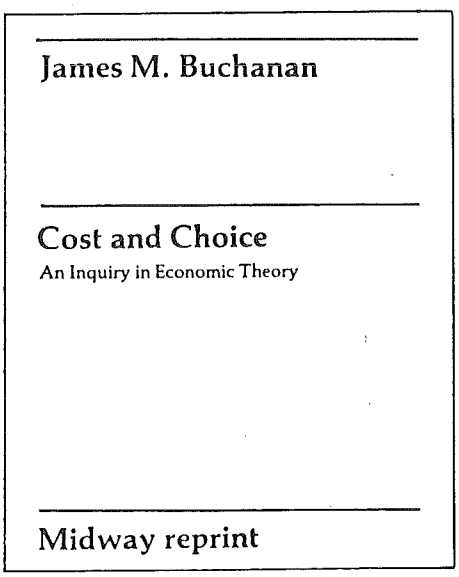
It is evident that whereas in the orthodox predictive theory cost is conceived in a commodity dimension and is "objective," in a theory of choice cost must be conceived in a utility dimension and is "subjective."

Cost in a theory of choice is directly related to the act of choice, a relationship that does not exist in the neoclassical predictive theory.

> [C]ost becomes the negative side of any decision, the obstacle that must be got over before one alternative is selected. Cost is that which the decision-taker sacrifices or gives up when he makes a choice. It consists in his own evaluation of the enjoyment or utility that he anticipates having to forego as a result of selection among alternative courses of action.[pp.42-43]

Buchanan maintains that the word "cost" can be used in two quite separate senses within any theory of choice. There is "choice-influencing cost" which is the genuine obstacle to choice, and "choice-influenced cost." This latter is defined as

> the utility losses that are always consequent to choice having been made, whether these be suffered by the chooser or by third parties and whether there may or may not be objectively-measureable surrogates for these losses, *e.g.* payouts...In the one case, cost inhibits choice; in the other cost results from choice. [p. 45]



The second half of the book is devoted to applications. Successive chapters examine cost theory in public finance, the application which aroused Buchanan's own interest in the need for conceptual clarification; Pigovian welfare norms; and the whole domain of non-market decision-making which the author considers to be the most important as well as the most difficult chapter of the book. As William J. Baumol wrote, "Economists should learn the lessons offered to us in this little book—and learn them well. It can save them from serious errors."

James Buchanan also provides the Introduction to *LSE Essays on Cost.* This book contains ten related essays written in the LSE tradition by scholars associated with the London School of Economics. The selection includes two leading papers on equilibrium theory: Lionel Robbins' seminal 1934 article on cost in the equilibrium setting in which he argued that cost must be defined in terms of displaced *value* and not in terms of displaced *real product*; and F.A. Hayek's major address, "Economics and Knowledge," (1937) in which he laid down the central features of the subjectivist methodology which provided the basis for the more explicit works on cost by others.

Alongside these more abstract and methodological contributions to cost theory, the elements of perhaps a more authentic LSE tradition emerged in the 1930's. These reflect the direct application of the approach which ties opportunity cost directly to choice to problems that confront the businessman. Thus Ronald Edwards in his 1937 paper applied marginalism to cost accounting, while his colleague, Ronald Coase, followed with his own demonstration written specifically for accountants and first published in 1938.

> The cost of doing anything consists of the receipts which could have been obtained if that particular decision had not been taken...Costs will only be covered if he chooses, out of the various courses of action which seem open to him, that one which maximizes his profits. To cover costs and to maximize profits are essentially two ways of expressing the same phenomenon. [p. 108]

It is evident that the concept of cost embodied in Coase's analysis is conceptually distinct from the neoclassical paradigm.

Primarily under the influence of Arnold Plant and W.H. Hutt, an oral tradition developed at the University of Cape Town which expanded the London approach. The published results appeared in 1946 in two papers by G.F. Thirlby. In these papers, Thirlby, who had been trained at LSE and who returned to London in 1947, carried forward the process of clarification. The more notable paper is "The Ruler" which extended his rigorous opportunity-cost reasoning to the question of the relevance and practicability of the so-called "rules" for pricing. *LSE Essays on Cost* includes these two papers and two further contributions which first appeared in 1952 and 1960 respectively.

The remaining two papers in this volume are by Jack Wiseman who sought to apply LSE opportunity-cost logic to the long-discussed problems of marginal-cost pricing, applying this logic both as general criteria for organizing a collectivist economy (1953) and as the specific criterion for public-utility enterprise (1957).

Although even the most recent of the essays in this volume first appeared twenty years ago, they are clearly relevant to what economists are thinking and writing today both in the realm of pure theory and with regard to its application in the particular contexts of private and public enterprise, and collectivist economic planning. A careful reading of these papers should prove a rewarding experience for serious scholars of economics.