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ISRAEL M. KIRZNER ON COMPETITIVE BEHAVIOR, INDUSTRIAL STRUCTURE, AND THE ENTREPRENEURIAL MARKET PROCESS

In this Liberty Matters online discussion Peter Boettke of George Mason University examines ***Israel Kirzner's*** *insights into the rivalrous nature of competitive behavior and the market process, his analysis of market theory and the operation of the price system, the institutional environment that enables a market economy to realize mutual gains from trade and to continuously discover gains from innovation, and to produce a system characterized by economic growth and wealth creation. Boettke concludes by arguing that Kirzner has done more than nearly any other living modern economist to improve our understanding of competitive behavior and the operation of the price system in a market economy. Boettke is joined in the discussion by Peter G. Klein, professor of entrepreneurship at Baylor University's Hankamer School of Business, Mario Rizzo, professor of economics at New York University, and Frédéric Sautet, associate professor at The Catholic University of America. Boettke and Sautet are the editors of Liberty Fund's 10 volume The Collected Works of Israel M. Kirzner.*

ISRAEL M. KIRZNER ON COMPETITIVE BEHAVIOR, INDUSTRIAL STRUCTURE, AND THE ENTREPRENEURIAL MARKET PROCESS

by Peter J. Boettke

In the fall of 2014 rumors started circulating that Professor Israel M. Kirzner, along with William Baumol, were possible candidates for the Nobel Prize. The source of the rumor was Thomson Reuters – the scientific database company – and the basis of the rumor was citation patterns. Though it is a different database, but just for ease of search for readers of this essay so they may check for themselves, a Google Scholar search will suffice to provide some perspective on the scientific impact being recorded by Baumol and Kirzner. Baumol's relevant contributions are the following: "Entrepreneurship: Productive, Unproductive, and Destructive." *Journal of Political Economy* 98(5) 1990: 893-921 with 4,641 citations; *Contestable Markets and The Theory of Industry Structure*. New York: Harcourt Brace Jovanovich, 1982 (coauthored with John C. Panzar, and Robert D. Willig) with 6,454 citations; "Contestable Markets: An Uprising in the Theory of Industry Structure." *The American Economic Review* 72(1) 1982: 1-15 with 2,455; and "Entrepreneurship in Economic Theory." *The American Economic Review* 58(2) 1968: 64-71 with 1,581 citations. Kirzner's relevant contributions would include: *Competition and Entrepreneurship*. Chicago: University of Chicago Press, 1973 with 7,550 citations; "Entrepreneurial Discovery and the Competitive Market Process: An Austrian Approach." *Journal of Economic Literature* 35(1) 1997: 60-85 with 3,273; and *Perception, Opportunity, and Profit: Studies in the Theory of Entrepreneurship*. Chicago: University of Chicago Press, 1979 with 2,604 citations.[1]

Compare these numbers with previous Nobel Prize winners, such as F. A. Hayek, whose "The Use of Knowledge in Society" has garnered 13,935, and works such as *The Road to Serfdom* and *The Constitution of Liberty*, which have been cited over 8,000 times each. Citations to Milton Friedman's famous "The Role of Monetary Policy" are slightly over 7,000, and his *A Monetary History of the United States* (coauthored with Anna Schwartz) falls just under 8,000. James Buchanan's *The Calculus of Consent* (coauthored with Gordon Tullock) has been cited over 10,000 times, but his next most cited paper "An Economic Theory of Clubs" garnered slightly over 3,800 citations.

Friedrich von Hayek

So the rumors were not incredible based on the Thomson Reuters criteria. And Baumol and Kirzner had already been recognized in Sweden with the International Award for Entrepreneurship and Small Business Research for their work in the field of entrepreneurship. So, again, the rumors were (are) plausible, though of course improbable – especially regarding Kirzner, given his outsider status. Alas neither Baumol nor Kirzner received the phone call that October day in 2014. I am going to use this occasion to provide some reasons why they should have, and hopefully they will, receive that recognition from Sweden, and in particular why Israel Kirzner's contributions to our understanding of competitive behavior, industrial structure, and the entrepreneurial market process should be recognized; I will also show that Kirzner's work provides a platform for future research in price theory and the market system more generally.[2]

The aspect of the contributions that I want to emphasize is Kirzner's insights into the *rivalrous nature of competitive behavior and the market process.* He raised fundamental questions in the analysis of market theory and the operation of the price system, which is at the very foundation of economic science. His writings on economic behavior in all its variety and complexity explore the institutional environment that enables a market economy to realize mutual gains from trade, to continuously discover gains from innovation, and to produce a system characterized by economic growth and wealth creation.

Economic science since its inception has consisted of two claims that must be reconciled with each other – the self-interest postulate and the invisible-hand explanation. From Adam Smith forward many have explained the relationship by collapsing one onto the other through stringent cognitive assumptions and postulating a frictionless environment, or they sought to demonstrate the inability to square these two claims due to cognitive shortcomings or a variety of postulated frictions. Thus the political-economy debates about the role of government in the economy tended after World War II to turn on a postulate of perfect markets or the demonstration of deviations from that ideal due to imperfect markets. Kirzner from the beginning of his career had to tackle objections to invisible-hand explanations associated with questions concerning human rationality, the existence of monopoly power, the pervasiveness of externalities, and a variety of deviations from the textbook ideal of perfect competition.

There are two ways that economists have responded to the criticisms of the operation of the market economy: first, by conceptual clarity, where the theorist insists on clarifying the underlying conditions on which invisible-hand claims are being made and demonstrates that the criticisms were based on mistaken foundations; and second, by demonstration that deviations from the textbook notion of the ideal of perfect competition do not necessarily prevent the price system from doing its job of coordinating the productive activity of some with the consumption patterns of others, such that the invisible-hand explanation of market theory follows from the pursuit of self-interest *within a certain set of institutional conditions*. Those institutional conditions are established by the rules of property and contract that are established and enforced and that provide the framework within which economic interaction takes place.

In Kirzner's work we will see both these responses to the critics of the market. In fact he titled an essay relatively late in his career "The Limits of the Market: The Real and the Imagined" (1994). Conceptual clarity goes a long way to straightening out loose thinking related to human rationality, externalities, monopoly power, etc., and the *robustness* of market processes to provide inducement to economic actors to continually adjust their behavior and adapt to changing circumstances does much of the remainder. Far from reasserting a reconstructed perfect-market theory, this Kirznerian approach compels the analyst to look carefully at the dynamic properties of the system as it is constantly evolving towards a solution and the essential role played by the framework in structuring the economic environment. Today's "inefficiency" is tomorrow's profit opportunity for the individual who is able to act upon the situation and move the system in a direction less "erroneous" than before. And if the existing critical decision maker doesn't make the necessary adjustment, another will make it for them, resources will be redirected, and a pattern of exchange and production will emerge that better coordinates the plans of the market participants. Kirzner's work directs our theoretical attention away from exercises in optimization against given constraints and towards the alert and creative human actors who continually discover ways to realize the gains from trade and the gains from innovation.

Ludwig von Mises

Ludwig von Mises motivated Kirzner's intellectual quest. Born in England on February 13, 1930, Kirzner and his family moved to South Africa in 1940. In 1947 he attended the University of Cape Town, but moved to the United States at the end of the academic year. After graduating from Brooklyn College in 1954, Kirzner decided to pursue a graduate degree in business with a concentration in accounting at New York University, and was awarded an MBA in 1955. While completing his coursework for the MBA Kirzner sought a challenging class as his elective, so he looked in the faculty directory for professors who had published many books and had been honored with prestigious awards. He came upon the name Ludwig von Mises. As he has told the story countless times, fellow students and even administrators warned him not to take the class because, they said, Mises was old and out of step with the times. But Kirzner took the class anyway, and it changed his life. He was taking price theory the same semester, using Stigler's *The Theory of Price* (1952) and learning about choice within constraints and the logic of perfect competition; in Mises's seminar he was reading *Human Action* and learning about the agony of human decision making amidst a sea of uncertainty and that the market was not a place or a thing, but a *process*. Mises's ideas intrigued him, and reconciling what he was learning from Stigler with what he was learning from Mises sparked his intellectual imagination. It changed his career path from professional accountancy to academic economist. At first Mises, who recognized Kirzner's potential, recommended that he go to Johns Hopkins University and work with the younger and more professionally connected among contemporary academic economists Fritz Machlup. Mises even arranged a fellowship for Kirzner to do so. But Kirzner chose to stay and finish at NYU under Mises's direction and was awarded his Ph.D. in economics in 1957. At that time he received an appointment as a professor of economics at NYU, and he taught there until his retirement in 2000.

"LUDWIG VON MISES MOTIVATED KIRZNER'S INTELLECTUAL QUEST."

Kirzner's first book, *The Economic Point of View* (1960), developed out of his Ph.D. dissertation. Bettina Bien Greaves of the Foundation for Economic Education attended Mises's seminar at NYU regularly and took careful notes throughout the years. One aspect of those notes was the research ideas that Mises would throw out to the class. The very first such idea she jotted down on November 9, 1950 was: "Need a book on the evolution of economics as a science of wealth to a science of human action."[3] This topic is what Kirzner explored in his thesis and subsequent book. *The Economic Point of View* carefully and meticulously explores the development of economic thought concentrating on the meaning that economists have attributed to their subject from the classics (science of wealth) to the moderns (science of human action). The key chapter in the book seeks to elaborate the development of praxeology by Mises.

All of Mises's unique contributions to the various fields of economic theory, Kirzner argues, are the result of the consistent development of the praxeological perspective on the nature of economic science. "If economic theory, as the science of human action, has become a system at the hands of Mises, it is so because his grasp of its praxeological character imposes on its propositions an epistemological rationale that in itself creates this systematic unity" (Kirzner, *The Economic Point of View*, p. 160). Economics, as the most developed branch of praxeology, must begin with reflection upon the essence of human action. "Purpose is not something to be merely 'taken into account': it provides the sole foundation of the concept of human action" (ibid., p. 165). The theorems of economics, i.e., the concepts of marginal utility and opportunity cost, and the principle of demand and supply, are all derived from reflection upon the purposefulness of human action. Economic theory does not represent a set of testable hypotheses, but rather a set of conceptual tools that aid us in the reading of the empirical world.

What is unique about the human sciences, as opposed to the physical sciences, is that the essential point of phenomenon under the study is human purposes and plans. As Mises's student Fritz Machlup once put it: "What if matter could talk?" The human scientist can assign purpose to the phenomena under discussion. In fact he must assign human purpose if he wishes to render those phenomena under investigation intelligible. We can understand that the pieces of metal and paper changing hands function as "money" because of the purposes and plans we attribute to the transacting parties. The human scientist can and in fact must rely upon the knowledge of ideal typifications of other human beings.

We can understand the purposeful behavior of "the other" because we ourselves are human. This knowledge, referred to as "knowledge from within," is unique to the human sciences, and it was an utter disaster to try to eliminate recourse to it by importing the methods of the natural sciences to the social sciences to create "social physics." Scientists forgot that, while it was desirable to eliminate anthropomorphism from the study of nature, it would be completely undesirable to eliminate man, with his purposes and plans, from the study of human phenomena. Such an exercise results in the "mechanamorphism" of the human sciences, i.e., attributing mechanical behavior to creative human subjects. In such a situation we end up talking about the economic behavior of robots, not men. But that is exactly what happened in the postwar era when the "economy" was studied as an abstract mechanism as opposed to the ongoing arena where the striving of individuals to better their condition is played out.

James Buchanan

As emphasized by Mises, F. A. Hayek, Kirzner, and also James Buchanan, most famously in his essay "What Should Economists Do?" (1964), the economy has no teleology as such, but the actors within the economy do in fact have their individual teleologies. That is critical to understanding the nature of the market economy, since a diversity of purposes and plans are pursued and satisfied by others, potential conflicts are reconciled through exchange, and new ways of pursuing and satisfying are constantly discovered by creative and alert entrepreneurs. The economy does not have a single end; it does not have a "purpose." It is instead merely "means-related," a "nexus of voluntary exchanges." The market is always in the process of becoming, always evolving toward a solution, and never in that final state of rest.

To a considerable extent this is what Mises meant when he said that the market is not a place or a thing, but a process. And what animates this ongoing process of exchange and production is the purposive human actor – with all his foibles and fears, as well as his imagination and courage to chart the unknown. The Misesian actor is neither a purely reactive animal, nor a cold calculating machine, but instead is a distinctively *human* actor, who has goals, seeks to creatively utilize the means available to strive to obtain those goals in a world of uncertainty and ignorance, and is capable of learning through time from previous missteps and wrong turns. Change is a constant theme in Mises's writings -- shifts in tastes, technology, and resource availability. The wonderful aspect of the price system is its ability to absorb change: the guiding role of relative prices, the lure of pure profit, and the discipline of loss redirect economic decision makers so their production plans and consumption demands mesh with the new reality. It is important to stress that this process is ongoing, or as Mises put it in his original 1920 essay, "Economic Calculation in the Socialist Commonwealth," the price system provides a guide amidst the "bewildering mass of intermediate products and potentialities of production" (1975[1920]: 103) and enables economic decision makers to negotiate the ceaseless "toil and moil" (1975[1920]: 106) of the constant market adjustment and adaptation to changing circumstances.

In Kirzner's 1967 paper, "Methodological Individualism, Market Equilibrium, and Market Process," he pursues the implications of Hayek's point that economic problems result only, and as consequence, of changing circumstances. As Kirzner puts it: "This is the basic character of the market process set in motion by the existence of a disequilibrium situation. *The crucial element here is the discovery of error and the resulting reconsideration by market participants of the true alternative now open to them.* The market process proceeds by communicating knowledge. *The all-important assumption is that men learn from their market experiences*" (italics original, 1967: 795). This is an insight that can first be seen in his paper "Rational Action and Economic Theory" in the *Journal of Political Economy* in 1962, but later more fully developed in his *Competition & Entrepreneurship* (1973). His insistence in each of these works is on the human decision maker, who is more than the pure maximizing *homo-economicus*, but a more open-ended creature *homo-agens*, and thus the creative and alert entrepreneur who acts on the gaps in the system that are reflected in the disequilibrium state of affairs.

In *Market Theory and the Price System*, Kirzner states: "If a market is not in equilibrium, we have seen, this must be the result of ignorance by market participants of relevant market information. The market process, as always, performs its functions by impressing upon those making decisions those essential items of knowledge that are sufficient to guide them to make decisions *as if* they possessed the complete knowledge of the underlying facts" (emphasis in original, 2011 [1962]: 240). In *The*

Meaning of Market Process, Kirzner would make the important distinction between the underlying variables of the market (tastes, technology, and resource availability) and the induced variables of the market (prices and profit/loss accounting), and he explained how the market process can be described as the continuous activity that results from individuals on both sides of the market trying to satisfy their plans for betterment (1992: 42). When the production plans of some perfectly dovetail with the consumptions plans of others, the induced and underlying variables are consistent with one another. If no mutual consistency exists, then economic activity continues because it will be in the interest of the parties to continue to seek a better situation than they are currently realizing.

