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Review

Peter Lewin (1999) *Capital in Disequilibrium: The Role of Capital in a Changing World*, Routledge, 255 + ix pp., $100.00.

Since the path breaking work of Mises and Hayek on capital theory in the 1930s and 1940s, Austrian economists have produced three major works in the field: Ludwig Lachmann's *Capital and Its Structure*, Israel Kirzner's *An Essay on Capital*, and the book under review here. Each of the three has its own virtues. Lachmann highlighted the subjective nature of capital, the role of capital gains and losses in transforming the production structure, and he brilliantly connected the activities of the financial markets to capital theory. Kirzner, meanwhile, clarified (as always) the views of his mentor, Mises, and illuminated the relationship of those ideas to the broad sweep of capital theory.

Lewin's book both incorporates and extends the insights of Lachmann and Kirzner. Much like Kirzner, he is able to relate Austrian capital theory to ideas from both the mainstream and other heterodox schools. And, like Kirzner, he deftly avoids the two traps facing Austrian theorists in discussing neoclassical ideas: He neither treats them as nonsensical, nor does he attempt to "blend" Austrian and neoclassical theories, an effort that could only produce incoherence. Instead, Lewin (p. 119) recognizes neoclassical models as "idealized construct[s]," which "[t]he process of actual decision-making must mirror in an implicit way..."

Lewin displays his Lachmannian heritage in his view of neoclassical equilibrium constructs. The passage of time implies changes in knowledge. In the present, the arena in which choice occurs, the future growth of knowledge cannot be known or even probabilistically predicted. Faced with this genuine uncertainty, which is a constant presence in human affairs, human action only can be a rough approximation of a mechanical decision-making process in which all relevant factors are known with quantitative precision.

Lewin sounds this theme to open the book, in a two-chapter examination of the relationship between equilibrium theorizing and the Austrian view of the irreducible uncertainty facing the human actor. He stresses that to Austrians general equilibrium is a purely theoretical construct, useful as a limiting case implicit in economic thinking, but never present in the real economy. He touches briefly on the intra-Austrian split between Lachmann and Kirzner as to whether a "tendency towards equilibrium" exists in the market economy, generally coming down on the side of Lachmann in holding that it does not (pp. 20–26). I found that Lewin offers a reconciliation of their positions: "There is no tendency for *expectations in general* to become more coordinated. Expectations operate at many different levels, however. And at most of these levels, for most types of things there is a tendency towards coherence" (43, emphasis in original). Exactly: Lachmann focused on the truth of the first quoted sentence, while Kirzner on that of the third.

Lewin continues with a magisterial survey of capital theory from Adam Smith through Ricardo, Menger, Bohm-Bawerk, Clark, Knight, Dorfman, Joan Robinson, and Hicks. Here, Lewin's ability to comprehend the kernel of truth in the theory of another economist, without ignoring the limitations of the theory, really shines through. Lewin pinpoints the presuppositions a theorist brings to the idea of capital. For instance, once we recognize that Adam Smith was contemplating a world with a limited capital structure, in which innovation was very gradual and production was focused on agricultural commodities, we can see how he arrived at his "corn economy" model.

Lewin makes good use of equilibrium theorizing throughout his survey. By examining successive capital theories through the lens of equilibrium, he reduces each to a model, which is then easily related to the model implicit or explicit in other theories. For example, the capital model employed by Smith and Ricardo is a special case of Bohm-Bawerk's, where Bohm-Bawerk's average period of production is held constant, and so ceases to be a factor in economic growth (p. 68).

Lewin also makes good use of his earlier-introduced contrast between equilibrium constructs and theories that take the actual omnipresence of disequilibrium into account. He notes that Bohm-Bawerk went astray by seeming to suggest that his concept of the average period of production could be handled in a "mechanistic" fashion, thereby mingling a concept that only makes sense in a state of static equilibrium into his generally dynamic, subjectivist account of capital (pp. 63–65). Similarly, the view of capital developed by Clark and Knight, where it is "thought of as a 'permanent' fund yielding a flow of income," is perfectly sound... in "a state of stationary equilibrium" (pp. 65–66). And Lewin finds the assumption of equilibrium conditions underlies both neoclassical capital theory and the Neo-Ricardian, capital re-switching critique of it (pp. 80–83).