Relative prices guide us in decision-making; profits lure us in our decisions; and losses discipline us in our decisions. This is how the price system impresses upon us the essential items of knowledge required for plan coordination. Or, as Kirzner would summarize the point in "Entrepreneurial Discovery and the Competitive Market Process": "The entrepreneurial process so set into motion, is a process tending toward better mutual awareness among market participants. The lure of pure profit in this way sets up the process through which pure profit tends to be competed away. Enhanced mutual awareness, via the entrepreneurial discovery process, is the source of the market's equilibrative properties" (Kirzner 1997: 72).

Kirzner's theoretical contribution offers an answer to one of the critical questions of pure economic theory -- the convergent path to equilibrium guided by price changes – a vexing problem recognized by Kenneth Arrow in his 1959 paper on the theory of price adjustment, by Franklin Fisher in his *Disequilibrium Foundations of Equilibrium Economics* (1983), and more recently by Avinash Dixit in *Microeconomics: A Very Short Introduction*, where he states the most basic idea of supply-and-demand analysis of market equilibrium: "The trouble with this answer is that in the logic of supply and demand curves each consumer and producer responds to the prevailing price, which is outside the control of any one of them. Who then adjusts the price toward equilibrium?" (2014: 51).

Kirzner answers: it is the alert and creative entrepreneur who acts on the gaps in prices and costs to realize the gains from trade and the gains from innovation and who adjust the market behavior of participants to coordinate the production plans with consumption demands. The market process exhibits this tendency toward pursuing the gains from trade (exchange efficiency), striving to utilize least-cost technologies in production (production efficiency), and satisfying the demands of consumers (product-mix efficiency), but it does so not by pre-reconciling all plans prior to revealing a price and quantity vector that would clear all markets as if in an unreconstructed Walrasian model of general competitive equilibrium. Rather it does so through the ongoing process of exchange and production guided by relative price adjustments, the lure of pure profit, and the penalty of loss, which reconcile the diverse and often divergent plans of economic actors through the market process itself. Markets *always* fall short of the abstract ideal of "efficient" allocation, but the market itself is *adaptively efficient* in constantly signaling to alert entrepreneurs what changes must be made and rewarding those who adjust correctly and penalizing those who don't. Markets may "fail," but the best response is to allow the market to fix the "failure." Efforts to fix failures by actors external to the ongoing process of market adjustment and adaptation will be unaided by the price system and, by definition, the structure of incentives that property rights provide, the guiding presence that relative prices offer, and the selection process made possible by the calculation of profits and losses. As a result, regulators face certain perils, as Kirzner pointed out in his essay "The Perils of Regulation" (1985 [1979]), and run the risk of generating perverse patterns of exchange and production and of leading entrepreneurs into superfluous discoveries rather than discoveries that better coordinate the plans of economic actors and ameliorate the conflicts that originally motivated the desire for regulation in the first place. Interventionism is not only self-defeating from the point of view of its advocates, but produces unintended and undesirable consequences throughout the economic system.

Kirzner's work is as critical to understanding the dynamics of the marketplace today as it was when economists first studied industrial structure and competitive behavior. If one looks at the emerging market structure that has followed from the Internet, one would certainly have to recognize the market dominance of Amazon, Apple, and Netflix, yet one would also have to recognize the great level of consumer satisfaction associated with these firms. Despite their dominant market share, these firms provide quality goods and services at low prices. And there is no expectation that these firms will do anything but continue to strive to provide high quality products for the lowest price. This is because they compete in a contestable market.

Carl Menger

Consider the classic browser wars from a decade ago, Netscape vs. Microsoft Internet Explorer. How monopolistic can a firm behave if its product can be used to freely download its competitors product? The standard textbook model of perfect competition, and the structure-conduct-performance paradigm in industrial economics built upon that textbook model as a benchmark, simply are incapable of providing a clean explanation for the Internet marketplace. Market leaders will fall by the wayside unless they keep moving forward faster to further satisfy consumer preferences. And, this isn't just about the Internet marketplace. It is about any marketplace once one examines closely the historical operation of markets. This is how markets function, as understood by Carl Menger, Eugen von Böhm-Bawerk, Mises, Hayek, and Kirzner, and I think one could argue effectively that it was understood by Smith, Say, and even Mill. It is not the size of firms that matter most in assessing the existence of monopoly power, but the *legal* conditions of entry that matter. It is important, perhaps, to stress again the conceptual clarity and robustness of the responses to claims of market failure based on monopoly power. Regarding conceptual clarity, most notably in the Austrian tradition represented by Murray Rothbard, it is argued that monopoly power is a consequence of a government grant or privilege. However true that statement is, the robustness-of-markets response might demonstrate that a firm can grow large and possess significant market dominance at any point in time, but precisely because it faces the threat from entrants (real or imagined), it will be compelled to behave competitively, rather than as predicted by the model of monopoly, if it is to have any hope of maintaining its market dominance. The two sort of responses, again, can go together, but they are distinct. Kirzner's entrepreneurial theory of the competitive market process does employ both, but stresses the robustness of the market process.

And, as recognized by classic economists such as Frank Knight and Joseph Schumpeter, the central actor in managing this process of changing circumstances and adaptation to new opportunities is the entrepreneur. The entrepreneur's central function is to act on hitherto unrecognized opportunities for mutual gain – whether those come in the form of arbitrage opportunities or technological innovations which cut costs of production and distribution or the discovery of new products that meet consumer demand. It is entrepreneurial action that sets in motion the competitive market process and which results in the adaptations and adjustments to changing conditions such that complex coordination of economic plans is achieved, wealth is created, and economic progress is perpetuated.

For these reasons, and more, I believe that Kirzner has (along with Baumol, whom I have mentioned, and Harold Demsetz, whom I have not) done more than any other living modern economist to improve our understanding of competitive behavior and the operation of the price system in a market economy, and thus deserves serious consideration for the Nobel Prize in Economic Sciences. Kirzner has provided fundamental challenges to the prevailing orthodoxy of textbook perfect competition and its implications not only for economic theory but economic policy as well. His work provides deep insight into the nature of how competitive markets coordinate the plans of disparate economic actors and organizations. The foundational role of property rights in structuring incentives, of relative prices guiding production and consumption decisions, and of profit-and-loss accounting as vital to the process of economic calculation in economic affairs takes a central place in his work. Thus Kirzner's work provides an economic foundation for our inquiry into the political and economic system most suitable for a society of free and responsible individuals.

Endnotes

[1.] Kirzner's contributions are primarily in economic theory proper and not in the broader field of political economy and social philosophy. Yet, as I will discuss in conclusion, Kirzner's insights into competitive behavior, industrial structure, and the entrepreneurial market process have implications for the economic policy of a society of free and responsible individuals. This has led Liberty Fund to publish his *Collected Works* in 10 volumes, and I have the privilege along with my colleague Frederic Sautet to serve as the editor of these volumes. To date, six volumes have been published of the 10, and the seventh volume is currently in production. Published at the time of this writing: *The Economic Point of View* (2009 [1960]) as *The Collected Works of Israel M. Kirzner*, Vol. 1; *Market Theory and the Price System* (2011 [1963]) as *The Collected Works of Israel M. Kirzner*, Vol. 2; *Essays on Capital and Interest* (2012 [1967]) as *The Collected Works of Israel M. Kirzner*, Vol. 3; *Competition and Entrepreneurship* (2013 [1973]) as *The Collected Works of Israel M. Kirzner*, Vol. 4; *Austrian Subjectivism and the Emergence of the Entrepreneurship Theory* (2015) as *The Collected Works of Israel M. Kirzner*, Vol. 5; and *Discovery, Capitalism, and Distributive Justice* (2016 [1989]) as *The Collected Works of Israel M. Kirzner*,Vol. 6. An additional four volumes are planned over the next few years to complete the 10-volume set. It is my hope that this essay will stimulate students of economics and political economy to take advantage of this Liberty Fund initiative and appreciate Kirzner's contributions at a methodological, analytical, and ideological level.

[2.] My focus is on Kirzner, but for an overview and my assessment of Baumol's contributions to economic theory and political economy see my paper with Ennio Piano, "Baumol's Productive and Unproductive Entrepreneurship After 25 Years," *Journal of Entrepreneurship and Public Policy*, 5 (2) 2016: 130-44.

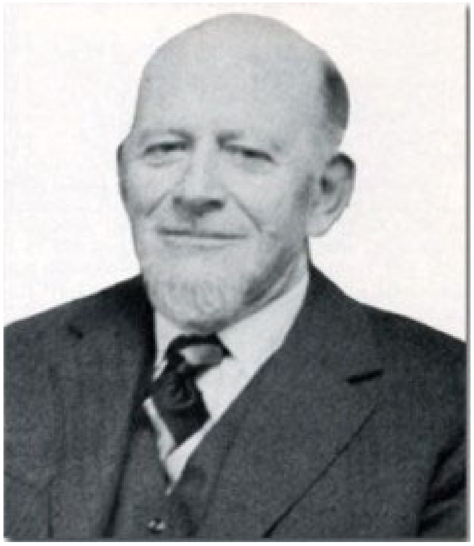
[3.] See "Mises's Suggested Research Topics, 1950-1968" at

https://mises.org/library/misess-suggested-research-topics-1950-1968

KIRZNER'S THEORY OF THE MARKET PROCESS

by Mario J. Rizzo

I am very pleased to join this discussion of Israel's Kirzner's work. I was his colleague at New York University from 1976 (initially as a postdoctoral fellow) until his retirement in 2000. I have had many, many discussions with him about economics and, most revealingly, seen his interactions with his Austrian critic, Ludwig Lachmann. Out of all this, I have enormous respect but important disagreement with certain aspects of his market theory. Beginning with *The Economics of Time and Ignorance* and extending into several articles, I have elaborated my criticisms and alternative views.



Ludwig Lachmann

Professor Kirzner addressed the right questions – many of which had been ignored or paid lip service to by mainstream neoclassical theory. He mapped out a promising approach, but he never did show, as a matter of pure theory, that the alert entrepreneur could be relied upon to move the economic system toward an "equilibrium."

Remember that Kirzner's attempt (at least for a long time) was to derive a market equilibration tendency from the category of purposiveness – defined broadly so as to include the alertness and creativity of entrepreneurial action. While the purposiveness of human conduct is an extraordinarily important idea and is *necessary* for a satisfactory theory of the market process, it is not *sufficient*. As F.A. Hayek showed, this requires empirical propositions about learning and the transmission of knowledge. Where are these in Professor Kirzner's work? We know that he resisted the introduction of psychology into economics both with regard to tastes but also with regard to learning. While the former resistance could be justified in a static subjectivist theory of choice, a theory of processes must rely on some substantive ideas about learning. Actual processes are empirical.

Pure theory, in the sense meant by Kirzner, sets up a framework for analyzing market processes but does not fully provide the tools for doing so. We can make statements about arbitrageurs seeking to exploit price inconsistencies for profit (true enough), but demonstrating the social consequences of this behavior is something else. Simplified examples of buying low and selling high are woefully insufficient. We need to take the empirical element seriously.

The framework that Kirzner gives us for analyzing the market correctly moves us away from concentration on equilibrium states. He also rejects the idea that the market is "inefficient" insofar as it deviates from optimal equilibrium outcomes. Kirzner says correctly that the test of market efficiency is the speed, degree, and extent to which errors are corrected. The agents that correct market errors are not mechanical pre-programmed agents. They are capable of reconceiving a problem situation in creative and unpredictable ways. Thus interpretation is a vital component of entrepreneurial behavior.

This is a framework for a theory and not a theory itself. A framework (perhaps a "research program") is very important; it can provide direction for further research to prove its mettle.

Ludwig Lachmann criticized Kirzner's approach in a number of respects. First, purposiveness in the broad sense does imply alertness and learning. But this does not mean that people learn what is appropriate to move the system toward "equilibrium." Second, entrepreneurs seek to make profits by exploiting price inconsistencies. However, this is not the same thing as moving the system toward equilibrium with respect to the underlying data. Consider that an entrepreneur can make money by exploiting the *incorrect* beliefs of others that a certain resource is undervalued. He will sell the resource to the party who overvalues it – thus making money but not correcting the error. Economists know that there can be bubbles and herd behavior. These are empirical issues.

All of this should not be confused with a different issue – whether the price system is better than comprehensive socialist planning. The either/or comparison is relatively easy. It does not require showing in any detail how markets equilibrate or not under specified circumstances. Here we can be satisfied with some broad generalizations about market processes. But when the subject turns to the role of equilibrium analysis in market economies we must dig deeper.

The rise of behavioral economics has introduced economists to a wide variety of psychological ideas. Unfortunately, the dominant behavioral approach seems to seek out only those areas in which the learning process fails in some important way. But some economists have introduced ideas about attention (=alertness?) and framing of choice situations. These could be very helpful empirical ideas in a theory of the market process.

Austrians of an aprioristic bent often will say that all of the complications I have raised belong to applied economics and not to theory. I do not wish to enter into a fruitless discussion of where theory ends and applications begin. To derive from the category purposiveness a "tendency" toward equilibrium is problematic. (Clearly, it means little to argue that the tendency claim requires us to remove from consideration any disturbing forces that would falsify the statement.) What we can "derive" is the idea people will be alert in a myriad of ways to opportunities to profit. However, seizing these opportunities does not always lead to equilibrating moves. It may lead to disequilibrating moves.

The fundamental question that Kirzner's valuable contributions should lead us to is an inquiry into what kinds of social order increase the accuracy of knowledge possessed by agents and improve the mechanisms by which this knowledge is transmitted. I have argued for concepts of institutional efficiency and pattern coordination as the foci of a useful approach to market process theory. In his later years, Hayek himself thought that the concentration on arguments about tendency toward traditional equilibria should be superseded. The economic system is more like a stream of water which overflows it confines here and there and yet exhibits some recognizable pattern.

In sum, Kirzner made extremely valuable framework contributions toward building a theory of market processes. It is for the rest of us to come up with a theory of the market process.

ENTREPRENEURIAL DISCOVERY: WHO NEEDS IT?

by Peter G. Klein

Pete Boettke provides an engaging and accessible summary of Israel Kirzner's contributions to the analysis of competition and entrepreneurship. Kirzner's work has inspired several generations of Austrian economists, and he is an articulate and persuasive spokesperson for the Austrian approach and for free markets and individual liberty. I remember considering New York University for graduate studies in the late 1980s and receiving a phone call from Kirzner himself, encouraging me to join the Ph.D. program directed by him and Mario Rizzo, a program that Pete Boettke would also later join. What a thrill for a budding Austrian economist! I ended up studying elsewhere but enjoyed many conversations and interactions with Kirzner over the years. He is a kind and gracious person as well as a penetrating and original thinker.

I appreciate Pete's essay but want to challenge him on two points. First, he gives a misleading account of Kirzner's influence, and second, while Pete effectively summarizes Kirzner's claims, he doesn't persuasively argue for them. Is Kirzner's explanation of the market process correct and, if so, is it useful?

Pete begins with citation data. I would be as thrilled as anyone to see Kirzner get the Nobel prize, with or without Baumol (not least because it would recognize the entrepreneurship field, my main research area!). But I can't imagine it happening, for the simple reason that Kirzner's influence in economics is quite small. To be sure, Kirzner's stature as the most important living Austrian economist is beyond dispute. However, as Per Bylund and I have shown elsewhere (Klein and Bylund, 2014), the majority of Kirzner's many citations are in management and entrepreneurship journals, not economics journals.

In the academic entrepreneurship literature, Kirzner is considered a key figure in entrepreneurship theory, along with Knight and Schumpeter. Kirzner's understanding of entrepreneurship as alertness or opportunity discovery, as popularized by writers such as Scott Shane (Shane and Venkataraman, 2000; Shane, 2003), is one of the most influential ideas in the field. (Lately the opportunity construct has been under fire from a variety of perspectives; see Foss and Klein, 2015, 2017.) But I cannot discern any influence of Kirzner's understanding of the entrepreneurial process on the mainstream literature in microeconomic theory, industrial organization, welfare economics, regulation, or innovation. These literatures are still dominated by general and partial equilibrium modeling, the use of perfect competition as a welfare benchmark, and so on. To be sure, since Kirzner's *Competition and Entrepreneurship* was published in 1973, these fields have paid much greater attention to issues of information and incentives, transaction costs, property rights, learning, competitive dynamics, and so on. But these influences come from Chicago/UCLA property-rights economics, transaction-cost economics, information economics, and, most of all, game theory, not from Austrian economics, Kirznerian or otherwise.

Henry Hazlitt

This is unfortunate because, as Bylund and I note, Kirzner understood his work—as did his contemporaries such as Henry Hazlitt and Murray Rothbard—as a contribution to price theory, not entrepreneurship theory. But price theory goes on, to paraphrase Tolkien's Gandalf, much as it has this past age, scarcely aware of the existence of Kirznerian microeconomics. Indeed, Austrian insights remain mostly absent from the elite journals, the NBER working-paper series, and the top academic departments. The discovery-process view has not influenced the mainstream understanding of competition or industrial structure.

What about Kirzner's influence on Austrians? Here I want to suggest that the impact of Kirzner's writings may be more rhetorical than substantive. Certainly, terms like "competitive discovery process" (not to mention "hitherto") appear early and often in the contemporary Austrian literature. But recall that Coase (1972) once described his own work as "much cited, little used." What exactly does Kirzner's approach accomplish? Is discovery more than a mantra?

I once referred to Kirznerian microeconomics as "Walrasian price theory with a twist" (Klein, 2017), and that was perhaps too glib. Yet there's an important sense in which Kirzner, and Boettke, start with what Pete describes as Fisher's challenge: "Franklin Fisher pointed out in his very important book *The Disequilibrium Foundations of Equilibrium Economics* (1983) that unless we have good reasons to believe in the systemic tendency toward equilibrium we have no justification at all in upholding the welfare properties of equilibrium economics. In other words, without the sort of explanation that Kirzner provides the entire enterprise of neoclassical equilibrium is little more than a leap of faith" (Boettke, 2005).

In this view, to do economics—price theory, industrial organization, the theory of the firm, labor economics, international trade, financial markets, and perhaps even monetary and business-cycle theory—we must start with some version of neoclassical equilibrium theory. Otherwise, how do we know that Paris gets fed? Austrians reject Marshall, Walras, and Arrow-Debreu, so they need an alternative justification for what Boettke calls the invisible-hand postulate. Enter Kirznerian discovery, which asserts that because of entrepreneurial alertness, markets are "close enough" to their (neoclassical) equilibrium states that we can do neoclassical economics, along with all its desirable welfare properties, without worrying about the rest. Indeed, I would claim that this is exactly what most modern

Austrian economists do. They talk the talk about process and alertness and knowledge and so on, but when it comes time to do applied work, they mostly rely on conventional, neoclassical price theory (albeit of the Chicago/UCLA variety rather than cutting-edge formal theory).

But what if we don't need neoclassical equilibrium as an analytical device or welfare benchmark? What if there is another reading of Menger and his followers in which the tendency toward equilibrium plays a minor role? Here I have been influenced by Joe Salerno, who has argued (e.g., Salerno 1993, 1999) that there is an alternative Austrian tradition in which market coordination takes place continually using ordinary day-to-day prices that obtain in real markets, in what Mises calls the "plain state of rest" (see Klein, 2008a, and Foss and Klein, 2010). In this view, the "market process" is not the convergence to equilibrium, via the discovery of profit opportunities, but the selection mechanism in which unsuccessful entrepreneurs—those who systematically overbid for factors of production, compared to the eventual consumer demands—are eliminated from the market. This is the process described by Mises in his important but overlooked essay "Profit and Loss" (Mises, 1951).

Kirzner says little about this kind of market process because in Kirzner's system, there are no losses, only profits—the result of successful discovery—and missed profit opportunities. Interestingly, while Kirzner positions his work as an extension of Mises's important contributions, there is very little about alertness or discovery in Mises and a lot about uncertainty—a concept that plays almost no role in Kirzner's *oevre*.[4] Mises describes entrepreneurship not as seeing something that is already there, that others fail to see, but as peering into an uncertain future. "The term entrepreneur as used by [economic] theory means: acting man exclusively seen from the aspect of the uncertainty inherent in every action" (Mises, 1949: 254). In the broad sense, all human action is entrepreneurial, because outside imaginary constructs like Mises's "evenly rotating economy," we never know for certain if our efforts will bring about the ends desired. In his analysis of the market economy, Mises focuses on a narrower type of commercial profit-seeking entrepreneurship, namely, the deployment of heterogeneous capital resources under uncertainty (Foss and Klein, 2012). As Ludwig Lachmann (1956: 16), another great exponent of the Mengerian tradition, put it: "We are living in a world of unexpected change; hence capital combinations … will be ever changing, will be dissolved and reformed. In this activity, we find the real function of the entrepreneur."

Israel Kirzner

If market coordination is the process of entrepreneurial experimentation with capital combinations, typically in the form of business venturing, and competitive selection pressures are strong, then we can posit a long-run tendency toward a more "rational" allocation of resources, without strong assumptions about knowledge and learning, and without any reference to alertness or discovery. Kirzner (1999) recognizes the problem in one of his (to me) most difficult essays, where he tries to reconcile Mises's view that consumer sovereignty requires only plain-state-of-rest prices with Kirzner's own view that we cannot justify the welfare properties of markets without believing in a systematic tendency toward long-run equilibrium. But what if we don't need the latter belief? In my reading of Mises, the adjustment processes by which factors are reallocated to more urgent needs, forecasting errors are reduced, and so on, take place in analytical time, not in calendar time. Consumer sovereignty (Mises's version of "optimality") requires only private property, unhampered markets, and a monetary system that permits economic calculation. In other words, Kirzner may be offering a solution to the wrong problem.

Even so, is the solution correct? Pete articulates Kirzner's position clearly, but doesn't really defend it; discovery is asserted, not explained. Foss and Klein (2010) discuss this and a number of additional problems with Kirzner's system (e.g., the confusing and contradictory notion of the "pure entrepreneur" and the tenuous connection between discovery and institutions). In my own work I have defended an alternative understanding of entrepreneurship, which Nicolai Foss and I call the judgment-based view (Klein, 2008; Foss and Klein, 2012, 2015). This view builds on Mises, Knight, Lachmann, and others to articulate a vision of entrepreneurship as judgmental decision-making under uncertainty which, along with competitive selection processes ex post, is sufficient to explain the key phenomena of interest to entrepreneurship research. Discovery makes sense only ex post (if entrepreneurial action is successful). As such, it is at best redundant, at worst misleading, because it implies (to researchers, practitioners, and students) that entrepreneurship is somehow about finding things that already exist (which is easy), rather than judging an uncertain future (which is hard).

To sum up: I continue to find Kirzner's discovery metaphor intriguing, but have become increasingly convinced that discovery is not the most accurate or useful way to understand markets, prices, and competition (Klein, 2017). I was hoping that Pete's essay would persuade me to give Kirzner's model another chance, but so far I haven't seen anything to change my mind.

Endnotes

[4.] The idea of discovery or alertness appears in Friedrich von Wieser's treatment of the entrepreneur, and of course in Hayek's famous idea of competition as a "discovery procedure" (Foss and Klein, 2010). Mises (1949:255) briefly mentions the idea of entrepreneurs as "those who are especially eager to profit from adjusting production to the expected changes in conditions, those who have more initiative, more venturesomeness, and a quicker eye than the crowd, the pushing and promoting pioneers of economic improvement." But here is referring not to the economic function of the entrepreneur, but the historically contingent ideal-type concept of the "promoter."

PURPOSEFUL HUMAN ACTION AND ENTREPRENEURSHIP: KIRZNER'S MISESIAN CONTRIBUTION

by Frederic Sautet

Ever since I heard Israel Kirzner give a talk in the early 1990s at the université d'été seminar in Aix-en-Provence, France, I became convinced that he had a lot more to say about economics than many economists I knew of then. Along with Murray Rothbard, he is clearly the major figure in the so-called revival of Austrian economics of the last 40 years.

Murray N. Rothbard

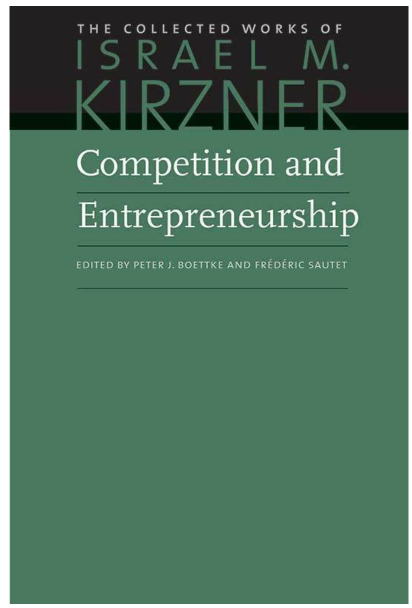
It's hard for me to disagree with Pete Boettke's view, but — perhaps by way of clarifying or even challenging Kirzner's thought — I want to explore one important aspect of Pete's paper: the notion of purpose and, I will add, its relation to the entrepreneurial function. My contention is that it is only with the entrepreneurial function (and particularly with Kirzner's view of it) that one may speak of "purposeful human action."

Pete explains that the essence of human action rests on the notion of purpose. First, this is what makes economics unique as a human science. Human beings have purposes, which are things matter doesn't have, and this has implications for the respective studies of these objects. Second, and as Pete explains, "We understand the purposeful behavior of 'the other' because we ourselves are human."

The proposition that human action rests fundamentally on the notion of purpose is unique, in the modern era of economic science, to Austrian economics. Indeed, the elimination of anthropomorphism in 19th-century science led to a view of economics as populated by human actors without purpose. The stress put on the economizing principle by scholars such as W. S. Jevons, F. Edgeworth, M. Pantaleoni, and L. Robbins brought forward the "mechanics of utility and self-interest" and the "economic calculus" as the foundations of human action. Purpose and other "metaphysical considerations" (to use Schumpeter's words) became irrelevant in a science that came to focus on functional relationships and not on causal ones.

When Kirzner wrote in the 1960s, he was (as far as I can tell) very much aware of two issues.[5] First, one of the main propositions of classical economics is that the social world follows certain laws that economics has discovered, and if one wants to have social harmony rather than chaos, one should understand the lessons of political economy. In other words, economics, in its analysis of the free-market system, explains social harmony. Second, classical economics established four fundamental factors of production: land, labor, capital, and entrepreneurship. Several (mostly French and German) authors saw this last "factor" as the driving force of change.[6] With a few exceptions, the last factor disappeared, along with purposeful action, from economic theory sometime around the beginning of the 20th century.

Hence classical economics gave us, among other things, two fundamental propositions about harmony and change. In modern economics (after 1920), the first proposition came to be translated (mostly) as the idea of equilibrium as a description of the world. The second proposition dropped out of the picture. Because Kirzner was highly cognizant of these two issues, he realized that economics could not do without the second lesson of classical economics, regarding change. He also understood that the two propositions are inextricably linked in the sense that one cannot explain harmony without entrepreneurial change and, similarly, one cannot explain entrepreneurial change without understanding its contribution to harmony.



These two realizations constituted almost a research program for Kirzner, with *Competition and Entrepreneurship* fulfilling the first part of the program by explaining how harmony emerges under the constant pull of entrepreneurial action.[7] His later works look deeper into the second part of his program, i.e., the impact of entrepreneurial change, innovation, and the like on the social order.

This view of Kirzner's research program parallels his theory of human action. He explains human action as the result of a dual process: the economic principle on the one hand (*homo economicus* or Robbinsian maximizing) and what Kirzner calls the "entrepreneurial element" on the other. These two components, taken together, define human action, but were not explicitly mentioned in the work of Mises (although they form, according to Kirzner, the notion of *homo agens*, as found in Mises). The important point here is the parallel with classical economics: the notion of harmony (or equilibrium) stems from the Robbinsian side of human action, whereas the notion of change originates from the entrepreneurial element.[8]

Why does Kirzner insist on defining human action this way? It could be said that Kirzner misconstrues the view of *homo agens* in Mises's work: Mises really only talks about (what Kirzner labels) the entrepreneurial element (there is no Robbinsian maximizer involved). Not so. In *Competition and Entrepreneurship*,[9] Kirzner stipulates two situations in which market participants are either pure Robbinsian economizers or pure entrepreneurs. Through this method of contrast, Kirzner shows that both functions are necessary in the market if we are to explain how harmony comes about (i.e., resource allocation is not automatic). Mises takes the same view, except he refers to the imaginary construct of the pure entrepreneur that he establishes using the stationary economy as a foil.[10]

This brings us back to the idea of purpose in human action. Kirzner sees the entrepreneurial element in human action as discovering a new framework of action (i.e., a new ends-means framework in Robbinsian terminology). My proposition is that the purposeful aspect of human action can *only* be defined by the entrepreneurial element of *homo agens*. In other words, a Robbinsian maximizer does not act purposefully. Here is why: While Kirzner's use of Robbins's terminology may have been misleading, it is not by chance that Robbins talks of "ends" and "means" in his definition of economics, and not of "purpose." True, it is in part because Robbins emphasizes the scarcity of means. But the real reason is that man seen as a machine cannot establish purposes; he can only execute a plan according to his (given) preferences. The Robbinsian maximizer is not a purpose-oriented being when he or she acts.