After the historical survey, Lewin spends a chapter formulating what he refers to as "modern Mengerian capital theory." Here he relies heavily on the work of Lachmann. Lachmann granted that capital could be viewed as either a stock or a structure, but held that in a world in which general equilibrium is never attained, a structural view is far more helpful in understanding capital than is a stock view. "Where disequilibrium means that individuals have different and *frequently inconsistent* expectations, one cannot simply add together individual valuations [as a stock view requires]" (121, emphasis in original). Following Lachmann, Lewin holds that the key concepts to understanding the structure of capital are that capital goods can be both complements and substitutes for each other. They are complements when they work together to achieve the goal of a production plan. But "[s]ubstitutes occur when a production plan fails (in whole or in part)" (p. 122). Things like spare parts, excess inventory, and the most flexible capital good of all, cash, are brought into play in an attempt to put the plan back on track.

In the most original part of the book, Lewin applies Austrian capital theory to explain the existence and organization of firms and other institutional features of the actual economy. As Lewin notes (p. 143), there is no reason for the existence of firms in an economy in equilibrium. Since there is no genuine uncertainty about future prices or availability of the factors of production, they can be hired for the time they are needed in a production plan and released immediately thereafter. There is no chance that they will be unavailable (since general equilibrium implies that there are no conflicting production plans) and no unexpected fluctuations in their price. "Firms" are assembled on the fly and disbanded just as quickly.

But in the real economy, where uncertainty is omnipresent, firms can dispel the "dark forces of time and ignorance" to some extent. The business organization provides an institutional structure that produces the "tendency toward coherence" mentioned above. It is especially useful for firms to collect highly specific assets inside the firm, preempting the possibility of an external asset owner holding up the production process by withholding the asset (pp. 144–145). Integrating diverse assets into a single firm can also be a way to overcome vested interest in ingrained production techniques, when new technological possibilities render them obsolete (pp. 150–151). And by organizing team production into a stable institutional structure, the firm provides the conventions that, along with the market, make economic calculation possible (pp. 162–164).

The book concludes with interesting chapters on human capital and knowledge. In a work like this, which both attempts and achieves so much, it is almost inconceivable that a reviewer with any opinions of his own about the topic under discussion would find nothing with which to disagree. And, indeed, in a few places I found myself parting ways with Lewin.

For instance, I believe that Lewin's criticism of Mises's pure time preference theory of interest does not succeed. Lewin contends (p. 104) that Mises relied upon the imaginary construct of the evenly rotating economy (ERE) in order to demonstrate the universality of positive time preference. But such a reliance, Lewin says, "involved Mises in a logical contradiction—that is, he assumed the absence of uncertainty in order to 'prove' the necessity of time preference as an implication of action, when action in a world without uncertainty is, by his own definition, impossible." However, it seems to me that Mises only attempted to demonstrate that interest would still exist in the ERE. Mises was fully aware that the ERE was a concept containing inherent contradictions. His contention that positive time preference was a universal human trait was based not on the ERE, but on the cognition that action is only undertaken in order to bring about a desired state of affairs sooner rather than later. (After all, any physically possible state of the universe might arise sooner or later without any action on my part. Therefore, *if I act to bring it about*, it can only be because I prefer that state sooner rather than later.)

However, those are minor complaints about a quite important book. If the long, historical climb toward an understanding of capital often has been under the obscuring cover of heavy forest, then this book achieves a high, rocky outcropping. The climber can at last look down and gain a sense of where he has been. . . and, perhaps, however hidden by the clouds above, a glimpse of the summit.

Gene Callahan