Some philosophers (mostly in the natural-law tradition) have insisted on this very point. According to Francis Slade, for instance, "end" does not mean "purpose."[11] Agents and actors have purposes and motives, whereas ends can be characteristic of all kinds of things (e.g., the end of a knife is in its cutting). Agents have purposes (or intentions) by which they determine themselves to certain actions. Purposes are, to use Aristotelian-Thomist language, the efficient cause of action. Ends are not, for they exist independently of our willing them and irrespective of our actions and decisions.

All this matters because without the resurrection of the entrepreneurial function in human action the way Kirzner establishes it in *Competition and Entrepreneurship*, there would be no genuine human action in economics. Kirzner (following Mises) brings purpose back into economic science by resurrecting the entrepreneurial function. And it is only through the entrepreneurial function that the notion of purpose can be the defining element of human action. Thus, a more perfect Misesian approach could be for Kirzner to define *homo agens* as a combination of the optimizer (defined as man acting with an already established purpose) and the entrepreneurial element (defined as man capable of defining a new purpose).

Ludwig von Mises

While it has been criticized, Kirzner's view of human action (incorporating both optimization and the entrepreneurial element) puts purpose back at the center of *praxis*. Kirzner's understanding also parallels the two propositions of classical economics (harmony and change). Economics could neither explain harmony nor change without this purpose-centered view of action. Kirzner builds on the Misesian framework by specifying *precisely* what Mises meant by human action. I do not see any contradiction or incompatibility between

Mises's and Kirzner's works on that point. On the contrary, Kirzner's theory of human action is fully Misesian and helps explain the two propositions of classical economics, namely, that the free market is an orderly system that experiences constant change.

Endnotes

[5.] Here Kirzner's Ph.D. dissertation, *The Economic Point of View*, *The Collected Works of Israel M. Kirzner*, vol. 1, ed. Peter J. Boettke and Frederic Sautet (Indianapolis, IN: Liberty Fund, 2009 [1960]), is a key work to understanding his intellectual path. Online version from 1976 </titles/304>.

[6.] For instance, J-B. Say states that "it is the entrepreneur who decides to create independently, to his benefit and bearing his own risks, a given product." See the French edition of J-B. Say's *Traité d'économie politique* (1841, book II, chapter V, p. 79), republished in 1966 by Otto Zeller.

[7.] *Competition and Entrepreneurship*, *The Collected Works of Israel M. Kirzner*, vol. 4, ed. Peter J. Boettke and Frederic Sautet (Indianapolis, IN: Liberty Fund, 2013 [1973]).

[8.] As Kirzner puts it: "Human action in its totality is made up of an entrepreneurial element (to which is attributable the decision maker's awareness of the ends-means framework within which he is free to operate), and an economizing element (to which we attribute the efficiency, with respect to the perceived ends-means framework, of the decision taken)" (pp. 197-98). "Producer, Entrepreneur, and the Right to Property," in Israel M. Kirzner, *Perception, Opportunity, and Profit: Studies in the Theory of Entrepreneurship* (Chicago: University of Chicago Press, 1979).

[9.] See chapter 2, especially the sections "The Entrepreneur in the Market," and "The Producer as Entrepreneur."

[10.] See Mises's *Human Action*, ch. XIV, sec. 7 (Auburn, AL: Ludwig von Mises Institute, 1998). Liberty Fund's online version: </titles/1894#Mises_3843-02_105>.

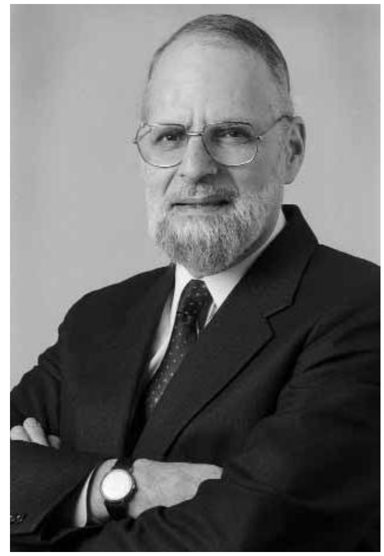
[11.] See Slade's "Ends and Purposes," in *Final Causality in Nature and Human Affairs*, Richard Hassing (ed.), Washington, D.C.: Catholic University of America Press, 1997.

SITUATING KIRZNER

by Peter J. Boettke

I am most grateful for the time and attention that Mario, Peter, and Fred paid to my essay on Israel Kirzner's contributions. For a medium such as *Liberty Matters*, and in dealing with an economist who sought consciously to avoid as much as humanly possible normative discussions of the free society as an economist, one is always in a precarious situation of steering the conversation in too esoteric a direction by stressing the scholar's methodological and analytical contributions to a specialized scientific field of inquiry, or forcing the conversation into a social-philosophical realm in which the particular scholar was not so comfortable being placed. But let me quote Kirzner's own words about his teacher Mises on how these esoteric issues in the methodology of economics science and the method of economic analysis matter for the practical issues of public policy and social philosophy. "Mises saw the denial of economics," Kirzner wrote (1978, vii), "as an alarming threat to a free society and to Western civilization." It is economic theory, after all, Kirzner pointed out, that is capable of demonstrating the great benefits of social cooperation under the division of labor that the free-market economy produces. But "the validity of these demonstrations rests heavily on precisely those insights into human action that positivistic thought treats, in effect, as meaningless nonsense." So Kirzner argues that what inspired Mises's vigorous and contentious "crusade against the philosophical underpinnings of economics not founded on human purposefulness was more than the scientist's passion for truth, it was his profound concern for the preservation of human freedom and dignity."

Methodology matters because it determines not only what we consider to be "good answers" but also what we consider to even be "good questions" in our science. Analytical methods matter because some tools of reasoning illuminate some aspects of the phenomena to be studied, but others actually cloud that understanding and steer our mental focus in other directions. The world of economic scholarship that Kirzner entered in the late 1950s, and what persisted throughout his long and distinguished scientific/scholarly career, was dominated by two "philosophical" trends which put the questions he wanted to ask and the answers he provided on the defensive at best, and dismissed them as unimportant at worst – the doctrines of positivism and formalism as understood by economists.[12] The comfort level at which the post-World War II economics profession settled on a positivist and formalist rendering of the discipline was certainly not dictated by the history of the discipline, nor even by the most up-to-date reading of the literature in the philosophy of science, nor even by a correct interpretation of what the older literature was saying. But that is a topic for another day, though critical to understanding this comfortable scientific equilibrium and the challenge it presented to someone like Kirzner, namely, the self-reinforcing alliance between scientism and statism that the broader modernist agenda of "progressivism" represented in public administration and public policy. Economics from the 19th to 20th century was transformed from a discipline seeking philosophical understanding of the social conditions of humanity to a discipline expected to provide the tools for social control implemented by the administrative state to fight poverty, ignorance, and squalor, and to eradicate instability, inefficiency, and injustice. Hopefully, the reader now gets a sense of the titanic struggle that scholars entering the economics profession who happened to have sympathy for classical-liberal political economy faced in their efforts to make their way in the science.



Israel Kirzner

Kirzner focused almost exclusively on purely scholarly and scientific explorations of economic theory. I say "almost" because Kirzner throughout his career also engaged in what might be termed economic *educational* efforts to make the ideas of his teacher – Mises, and his teacher's star student, Hayek -- better known not only to a profession that was no longer paying attention, but also to college students, as seen say in his *Market Theory and the Price System* textbook (1963). If you look at the first decade of Kirzner's career, he published *The Economic Point of View* (1960), *Market Theory and the Price System*, and *An Essay on Capital* (1966), all focused scholarly monographs picking up on refined debates in the scientific literature and seeking to demonstrate how the Mises and Hayek contribution would change the nature of the discussion and the conclusions to be reached. Critical to this exercise was for Kirzner to explain *how markets work*, not simply explore the optimality conditions that define the economic system while assuming that the market had done all the work.

So this brings me to the insightful set of comments from Mario, Peter, and Fred. Mario invokes the critical debates of the 1970s concerning Kirzner and Ludwig Lachmann that focused on the equilibrating nature of the entrepreneurial market process. As Mario highlights, Kirzner sought to derive from human purposiveness a theory of the market, but Hayek and then Lachmann forced us to consider that in addition to the theory of purposiveness, we had to empirically examine the institutional environment within which economic activity was taking place with respect to its learning properties. The sort of mutual learning required for the achievement of *equilibrium* was an empirical matter and not something that could be derived from pure theory. The pure logic of choice, in other words, may be a necessary component of a fully worked-out explanation of market clearing, but it was not sufficient. Lachmann pressed this point over and over again in debate throughout the 1970s, and his pointed criticisms influenced an entire generation of economic thinkers such as Mario, but also Don Lavoie, Bruce Caldwell, Peter Lewin, etc.

But two points I would like to suggest might give this narrative a slightly different twist. First, the impetus for the Lachmann-Rizzo move is Hayek's 1937 paper, "Economics and Knowledge"[13], his supposedly gentle refutation of Misesian a priorism. In a March 30, 1985, letter to Kirzner (archived in the Hoover Institution) concerning a paper Kirzner had recently sent him, Hayek wrote:

Friedrich von Hayek

I agree with most of what you say and I believe it is important to bring these points out. It confirms a point of which I have become increasingly unhappy about recently, namely, that the subjective character of the Austrian method dealt wholly with consumption, or tastes and neglected information (knowledge) and production. *It was curious that Mises who, as you probably know, was very sensitive to criticism, actually praised my 1937 article and seems never to have been aware that it was directed against his a priorism.* In a way of course he ought to have agreed because my stress on the diversity of individual information derives probably from his argument about the impossibility of socialist calculation, but he appears never to have quite seen the importance of the learning process which seems to me still wholly irreconcilable with his a priorism. To me it seems that the manner in which we and other people learn about new facts is decidedly a result of observation, and that consequences we derive from this knowledge is subject in some degree to falsification. [Emphasis added.]

Hayek's interpretation, though, leaves us with at least two hypotheses to consider: (1) Mises didn't understand , or (2) Hayek misunderstood Mises's commitments. We will not settle this dispute today in this forum, but hopefully we can stimulate discussion around it. The critical insight I would take from Hayek's 1937 article is that the optimality conditions of the market *emerge* from the market process itself and are not, in Hayek's rendering, behavioral assumptions anterior to the market process as in the standard textbook model. Rationality and optimality are system level consequences of the competitive market. Kirzner, in his essay "The Meaning of Market Process," introduces the useful distinction between "induced" and "underlying" variables. What he postulates is that the market process engenders mutual learning about the underlying variables (tastes, technology, and resource availability) through the ongoing adjustment of the induced variables (prices, profit, loss). This market process, in Kirzner's depiction, is situated in a *given* institutional background of property, contract, and consent. So the postulated learning properties are *within* that already given environment. Any situation in which the induced variables do not align with the underlying variables will send the participants strong signals, in the form of opportunities for profit or the threat of losses, to adjust behavior as guided by relative prices to move in a direction such that the induced variables reflect more accurately the underlying variables. Of course, tastes, technology, and resource availability are ceaselessly changing, so the perfect alignment does not occur in a realistic depiction of the competitive market. But the tendency and directions are laid out.

In many ways the Kirzner-Lachmann debate simply rehashed the discussion laid out in Hayek's letter to Kirzner about his disagreement with Mises, but it also has the same interpretative difficulty, I would contend. Lachmann at times seems to suggest that all we have are the induced variables and so no anchor to the underlying conditions. Clearly in some institutional settings the learning by participants of the underlying conditions is more difficult because of confused signals and perverse incentives. But within Kirzner's postulated environment the idea of a groping market converging with the underlying variables is certainly not as much of a leap in logic as it is often portrayed; nor is it oblivious to the precise empirical point Hayek actually was making in 1937 and beyond. That point was simply that alternative institutional environments have alternative epistemic properties which must be recognized and explored. And isn't that exactly Kirzner's point in say his essay "Perils of Regulation" (1979) and in his notion of "superfluous discovery"? He postulates that learning still takes place, but it is learning that takes us away from the dovetailing of the induced and underlying variables and thus to a situation which is defined not by the coordination of production plans with consumption demands, but instead by discoordination, where mutual gains from trade go unrealized.

Rizzo raises an important question about Kirzner's "theory" and says that we are still seeking an acceptable "theory of the market process." In contrast I would invoke Elinor Ostrom's distinctions among "framework," "theory," and "model." I agree with Mario that Kirzner provides us with a framework, but I would also say he provides us with a theory. He definitely does not provide us with a model. And in a profession that demands models, this was a big issue in the difficulty of communication. We have work to do, but that work can be of a methodological nature to redefine what we economists are doing, and it can be of an analytical nature to seek to develop tools that enable us to capture the ongoing dynamics of adjustment and adaptation that make up the market -- dynamics that remain outside of the analytical toolkit of conventional economics.

Elinor Ostrom

This raises issues that Peter Klein brings up. Peter challenges my essay on several fronts, and I want to focus on just one.[14] But first let me say I agree with him that Kirzner's citations are primarily outside of economics proper. However, that hasn't precluded others from being recognized by the Nobel committee -- most famously Elinor Ostrom, but also Douglass North and even my teacher James Buchanan and Klein's teacher Oliver Williamson. So as I said, Nobel recognition for Kirzner is improbable but not unimaginable.

The more substantive points that Peter raises is about what exactly Kirzner achieves with his theory of the market process and about my depiction of him as solving a fundamental problem in the theory of competitive equilibrium via Mises. Klein suggests an alternative direction.

No doubt there are many alternative analytical approaches to studying market behavior. But why was competitive equilibrium so successful in controlling the agenda of postwar theoretical economics? First, what did general equilibrium theory accomplish? It gave us a depiction of the interconnectedness of economic activity. It also provided us with a clear set of optimality conditions which would exist if an economic system was to avoid waste and utilize available resources in the most efficacious way possible. In delivering on these, three key analytical concepts were developed: the equimarginal principle, the law of one price, and the marginal productivity theory of factor pricing. In other words, we get interconnectivity and efficiency properties.

But what did general equilibrium theory not accomplish? The biggest gap for our discussion is that the theory failed to provide a theory of adjustment and adaptation to changing circumstances. In the formalist rendering, competitive equilibrium is a *static* theory and as such does not do well with change; as a result it analytically pushes change agents such as the entrepreneur out of the picture. General equilibrium theory is a theory of economic forces *after* they have worked and not a theory of economic forces *at work*. If we want to understand how markets work, we cannot simply study the configuration that would result if they did all of the job they are asked to do. Instead, we must study how they in fact work through time to produce such a configuration via adjustment and adaptation guided by relative prices, lured by pure profit, and disciplined by loss. As Peter notes, Mises's essay "Profit and Loss" (1951) provides us with an example of such an approach, as I want to contend Kirzner does.

Where I think Peter and I differ is that I emphasize Kirzner's attempt to bring the lessons of "Profit and Loss" to the attention of practicing economists circa 1960-1990. We are, after all, professional economists, not public intellectuals. As Paul Samuelson stressed, we scientists work for the applause of our peers, and we don't seek to write the laws or policies of any nation as long as we write the textbooks from which people learn economics. Kirzner was writing to a reluctant profession in the heyday of positivism and formalism, while trying to present an alternative vision of economic science to students and would-be professional economist. To do that, you have to begin with the existing conversation and engage in terms that your peers will understand and your students will be somewhat familiar with. I honestly have no idea what alternative we have *if* we are to stay as professional economists. Certainly there is some loss in the translation in paradigmatic clashes, but as in the debate with Lachmann and Kirzner's response about underlying and induced variables and a *given* institutional background, in my discussion with Peter I want to know how do we retain the core insights about general interconnectedness and theoretical constructs such as the equimarginal principle, the law of one price, and marginal productivity theory of factor pricing, and make conversational sense with our peers in this profession, unless we are willing to discuss in part on their terms and to tackle problems that they see in their own system. It isn't just a strategic ploy to invoke, as I do, Arrow, Fisher, and Dixit in my original essay. It is a communication point. Kirzner is an economic theorist – as Mises and Hayek were before him – and he is postulating an entrepreneurial solution to one of the most vexing problems in pure economic theory. It is an answer that Mises provided to his peers in his time, and it is an answer Hayek tried to clarify for his peers in his time. It is also what Kirzner tried to do during his era. And, I would say, it is what we must do in our era as well. We are professional economists engaged in a highly specialized technical discussion of how to understand how economic systems function. In our capacity as public intellectuals we can behave differently, just as Milton Friedman wrote differently in *Free to Choose* than in *A Theory of the Consumption Function*. The argumentative demands are different; the readers' expectations are different.

Perhaps Kirzner ultimately "failed" in his endeavor, but what other path could he have followed while achieving what he did, which was to publish his books with the University of Chicago Press, to become in the 1970s the leader of the Austrian theory of the market process in the eyes of the economics profession, and to emerge along with William Baumol as the top contemporary scholar responsible for the rediscovery of the entrepreneur in economic theory? Clearly the alternative path that Peter suggests in his comment would not have even tried to engage in that professional endeavor.

To put this even more pointedly, Tim Harford's recent books *Adapt* (2011) and *Messy* (2016) no doubt tell us more about real-world markets than, say, a textbook by Mas-Colell, Whinston, and Green (1995), but a professional economist wanting to nudge the conversation among professional economists would be on a fool's errand not to start the conversation with the commonly acknowledged shortcomings in Mas-Colell, Whinston, and Green, and move from there to discuss how to incorporate ideas from *Adapt* or *Messy*. I hope that helps clarify the position.

I will address Fred's comment in a follow-up post.

Endnotes

[12.] I put "philosophical" in quotes because most modern economists do not seek to justify their approach on any philosophy of science except pure conventionalism. Economics is what economists do, and there is no effort to situate the discipline's practices in the contemporary literature in the philosophy of science. That wasn't always the case – Milton Friedman and Paul Samuelson, and their various commentators in the 1940s and 1950s, did discuss their ideas as they related to the broader discipline of philosophy of science. But after the last real philosophical soul-searching in the 1980s, spearheaded by Deirdre McCloskey, the economics profession pushed that conversation to the periphery of the discipline and instead just got on with the task of doing economics. Debates certainly took place over methods of analysis and criticisms and improvements of various tools utilized by economists, but the basic nature of the scientific enterprise was assumed to be settled, and it is settled in a way that presumes the correctness of positivism (read really as empiricism) and formalism.

[13.] A presidential address to the London Economic Club, 10 November 1936, first published in *Economica* (February 1937). It was republished in James M. Buchanan, *The L.S.E. Essays on Cost*, ed. J.M. Buchanan and G.F. Thirlby (New York University Press, 1981). Online: </titles/105#lf0725_label_068>.

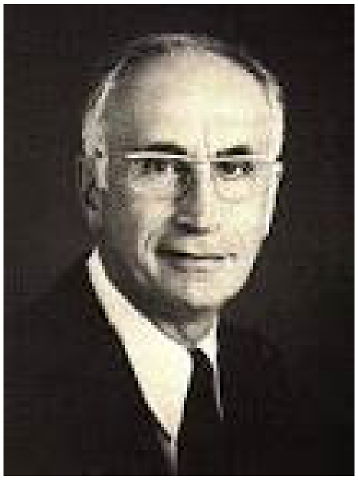
[14.] Klein's additional criticism that Kirzner's idea of alertness/discovery is worthless -- redundant at best and confusing at worst -- deserves serious consideration, and I will discuss it in a follow up comment.

THE CENTRALITY OF HUMAN PURPOSIVENESS

by Peter J. Boettke

Regarding Fred's comment, I will be brief, precisely because Fred and I are the co-editors of Kirzner's collected works and share many of the same intellectual positions on Kirzner. Fred raises a central question about the role of purposiveness. I agree with him that this *is the critical distinction* of the Mises-Hayek-Kirzner depiction of the competitive market process. A major problem with the way folks interpret Hayek's 1937 paper, "Economics and Knowledge," and his claim that he was criticizing Misesian a priorism is that they then believe Hayek is rejecting the pure logic of choice. Yet this is clearly not the case. In the most extreme interpretation, what you can say is that Hayek argued that the pure logic of choice is a necessary but not a sufficient component of an explanation of the market process. The pure logic of choice must be supplemented with an empirical examination of how alternative institutional arrangements impact economic learning among agents so they may coordinate their plans with one another.

The other major problem is to interpret the Mises argument for purposiveness as a robotic optimization machine, but again nothing could be farther from the textual evidence. To Mises man is forever hovering between alluring hopes and haunting fears, plagued by uncertainty and ignorance, yet capable of charting a new course for himself. He strives continuously to substitute a more satisfactory state of affairs for his current unsatisfactory one. He may stumble and even fall along the way, but in Mises's intellectual system this does not make him less "rational," only not very competent at the tasks under examination. Rationality in the Mises-Hayek-Kirzner system is a very weak form of rationality, and one must always be mindful of the distinction between the rationality of the individual and the rationality of the system.



Armen Alchian

In the original neoclassical and behavioral debate, the defenses offered by Armen Alchian, Fritz Machlup, and Gary Becker took on a certain form -- in Machlup it was widely interpreted as an "as if" defense, but that really wasn't his argument. His argument was instead consistent with Hayek's 1937 paper: actors in the economy may adopt various rules of thumb to aid them in making choices, but in the filter of competition the rules of thumb that will survive will be those that approximate the optimality conditions given the constraints. Becker would take the approach further, squeezing out for sake of argument that the rationality of the actor was even a necessary condition and demonstrating that in a competitive environment the budget constraint would do all the work and weed out any behavior not consistent with an efficient equilibrium. Alchian is often interpreted along Becker lines, but his position is actually closer to Machlup's than most understand. But there is no doubt that Alchian does invoke the survivorship principle in a more explicit way than Machlup.

The evolutionary metaphor has been attractive to economists since it became *en vogue* in science in the 19th and especially 20th century. This makes perfect intellectual sense because Darwin himself was greatly influenced by economists in developing the theory, so economists are simply incorporating back into their discipline ideas that are familiar. But the metaphor has also always generated contestation. Economics is a *human science*, and thus the purposes and plans of economic actors are at the center of the analysis from Adam Smith onward.

Machlup's student at John Hopkins, Edith Penrose, argued in response to Alchian that the evolutionary depiction of the market economy missed the central agent in the story. She argued that the use of "biological analogies in economics is to suggest explanations of events that do not depend upon the conscious willed decisions of human beings." ("Biological Analogies in the Theory of the Firm." *The American Economic Review* 42, no. 5 [1952]: 808.) The notion that firms merely "adopt" profit-maximizing strategies misses the fact that the selection of such strategies must be preceded by an entrepreneurial discovery of a previously unnoticed profit opportunity to satisfy previously unknown consumer preferences. She goes further to state that "paradoxically, where explicit biological analogies crop up in economics," about the "survival" of particular types of utility-maximizing behavior, "they are drawn exclusively from that aspect of biology which deals with the non-motivated behavior of organisms or in which motivation does not make any difference." It is only within an open-ended nature of choice that the discovery of new applications of means to ends occurs. This discovery process generates adjustments in the constellation of prices in the market process, which in turn generates greater coordination of plans between buyers and sellers, and as a consequence alters the survival conditions of firms.

And as Fred points out, this position is one Penrose shared with Kirzner in his dialogue in the journals with Becker and then James Buchanan. Kirzner argued that without reference to the purposive action of human participants in the process, the discovery and learning required to generate and adjust the constellations of prices that results in a dovetailing of plans would not emerge. A theory of the market process relies crucially on the purposiveness of human actors as the animating figures: they interact within alternative institutional environments which dictate how and what they learn about how best to pursue their ends, what are the most efficacious means in that pursuit, and how best to interact with others. Purposiveness accounts for their natural striving to achieve their ends. This brings me back to why in my essay I quoted Kirzner's foreword to Mises's *The Ultimate Foundations*. Any method and set of analytical tools that squeezes out human purposiveness will ultimately prove unfit to the task of explaining how markets work, and without an understanding of how markets work, our understanding of a society of free and responsible individuals will be without any grounding in *social science*. Kirzner's work compels the reader to not only think through the nature of the competitive market process -- the role that property, prices and profit and loss play in coordinating human economic activity -- but also the institutions that make possible economic progress upon which modern civilization depends.

ON FRAMEWORKS, THEORIES, AND MODELS: REPLY TO PETER BOETTKE

by Mario J. Rizzo

This is a very interesting and useful discussion not only of Israel Kirzner's ideas on entrepreneurship and market process, but also of Austrian economics more generally. The latter is really more important than the former because we Austrians are more and more pursuing new insights and paths in the development of modern Austrian economics. As I said in the late 1990s, I do not expect economics as an entire discipline or Austrian economics in particular to look the same in the next few decades as it did in the mid-20th century. Already we see a big difference between the Austrian work prior to the mid-80s and today. Much of this is thanks to Peter Boettke's efforts and to those of his students. But we also see the enormous revolution that is taking place in our discipline due to the development of behavioral economics. A major, but as of yet incomplete, transformation in the economic conception of rationality is underway. This is highly relevant to Austrian economics and to any theory of the market process based on Hayek's insight that the crux of the matter is learning and the social transmission of information.

> "I DO NOT WANT THIS DISCUSSION TO COME DOWN TO A QUIBBLE OVER THE WORDS "FRAMEWORK," "THEORY," AND "MODEL.""

I do not want this discussion to come down to a quibble over the words "framework," "theory," and "model." But if I imagine myself saying to a non-Austrian economist that Kirzner has a *theory* of the market process, I will find myself misunderstood. He or she will expect me to say a lot more than what Kirzner has developed in his work. He or she will deny that Kirzner's has such a *theory*. Why?

Let's examine just what Kirzner has argued. First, the market process is driven by entrepreneurship. Second, entrepreneurship is best conceived of as arbitrage ("costless"buying low and selling high). Third, before arbitrage can take place, the entrepreneur must be "alert to" or "notice" price inconsistencies (also called "errors"). Fourth, this activity "tends" to correct these errors in the direction of the fundamental underlying variables.

After the demise of the efficient markets hypothesis in its strong form, very few economists will deny that there is arbitrage. Whether all entrepreneurial activity is best characterized as arbitrage is another question. For example, Kirzner's scenarios cleverly interpret the adoption of a new technological innovation as arbitrage – resources were being used in an inferior way until the entrepreneur noticed that if they were combined in a different way (the innovation) they could yield greater value. But note that this scenario and as well as his others are *essentially static pictures of the world.* All the knowledge is there somewhere, but it is just not combined properly. In any event, how does the entrepreneur notice these things? Well, he just does. *How* he sees through the cloud of uncertainty is remarkably not part of economics. It is psychology. Kirzner's begins with the *fact* of entrepreneurial alertness and draws out implications. But if we do not understand the how, then what can we really say about the tendency to notice errors and to move toward equilibrium?

I think Kirzner *confuses the noticing of prices inconsistencies with a movement toward an equilibrium relative to underlying data*. This is fundamental. This is also where psychology of one sort or another must come into the picture. Behavioral economists as well as standard economists have been discussing bubbles and herding behavior. There have been claims that agents may suffer from all sorts of systematic biases. If, for example, most agents expect that a certain asset will appreciate in value (but they are wrong), the agent who knows that they are wrong can go broke by selling or shorting the asset as long as the over-optimism prevails. Furthermore, those who are less optimistic will sell to those who are more optimistic. They will have bought low and sold high. But they worsen the situation relative to the putative underlying data. Where is the tendency toward equilibrium?

John Stuart Mill

This brings us directly to the word "tendency." I have discussed the various meanings of "tendency" in Hayek's work in my "Hayek's Four Tendencies Toward Equilibrium" (in the bibliography). There I discussed John Stuart Mill's distinction between "tendency" and "disturbing causes." In effect he said that we call a "tendency" a force that we believe is dominant and a "disturbing cause" a force that we think is weaker or less conspicuous. I think this is at root an empirical matter. If we believe that there is a tendency toward equilibrium and that everything else is to be classified as "disturbances," we are really saying that the first force is empirically dominant. How can we say this without some concrete ideas about learning: not only learning about price inconsistencies (perhaps the simpler part) but also learning about the knowledge of other agents in the market? What they believe will affect the entrepreneur's behavior and thus can affect whether all that noticing produces a move toward equilibrium or not.

Kirzner indeed set up a framework that, in conjunction with Hayek's, focuses on the issue of alertness in markets. Good. But Kirzner's avoidance of the *how* of social learning leads him into substantive claims he cannot legitimately make. There is no escaping the empirical element in any theory of the market process. Without an elaboration of that empirical element we do not have a "theory" as most economists use the word. We have a framework but, I fear, a framework that does not easily direct us to the key issues. In summary, we cannot leap from the willingness or desire of agents to learn – purposefulness – to a tendency toward equilibrium.

WHAT DID KIRZNER ACCOMPLISH? REPLY TO PETE BOETTKE

by Peter G. Klein

In response to my criticisms of Kirzner's price theory, Pete ("Situating Kirzner") focuses on three related issues: 1) what Kirzner did, 2) how he did it, and 3) why he did it that way.

First: What is the nature of Kirzner's achievement? Pete describes some core insights of neoclassical economics -- an account of the interconnectedness of markets as well as the equimarginal principle, the law of one price, and the marginal productivity of factor pricing -- while noting an important gap: "the theory failed to provide a theory of adjustment and adaptation to changing circumstances." Fine, but my point is that Kirzner's work does not fill that gap. Kirzner does not offer a theory of adjustment and adaptation; he simply asserts that adjustment and adaptation take place (via the existence of entrepreneurial discovery). Most economists -- in particular, the neoclassical economists Pete tells us that Kirzner wishes to reach -- would understand a "theory" of adjustment to be a fully specified dynamic model or, at least, a set of comparative propositions: under conditions A, B, and C, adjustment and adaptation proceed along the lines of X, Y, and Z. But Kirzner steadfastly refuses to do this, because in his system, alertness is an explanatory primary.[15] Put simply, what exactly is a neoclassical economist supposed to get out of Kirzner's writings? What would this economist do differently, other than adding a footnote or introductory remark? "We assume that because of entrepreneurial discovery, market outcomes are close enough to the equilibrium results described here that the conclusions go through…."

Second, who is Kirzner's audience? Pete tells us repeatedly that Kirzner was not talking to the general public, or to Austrians, but to mainstream professional colleagues. "Kirzner was writing to a reluctant profession in the heyday of positivism and formalism, while trying to present an alternative vision of economic science to students and would-be professional economist. To do that, you have to begin with the existing conversation and engage in terms that your peers will understand and your students will be somewhat familiar with." I am not all sure of this. Kirzner certainly did not adopt the language and rhetorical methods of his professional peers -- after all, he used English prose, not mathematical models. Moreover, if Kirzner wanted to reach professional economists, why did he largely eschew the major professional journals? Kirzner has a lengthy CV (https://www.econ.nyu.edu/dept/vitae/kirzner.htm), but he has published mainly in "house" journals, outreach periodicals, and books, (which themselves were largely collections of previously published articles).[16] I suspect that few mainstream economists have heard of these outlets, let alone read the papers. (Pete will respond that Kirzner published books with the University of Chicago Press and with Routledge, but in mainstream economics departments these are not remotely comparable to articles in top-tier, peer-reviewed journals.)

Third, what else could Kirzner do? In Pete's words, "How [else] do we retain the core insights about general interconnectedness and theoretical constructs such as the equimarginal principle, the law of one price, and marginal productivity theory of factor pricing, and make conversational sense with our peers in this profession, unless we are willing to discuss in part on their terms and to tackle problems that they see in their own system"? Simple: we do it the way Austrian economists since Menger have done it: by using standard terminology as much as possible, by situating our work within the relevant literature, by engaging our critics, and so on. Kirzner's particular approach -- invoking the concept of entrepreneurial discovery to harmonize Mengerian insights with Marshallian, Walrasian, and Arrow-Debreuvian equilibrium analysis -- is one way to do it, but hardly the only way. Menger, Böhm-Bawerk, Wicksteed, Fetter, Davenport, Mises, Hayek, Rothbard, and most of today's practicing Austrians accept the interconnectedness of markets (which, as Mises noted in his introduction to the 1952 edition of *The Wealth of Nations*, is one of the great achievements of the British Classical School), some version of the equimarginal principle, and marginal-productivity theory, without adopting neoclassical equilibrium modeling. (See my 2008 article, "The Mundane Economics of the Austrian School," listed in the *Liberty Matters* bibliography, for details).

"…WHO IS KIRZNER'S AUDIENCE?"

To use just one example, marginal productivity is central to my own understanding of entrepreneurial profit and loss. In a hypothetical equilibrium state (such as Mises's evenly rotating economy), factor prices equal their discounted marginal revenue products (DRMPs). In the real world, entrepreneurs bid against each other for factors based on their beliefs about DMRPs, which are only realized ex post. The accuracy of these beliefs is what generates profit and loss: entrepreneurs earn profits when they can acquire factors at prices below the eventual realized DMRPs, and losses if they pay more than the DMRPs. To an Austrian, marginal-productivity theory doesn't say that factor prices always equal DMRPs, for then there would be no profit and loss -- the phenomena we are trying to explain!

Endnotes

[15.] See Foss and Klein (2010) for some critical comments on Kirzner's attempt to incorporate discovery into political economy. Kirzner wants to say that discovery somehow works better under conditions of economic freedom, but does not show how, because discovery is also present under socialism and in the mixed economy.

[16.] Besides his methodological exchange with Gary Becker in the *Journal of Political Economy* (1962), a methodological piece in the *Southern Economic Journal* (1965), a symposium paper on Menger in the *Atlantic Economic Journal* (1978), one paper in the *Eastern Economic Journal* (1978), and an invited review for the *Journal of Economic Literature* (1997), I count a large number of book chapters along with articles in the *Cato Journal*, *Critical Review*, *The Freeman*, *Il Politico*, *Intercollegiate Review*, *Journal des Economistes*, *National Review*, *New Individualist Review*, *Economic Affairs*, and so on. I'd guess less than 10 percent of Kirzner's total output appears in peer-reviewed journals.

A METHODOLOGY FOR PURPOSES AND PROCESSES

by Peter J. Boettke

Mario Rizzo in his characteristic style provides a carefully reasoned reply, which is fairly persuasive. He has, after all, written some of the most thoughtful essays among contemporary Austrian economists on the meaning of equilibrium and equilibrating tendencies. He has also written, I would argue, the most sophisticated piece on the centrality of human purposiveness in economic theory in his paper with Robin Cowan, the "Genetic-Causal Tradition and Modern Economic Theory" (1996).[17] So my agreement with Rizzo (a consequence of Rizzo's influence on my thinking during my years at NYU and since) is very deep, and I don't want to give the opposite impression when I push back slightly. I also don't want to necessarily get into a semantic squabble about the terms *framework*, *theory*, and *model*. So I hope to draw attention to a substantive point about learning in the Kirznerian system as I read it.

Rizzo concludes his comment as follows: "Kirzner indeed set up a framework that, in conjunction with Hayek's, focuses on the issue of alertness in markets. Good. *But Kirzner's avoidance of the how of social learning leads him into substantive claims he cannot legitimately make*"(emphasis added). There is no escaping the empirical element in any theory of the market process. Without an elaboration of that empirical element we do not have a "theory" as most economists use the word. We have a framework but, I fear, a framework that does not easily direct us to the key issues. In summary, he writes, "*We cannot leap from the willingness or desire of agents to learn – purposefulness – to a tendency toward equilibrium.*" (emphasis added)

My pushback relates exclusively to the emphasized words because I want to claim that this is the difference in Kirzner's system between *entrepreneurship* – the individual characteristic that individuals will be alert to that which it is in their interest to be alert to – and the *entrepreneurial market process* – which is a claim about the directedness of alertness toward mutual learning *within specified institutional environments*. Outside a specific institutional environment, alertness or purposiveness *alone* guarantees nothing except that individuals will strive to do the best they can given their situation. Other such broad-brush claims are made by Alchian when he says "more is preferred to less" A more standard claim is made that individuals maximize utility subject to constraints, where the arguments in their utility function remain unspecified. Again, consider Kirzner's claim -- individuals will be alert to that which it is in their interest to be alert to. As Kirzner put it in *Discovery and the Capitalist Process* (1985, emphasis in original), "Entrepreneurial alertness is not an ingredient *to be deployed* in decision making; it is rather something in which *the decision itself is embedded* and without which it would be unthinkable."[18]

Now it is important to remember here that neither Mises nor Kirzner is making any sort of claim about the competency of the decisionmaker in *achieving* the ends of their goal-directed behavior. *Striving* is not the same as achieving. Mises in *Theory and History* (Liberty Fund 2005 [1957], 178) perhaps provides, in my opinion, the best summary of the position:

> To make mistakes in pursuing one's ends is a widespread human weakness. Some err less often than others, but no mortal man is omniscient and infallible. Error, inefficiency, and failure must not be confused with irrationality. He who shoots wants, as a rule, to hit the mark. If he misses it, he is not "irrational"; he is a poor marksman. The doctor who chooses the wrong method to treat a patient is not irrational; he may be an incompetent physician. The farmer who in earlier ages tried to increase his crop by resorting to magic rites acted no less rationally than the modern farmer who applies more fertilizer. He did what according to his -- erroneous --opinion was appropriate to his purpose.[19]

Man in the Mises-Hayek-Kirzner system is fallible but capable. There are errors of execution evident in everyday life all around us. Yet we don't see many efforts to build bridges out of bubblegum, or skyscrapers with paper, or even railroad tracks with platinum. Why? Going back to Mises's quote, we did see doctors treating patients through blood-letting, and we did see farmers relying on magical rites. Why don't we see entrepreneurs in the modern economy making similarly wildly wrong "wishful conjectures," especially, when we consider the reality and sheer magnitude of failed business ventures? Every act of entrepreneurship is a wishful conjecture into a future that is unknown. What else would it mean for Kirzner to stress the "agony of choice" in human decisionmaking? But in the *entrepreneurial market process*, with the institutional ecology of private property and freedom of contract, and the corresponding aids to human reasoning provided by relative prices as guides, profit as inducement, and loss as discipline, the "wishful conjectures" of entrepreneurs in the system are bounded and directed. This is where the "tendency toward equilibrium" is to be found. It is (a) only against a background of a given set of institutions and (b) only because of relative price movements that guide decision makers and monetary calculation that this tendency occurs in appraisement of alternative projects. The critical functional insight of Mises-Hayek-Kirzner concerning monetary calculation within a market economy, its absence within a fully socialist one, and its distortion within the interventionist system is that the market enables decision makers to sort through the array of technologically feasible projects and select only the economically viable. Without monetary calculation, as Mises pointed out, exchange and production would be just so many steps in the dark and economic decision makers would be ensnared in the throng of possibilities, unable to figure out which way to go. "Wishful conjectures" would be unchecked and undisciplined. Such a world would be "chaotic" in Mises's sense of the word.

To clarify just a bit more, Mises's never said that actors under socialism would be irrational. But what they will not be able to do is engage in *rational economic calculation*. They would be "entrepreneurial," but they would not be able to learn within an *entrepreneurial market process*. Errors would become embedded in the system and would not be rooted out.

Any theory of a tendency of the economic system must, as Rizzo points out, explain how social learning takes place. But I am suggesting that in the Mises-Hayek-Kirzner framework/theory/model (whatever we call it) learning is a function of the *epistemic properties of alternative institutional arrangements*, and within a private-property order with freedom of trade, the learning mechanism is provided by relative price movements, the inducement provided by pure profit, and the discipline inflicted through losses.

Mises-Hayek-Kirzner put the theoretical puzzle of the study of man in such a way that one is compelled to ask, as Rizzo does, how is it that we learn how to coordinate with one another to realize the gains from social cooperation. But they did not themselves engage in the detailed empirical project of studying institutions, institutional change, and the performance of economic systems through time. This is why there are so many great gains from intellectual exchange with scholars who did so. One of the most insightful of these scholars was Elinor Ostrom, the Nobel Prize-winner in 2009, who in her classic work *Governing the Commons* (1990) states the connection between rational choice theory, institutional analysis and the complexity of social order as follows:

> As an institutionalist studying empirical phenomena, I presume that individuals try to solve problems as effectively as they can. That assumption imposes a discipline on me. Instead of presuming that some individuals are incompetent, evil, or irrational, and others are omniscient, I presume that individuals have very limited capabilities to reason and figure out the structure of complex environments. It is my responsibility as a scientist to ascertain what problems individuals are trying to solve and what factors help or hinder them in these efforts. When the problems that I observe involve lack of predictability, information, and trust, as well as high levels of complexity and transaction difficulties, then my efforts to explain must take these problems overtly into account, rather than assuming them away.[20]

Read closely, as I have argued repeatedly -- including in my book about the Ostroms published just before she was honored with the Nobel -- this rich research program provides us with a window into the study of learning within alternative institutional environments that is consistent (though certainly not identical) with the sort of scientific research program one can derive from Mises-Hayek-Kirzner.[21]

Rationality in this program is a "thin" conception, but the institutional analysis is "thick," and the devil is always in the details. The way entrepreneurship is transformed into concerted action that results in the dovetailing of plans is through the *entrepreneurial market process*. Without the institutions of property, contract, and consent, this *market process* does not work. Kirzner, in order words, never sought to achieve a theory of market-clearing from purposiveness alone. Instead, his contribution was to say that any theory of market-clearing had to account for purposiveness and process. Unfortunately, in his work the process was always specified against a *given* set of institutions and thus the unique epistemic properties of the private-property order were not as highlighted as should have been the case.

Context matters for Kirzner just as must as it mattered for Mises and Hayek, and more modern theorists who have emphasized the vital role of institutions in economics and political economy, such as James Buchanan, Ronald Coase, Douglass North, Vernon Smith, and Elinor Ostrom. Kirzner's contributions must be placed within the *mainline of economic thinking* from Adam Smith to today. The rational-choice postulate, or purposeful human action, must be squared with the "invisible hand" "theorem," or social cooperation under the division of labor, via institutional analysis. Different institutional arrangements have different properties about how we learn and what we learn. It is the private-property order, with its freely negotiated terms of exchange and the free decisions to buy or abstain from buying, that transforms our entrepreneurial alertness into the realization of the complex coordination of the modern economy. Prices guide us; profits lure us; losses discipline us -- this is how we learn. This is how markets work. This is how civilization progresses. And this is based on rules of property that serve to assign accountability, limit access, and offer graduated penalties when we fail to follow the rules. Studying the operation of alternative institutional arrangements is in a significant way an empirical project, but we cannot even get off the ground in that project unless we recognize human purposiveness and thus the entrepreneurial capacity to be alert to that which it is our interest to be alert to.

Endnotes

[17.] Robin Cowan and Mario Rizzo, "The Genetic-Causal Tradition and Modern Economic Theory," *Kyklos*, August 1996, vol. 49, pp. 273-317.

[18.] Kirzner, *Discovery and the Capitalist Process* (1985), p. 22.

[19.] Mises, *Theory and History* (Liberty Fund 2005 [1957]), p. 178.

[20.] Elinor Ostrom, *Governing the Commons* (Cambridge University Press 1990), pp. 25-26.

[21.] Peter Boettke and Paul Dragos, *Institutional Analysis and Development: The Bloomington School* (Routledge, 2009).

PRICE THEORY AND THE COMPETITIVE MARKET PROCESS

by Peter J. Boettke

Peter Klein has challenged my reading of Kirzner's contributions to economic science. Some of these are going to remain disagreements in judgment and intellectual tastes – similar to our dispute over whether UNC or Duke basketball is the better team to be cheering for. Others are more resolvable by looking at the "facts." But even there, we will disagree. If we compare Kirzner's CV to Gary Becker's or James Buchanan's, then, yes, Peter has a strong point that Kirzner didn't have the same level of success at publishing in the top three journals (*American Economic Review*, *Journal of Political Economy*, *Quarterly Journal of Economics*). But compared to other contemporaries, he did publish in a variety of professional journals, including the JPE, and by the 1970s he was widely acknowledged as the leading representative of the Austrian perspective in economic theory. This can be seen not only in his contribution to the Daniel Bell-edited volume, *The Crisis of Economic Theory*, but also his contributions to the *New Palgrave Dictionary of Economics* (in which he wrote the essay on the Austrian school) and his *Journal of Economic Literature* survey of the Austrian school. These were all, more or less, enterprises of the intellectual mainstream, and Kirzner is singled out as the go-to representative among his professional peers. He was the one to communicate the message of Mises and Hayek to these outlets. Why would that be the case unless he was at least quasi-successful in the intellectual enterprise I attributed to him?

He did write a lot for outlets that were favorably inclined to the Austrian message – but I mentioned that in my acknowledgement that he spent a significant portion of his intellectual energy to "education" – writing to students and others about the power of the Austrian tradition to yield valuable insights about the market economy. But his desire to do so by situating the Austrian contributions in the long history of the scientific and scholarly tradition of economic thought, from the classics to his day, was not something unique to him. It was a trait he shared with Mises and Hayek. One must remember that even late in their careers, neither Mises nor Hayek thought the Austrian school was a unique alternative to neoclassical economics, but rather neoclassical economics at its finest. This was an opinion shared by their Viennese colleagues such as Fritz Machlup. In retrospect we can see that a variety of themes from the Austrian school could never be absorbed effectively into what became the mainstream discourse in neoclassical economics, but it is also a mistake, I'd contend, to see a complete disconnect between traditional price theory and the Austrian school.

Adam Smith

In studying the history of ideas we must distinguish between plausible readings, productive readings, and "correct" readings. We cannot jump back in time and know exactly what was inside an author's head, and the words on the page are never enough. So instead we are left with sets of plausible and productive readings of an author and thus assessments of his/her contributions. We contrast those not with "correct" readings, but with implausible and unproductive readings. My point isn't any concession to postmodernist philosophy; it is just a fact of intellectual life. We read with *our* glasses on, even if we try to pretend that we don't. And in a *great scientific enterprise* like economics, this is true across the board, whether we are dealing with Adam Smith and David Hume or Mises and Hayek. There can be multiple plausible readings, and even multiple productive readings, though the set of productive readings will narrow from the scope of plausible.

In answering a question his teacher Mises put to him, Kirzner clarified the history of the discipline, from a science of wealth to a science of human action. This put purposiveness at the center of all economic explanations and understanding. The centrality of purpose would result ultimately in a theory of the economic process that focused on exchange relations and the institutions within which exchange relationships are formed. Kirzner focused primarily on one specific institutional environment, namely, the private-property order and then studied how exchange relations relied on relative prices and profit and loss to guide, lure, and discipline. Entrepreneurship in essence just follows from purposiveness, but the entrepreneurial market process follows from purposiveness operating within a private-property market economy.

Kirzner's plausible and productive reading of Mises and Hayek for the construction of the modern Austrian theory of the price system and the competitive market process follows from developing key passages from Mises and Hayek about the nature of the price system. Consider carefully Mises's discussion in *Socialism* about the role of prices in the economic system:

> In an exchange economy, the objective exchange value of commodities becomes the unit of calculation. This involves a *threefold advantage*. In the first place we are able to take as the basis of calculation the valuation of all individuals participating in trade. The subjective valuation of one individual is not directly comparable with the subjective valuation of others. It only becomes so as an exchange value arising from the interplay of the subjective valuations of all who take part in buying and selling. Secondly, calculations of this sort provide a control upon the appropriate use of the means of production. They enable those who desire to calculate the cost of complicated processes of production to see at once whether they are working as economically as others. If, under prevailing market prices, they cannot carry through the process at a profit, it is a clear proof that others are better able to turn to good account the instrumental goods in question. Finally, calculations based upon exchange values enable us to reduce values to a common unit. And since the higgling of the market establishes

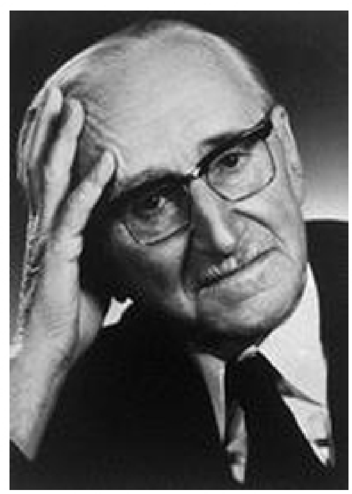
> substitution relations between commodities, any commodity desired can be chosen for this purpose. In a money economy, money is the commodity chosen.[22]

Property, prices, and profit/loss provide the constellation of institutions and commercial practices that make advanced material production possible. Without them, economic calculation would not be possible. For this constellation provides "a guide amid the bewildering throng of economic possibilities."[23]

Rational economic calculation is able to sort out from among the feasible those commercial activities that are viable. It does so by constantly exerting its influence on decision makers. But again it is not always the case that the existing entrepreneur is the one who responds more effectively to the situation. As Hayek stressed in responding to the model of market socialism, the competitive process itself cannot be undersold in the theory of the coordination of economic activities through time.

> For the purpose of this argument it may be granted that they [socialist managers] will be as capable and as anxious to produce as cheaply as the average capitalist entrepreneur. The problem arises because of the most important forces which in a truly competitive economy brings about the reduction of costs to the minimum discoverable will be absent, namely, price competition. In the discussion of this sort of problem, as in the discussion of so much of economic theory at the present time, the question is frequently treated as if the cost curves were objectively given facts. What is forgotten here is that the method which under given condition is the cheapest is a thing which has to be discovered, and to be discovered anew sometimes almost from day to day, by the entrepreneur, and that, in spite of the strong inducement, it is by no means regularly the established entrepreneur, the man in charge of the existing plant, who will discover what is the best method. The force which in a competitive society brings about the reduction of price to the lowest cost at which the quantity saleable at that cost can be produced is the opportunity for anybody who knows a cheaper method to come in at his own risk and to attract customers by underbidding the other producers.[24]

So what do we see Hayek emphasizing? Discovery, adaptation, adjustment, and competitive behavior, with the result being the rather traditional price theory conclusion that if the process worked its way to completion and if we froze all subsequent changes, then price would equal marginal costs, and all least-cost methods of production would be utilized. Of course, the process never ceases precisely because of constant change. Economic problems arise, as Hayek put it in his famous "The Use of Knowledge in Society" (1945), precisely as a consequence of change.[25] Kirzner synthesized the complementary yet distinct contributions of Mises and Hayek into his own coherent account of the entrepreneurial market process, which, just like Mises's and Hayek's accounts before him, sought to communicate to his scientific peers what was missing from their explanation and how it might be repaired.



Friedrich von Hayek

The Mises-Hayek-Kirzner view on the problems of rational economic calculation within socialism should be flipped so we can see how they view what the market economy is able to accomplish. If we do so we will highlight in that discussion the role that monetary calculation plays in enabling advanced material production and the systemic order we experience in the market. The production plans of some are meshed with the consumption demands of others such that at any point in time the mutual gains from trade are being explored and the gains from technological innovation are being exploited. This, I would argue, is the mechanism by which Mises is able to discuss the social cooperation under the division of labor that modernity was able to realize. Absent the ability to realize the gains from social cooperation under the division of labor, mankind is reduced to a miserable existence and a war of all against all for control of vital scarce resources.

Our ability to understand the mechanism by which markets coordinate the plans of decision makers through time in such a way that they realize the mutual gains from trade and innovation is critical. Yet much of the 20th-century philosophical movements cut against such an understanding. The alliance of scientism and statism fueled by formalism and positivism on the one hand and socialism and progressivism on the other distorted economic understanding. Mises-Hayek-Kirzner offer a serious warning about the consequences not only for scientific understanding, but also for social-philosophical questions about a just and humane social order, which is made possible only by the advanced material production of the unhampered market economy.

That is the project which Kirzner's body of work contributed to and advanced so that the next generation of economic thinkers could pick it up and improve on it for their time and place. It is up to us to engage in the plausible and productive readings of the Mises-Hayek-Kirzner contributions to price theory and the competitive market process and to develop the argument in a way that persuades our professional colleagues that the more traditional models based on formalism and the empirical approaches based on positivism have misled and distorted rather than improved and clarified our understanding.

Endnotes

[22.] Mises, Ludwig von. 1922 (1951). *Socialism: An Economic and Sociological Analysis*. New Haven, CT: Yale University Press. Quote, 115, emphasis added. Online version: Ludwig von Mises, *Socialism: An Economic and Sociological Analysis, trans. J. Kahane, Foreword by F.A. Hayek* (Indianapolis: Liberty Fund, 1981). </titles/1060#Mises_0069_236>.

[23.] Ludwig von Mises, *Socialism: An Economic and Sociological Analysis*, trans. J. Kahane, Foreword by F.A. Hayek (Indianapolis: Liberty Fund, 1981). </titles/1060#Mises_0069_241>.

[24.] Hayek, F.A. 1940. "Socialist Calculation: 'The Competitive Solution.'" *Economica* 7(26): 125-149. <http://gretl.ecn.wfu.edu/~cottrell/ope/archive/0704/att-0269/01-Hayek3.pdf>. Quote p. 523.

[25.] Hayek, F.A. 1945. "The Use of Knowledge in Society." *The American Economic Review* 35(4): 519-530. Online version: Friedrich August von Hayek, "The Use of Knowledge in Society," *American Economic Review*, XXXV, No. 4; September, 1945, pp. 519–30. </titles/92#Hayek_0766_3>.

PETE IS RIGHT AND WRONG AND RIGHT AND MAYBE WRONG

by Mario J. Rizzo

I find myself in agreement in many respects with Peter Boettke's thoughtful response. But I do not think he saves Kirzner's approach.

Where Pete Is Right

It is entirely correct to distinguish between entrepreneurship and the entrepreneurial market process. People can be alert to opportunities in any institutional context. There was entrepreneurship in the Soviet Union, and there is now in North Korea. But it was not and is not an entrepreneurial market process. For that, as Pete rightly argues, there must be property and contract rights, market prices, and profit and loss. These are the broad institutional prerequisites. They are necessary conditions for an effective market process. It is also true, as Mises and others have argued, that individual rationality does not preclude mistakes. I take that to imply that an entrepreneurial market process with the above prerequisites will sometimes produce error or disequilibrating outcomes.

Where Pete Is Wrong

My point is that Kirzner's institutional framework is too "thin" for the job at hand. We are not arguing, as I said initially, about the comparative merits of socialism and capitalism. For that argument Kirzner's (and Mises's) framework is "thick" enough. But if we are going to claim an empirical tendency toward equilibrium we must attend to the transmission of knowledge – the learning processes – in markets in a thicker way. Kirzner does not do that.

Where Pete Is Right Again

On the other hand, if we begin to "borrow" from the work of Vernon Smith, Elinor Ostrom, James Buchanan, Douglass North, Hayek of *The Sensory Order* (1952)[26] and, I would argue Gerd Gigerenzer, then a synthesis of their work and Kirzner's will add a great deal of "thickness" to the framework of the entrepreneurial market process. Unfortunately, none of us is entirely sure what this synthesis would look like since it is in the process of emergence – thanks in no small part to Pete's efforts. I entirely agree that this synthesis is the way to go forward.

Where Pete Is Wrong (Maybe)

So the question – at least for me – boils down to just how important Kirzner's contribution is to the emerging synthesis. I think that an arbitrage theory of profit does have its strengths – a single unified way of looking at entrepreneurship and market processes. Nevertheless, the focus of Kirzner's theory has been too much on the arbitrageur aspect and not enough on the creative-insight aspect. It is true that Kirzner does talk about entrepreneurial creativity, but it always seems rather static. If we really incorporate the Hayekian idea of competition (the market) as a discovery procedure, then that process will produce unpredictable outcomes. Agents will have to guess what others are doing or will do or what they expect. Bubbles can happen. Herd behavior can happen. The pursuit of profit and the earning of profit can, in certain epistemic conditions, lead to disequilibration. To find out what limits these phenomena, we must get thicker in our analysis than Kirznerian institutions by themselves allow.

My answer to the question of the importance of Kirzner's contribution to the synthesis that Pete wants is nuanced. I think Kirzner must get a tremendous amount of credit for bringing up process issues over and over again – since 1973 at least – when many major economists were content to stick with the equilibrium analysis. I think there were also advances in our understanding, especially in the ethics of profit. But the specific approach he pursued is too static for the monumental task of a theory of the market process. This is not to say that the impetus he gave to Austrians and others to pursue these issues was not great. It was and is. After all, there is this discussion. So I give Kirzner much credit in helping develop Austrian economics in a good direction, though perhaps not in exactly the direction he intended.

Endnotes

[26.] Friedrich A. Hayek, *The Sensory Order: An Inquiry into the Foundations of Theoretical Psychology*, with an introd. by Heinrich Klüver (London: Routledge and Kegan Paul, 1952: University of Chicago Press, 1952).

STILL NOT CONVINCED

by Peter G. Klein

We are picking nits now, but a brief reply to Pete's latest comment.

First, it's certainly true that alertness and discovery were in the Austrian literature before Kirzner made them central to his analysis of the market process. Having written a book chapter on the history of the alertness construct[27] – which has its origins in Wieser and Hayek – I can hardly disagree. My point has been that the "mainline" of Austrian price theory from Menger to

Böhm-Bawerk, Wicksteed, Fetter, Davenport, Mises, and Rothbard (and, arguably, Hayek's business-cycle theory) has little or nothing to do with processes of convergence toward Marshallian or Walrasian equilibrium. (There is certainly adjustment, as I noted before, via the competitive process of selection among better and worse entrepreneurs.)

Eugen von Böhm-Bawerk

Second, Pete often draws a contrast between Kirzner, who he says engaged primarily with his professional peers, and contemporaries such as Henry Hazlitt, Hans Sennholz, or Murray Rothbard, who focused on public education, undergraduate teaching, or libertarian outreach. By Pete's own measures, there is not much evidence for this. Kirzner published the exchange with Becker in the *Journal of Political Economy*; Rothbard published in the *American Economic Review*, *Quarterly Journal of Economics*, and *American Political Science Review*. Kirzner contributed three invited entries to the New Palgrave; Rothbard contributed five. (Rothbard died in 1995, two years before Kirzner published his invited paper in the *Journal of Economic Literature*.) The point, of course, is not to denigrate Kirzner's professional accomplishments, but to keep the discussion focused on the merits. If Kirzner's analysis is incorrect, incomplete, or simply unclear, it will not do to say, "He had to write it that way, given the audience he, alone among Austrians, was trying to reach."

I'm still waiting for Pete to explain what Kirzner's particular articulation of the market process adds to our understanding of value, exchange, production, growth, business cycles, regulation, and so on.

Endnote

[27.] Foss, Nicolai J., and Peter G. Klein. 2010b. "Entrepreneurial Alertness and Opportunity Discovery: Origins, Attributes, Critique," in Hans Landström and Franz Lohrke, eds., *The Historical Foundations of Entrepreneurship Research* (Cheltenham, U.K.: Edward Elgar), pp. 91–120.

IS A MARKET PROCESS THEORY PURELY BASED ON THE LOGIC OF CHOICE REALLY IMPOSSIBLE?

by Frederic Sautet

In order to provide some comments on the discussion between Mario and Pete, I went back to Hayek's paper, "Economics and Knowledge" (a presidential address to the London Economic Club, November 10, 1936; first published in *Economica*, February 1937).[28] My proposition is as follows: *Hayek saw individual learning and the tendency towards equilibrium as empirical problems because he did not care enough about the role of the entrepreneur in pure theory*.

It is known that Hayek has only a few direct references to the entrepreneur in his entire work. I only know of two (but I am sure there are others). One of them is in *The Constitution of Liberty* (chapter 5, section 7). The other one is in "Economics and Knowledge"on page 44 (more on this below).

In "Economics and Knowledge" Hayek states several times that the hypothesis of a tendency towards equilibrium and that of learning (which are two sides of the same coin) are empirical propositions. For instance: "the assertion of the existence of a tendency towards equilibrium is clearly an empirical proposition" (p. 44).

The issue of learning is the crux of the matter in Hayek's paper. He states: "If we want to make the assertion that, under certain conditions, people will approach [the equilibrium state], we must explain by what process they will acquire the necessary knowledge" (p. 45). We need to know "how experience creates knowledge" (p. 46).

According to Hayek, two issues are unresolved in equilibrium analysis: "(a) the *conditions* under which this tendency is supposed to exist, and (b) the nature of the *process* by which individual knowledge is changed" (p. 44, italics in the original).

Following Mario and Pete, I propose two solutions: (a) institutions and their enforcement mechanisms (i.e., the epistemic role of institutions in learning), and (b) the entrepreneurial process (i.e., the role of discovery in the existence of a tendency). Hayek doesn't really propose either of these two solutions in his 1937 paper. (He briefly mentions "institutions" on page 53 but in the sense of the media, the press, advertising, etc.) But we must note that Hayek's questions call for exactly the answers that Kirzner provides.

Hayek explains on page 44, however, that the tendency towards equilibrium means that "the expectations of the people and particularly of the entrepreneurs will become more and more correct" over time. That point is very similar to Kirzner's view about how entrepreneurs discover new opportunities that imply a learning process of mutual discovery.

Overall, Hayek's own response to the issue of learning is disappointing. Pages 48-54 are filled with theoretical insights but not many clues as to how to put empirical content in the learning process. More surprisingly perhaps, he even states on page 53 that he "very much doubt[s] whether such [empirical] investigation would teach us anything new."

We can conclude from a closer examination of Hayek's paper that he perhaps identified an interesting problem, but he realized that the solution was elsewhere. Hence, I see my proposition as valid, i.e., that Hayek saw individual learning and the tendency towards equilibrium as empirical problems because he did not care enough about the role of the entrepreneur in pure theory — and, I would add, the role of institutions (as in the rules of the game and their enforcement) -- in his 1937 paper (although he studies the role of institutions elsewhere in his work).

Now let's turn to Kirzner's view. First, he makes the following statement in *Competition and Entrepreneurship*:

> There is nothing in the picture of a market of purely Robbinsian decision-makers, even with the injection of liberal doses of ignorance concerning the ends and means believed to be relevant, which can explain how yesterday's market experiences can account for changes in plans that might generate alterations in prices, in outputs, or in the use of inputs. For this is it necessary to introduce the insight that men learn from their experiences in the market. It is necessary to postulate that out of the mistakes which led market participants to choose less-than-optimal courses of action yesterday, there can be expected to develop systematic changes in expectations concerning ends and means that can generate corresponding alterations in plans.[29]

Kirzner associates any learning capability with the "entrepreneurial element" of human action. Only *homo agens* is capable of learning, not the Robbinsian maximizer.

In "Hayek, Knowledge, and Market Processes"[30] Kirzner offers an analysis of Hayek's work on knowledge, including his 1937 paper, and discusses Hayek's contention that learning is an empirical proposition and cannot be part of the logic of choice. Kirzner's criticism consists in saying that Hayek erroneously equates the logical proposition concerning learning and the revision of expectations that individuals may engage in, on the one hand, and the particulars of that process, on the other. As Kirzner puts it: "It is one thing to postulate an equilibrating tendency on the basis of the general character of human action; it is quite another to account for the concrete pattern of events in which this tendency happens to manifest itself".[31]

Hayek, Kirzner contends, is concerned with the "empirical accidents of the learning process," as opposed to the pure logic of entrepreneurial discovery, as he probably overlooks the "difference between learning facts and discovering opportunities" (1979, p. 29).

As I see it, the logic of Kirzner's analysis is:

> **Errors exist (price gaps) —> May lead to their discovery**
>
> **—> Formulate purpose —> May lead to positive learning**

What I mean by "may lead to positive learning" is that learning something that improves one's own situation may not always follow from discovery and purpose. Indeed, "insights into the entrepreneurial element in human action does not by itself assure us that people necessarily learn the correct facts of their situations from their market experiences" (1979, p. 29). Kirzner explains further: "Can we be sure that, confronted with a surplus, would-be sellers will realize that they must accept lower prices in the future? Can we be sure that, when more than one price prevails for the same item, entrepreneurs will indeed learn of this and move toward the elimination of the price differential?" (1979, p. 29). The answer is *no*. Individuals may fail to discover errors *and* they may also fail to learn the correct facts.

But the fact that learning can be faulty (that price bubbles exist, that herd behavior is common, etc.),[32] does not imply that man cannot learn anything. This goes back to Pete's point about the nature of man's action: "fallible but capable." Alertness and the entrepreneurial element in human action guarantee man's capacity to learn, even though it can be imperfect. As Kirzner puts it:

> The entrepreneurial alertness with which the individual is endowed does not refer to a passive vulnerability to the impressions impinging on his consciousness during experience in the manner of a piece of film exposed to the light; it refers to the human propensity to sniff out opportunities lurking around the corner…. We have no assurance that a man walking down the street will, after his walk, have absorbed knowledge of all the facts to which he has been exposed; we do, in talking of human action, assume at least a tendency for man to notice those that constitute possible opportunities for gainful action on his part. [1979, p. 29]

Could *purposeful action* (driven by the entrepreneurial element) rest on something other than the noticing of opportunities for gainful action? I don't see how it could. Kirzner's proposition that we can assume "a tendency for man to notice those [facts] that constitute possible opportunities for gainful action" is on par with Adam Smith's propensity to trade and barter. It is *that* important. "It is enough," writes Kirzner, "to recognize this propensity [to discover opportunities] as inseparable from our insight that human beings act purposefully" (1979, p. 30). Purpose and discovery of opportunities (and hence positive learning as the case may be) are two sides of the same coin.

Moreover, "Our insight that opportunities tend to be discovered assures us that a process is set in motion by disequilibrium conditions as these opportunities are gradually noticed and exploited" (1979, p. 30). Kirzner sees entrepreneurially generated events in the marketplace as *related* to earlier or future events in a *systematic way*. Human beings are capable of sheer novelty, and their actions can be originative, as G.L.S. Shackle explains, but as far as entrepreneurship is concerned, these actions are *not un*related (as they would be in the case of Shacklean originative choice) to the environment in which they take place. In that sense, Kirzner links discovery to learning (of the correct facts of the environment). If choice were truly always Shacklean, then it would not lead to learning. Instead, discovery may lead to learning because it is related to the environment in which the discovery takes place. This is why Kirzner insists on talking of "discovery" and not "imagination." As Kirzner puts it: "The genuine novelty I attribute to the entrepreneur consists in his spontaneous discovery of the opportunities marked out by earlier market conditions (or by future market conditions as they would be in the absence of his own actions)" (2015, 147).[33]

In conclusion, a market process resting entirely on the Logic of Choice *is* possible!

Endnotes

[28.] Friedrich Hayek, "Economics and Knowledge" (a presidential address to the London Economic Club, November 10, 1936; first published in *Economica*, February 1937).

[29.] Israel Kirzner, *Competition and Entrepreneurship* (2013), p. 56.

[30.] Kirzner, "Hayek, Knowledge, and Market Processes" in *Perception, Opportunity, and Profit*, (Chicago: Chicago University Press, 1979), pp. 13-33.

[31.] Ibid., (1979), p. 31. See also Kirzner (1979, p. 25) for a more detailed explanation.

[32.] Note that most of these phenomena are induced by government's manipulation of money and credit.

[33.] Israel M. Kirzner, "Entrepreneurship, Economics, and Economists," in *The Collected Works of Israel M. Kirzner*, *Austrian Subjectivism and the Emergence of Entrepreneurship Theory*, Peter J. Boettke and Frederic Sautet, eds., (Indianapolis, IN: Liberty Fund, 2015 [1979]), pp. 139-50.

LOCAL VERSUS BROADER EQUILIBRIUM

by Mario Rizzo

I once asked Israel Kirzner whether entrepreneurs specifically intend to bring about some form of equilibrium or move prices toward their equilibrium values. His answer was no, and that is correct.

It is no doubt true, as Pete and Fred say, that entrepreneurs intend or strive to uncover price discrepancies which they can exploit in order to make profits. Even when they are successful in so doing, they do not necessarily move the system in an equilibrating direction. Here we must avoid defining the equilibrium as simply the elimination of the particular inconsistency. Mere local inconsistency is not what Kirzner was talking about and most assuredly not what Ludwig Lachmann was talking about. The local equilibrium may be of interest for some purposes. Instead, the larger issue is whether this particular entrepreneurial act contributes to a more general sustainable equilibrium or whether it exacerbates the errors in the system.

If a large number of traders are fooled by animal spirits and believe housing stocks are going very high, a clever entrepreneur may buy from the pessimists and sell to the optimists, and he will make money. And as optimism grows he may be able to continue selling at higher and higher prices. He will have eliminated price inconsistencies. But the market, ex hypothesi, is not sustainable. So the local equilibrium did not contribute to producing an overall equilibrium.

Whether this is all due to some form of government intervention is an open question. Perhaps it is. But I do not think such issues will be always and everywhere due to government.

Therefore, I think it is important to explore what economic agents learn from their experience in a way that is broader that the simple focus on price inconsistencies. Entrepreneurs can make profits by eliminating local inconsistencies, but that does mean that this will equilibrate the market in a broader sense. In specific environments buying low and selling high may feed expectations of *further rises* in price among traders who have incorrect expectations.

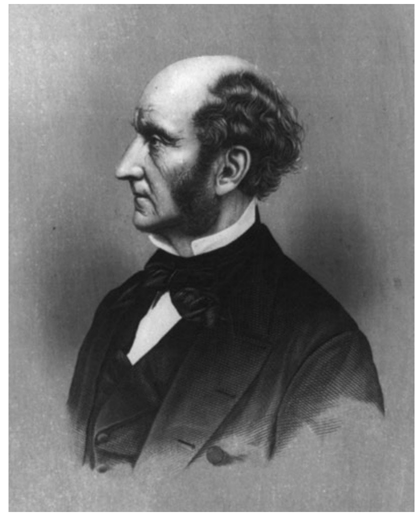
A theory that pays attention to learning processes must deal with aberrations as well as successes. Alertness is about discovering price inconsistencies. This is the first level of learning. Entrepreneurs can make mistakes here. Most of us seem to agree with that. But there is a second level that involves the interpretation of how others are acting and thinking. An entrepreneur will profit by selling an asset to individuals who believe its price will rise *even though* the entrepreneur himself believes that it will not rise and that the individuals are mistaken. When in fact they are mistaken (especially when there are many such people) the entrepreneur has not moved the system toward equilibrium in the broader sense.

CAN A THEORY OF THE MARKET PROCESS DEAL WITH OUTLIERS? OR, WHY WE SHOULD UNDERSTAND EQUILIBRIUM TENDENCIES AS A CONSTANTLY HIGH DEGREE OF SOCIAL COORDINATION

by Frederic Sautet

The question of equilibration, which has invaded many discussions of market-process theory in the last 40 years, is still alive and well. But we shouldn't lose sight of the fundamental issue at stake: the existence of social order. Why, in the absence of a system of central command, is there social order rather than social chaos in a free-market economy? Others have asked the same question in a different way: how does Paris get fed? It boils down to explaining the complex chains of causes and effects. Thanks to Hayek's insistence (and others, such as Hans Mayer), we know that equilibrium analysis only provides an instrumental-causal explanation (what prices and quantities secure equilibrium?). Instead, we are looking for a genetic-causal explanation (how prices, quantities, and diversity of goods come to exist?).[34] I assume we all agree on this.

Mario contends that entrepreneurs seizing gains from trade locally doesn't imply that the entire economy is moving towards some equilibrium. The reason is because this activity may actually be pushing the entire social order away from a state of coordination rather than closer. That may be true, but I don't think this phenomenon invalidates a pure Logic of Choice theory of the market process.



John Stuart Mill

One may use John Stuart Mill's distinction that Mario introduced into the discussion. Question: assuming they are not induced by faulty government policies, are the phenomena (housing bubbles, herd behavior, etc.) under discussion mere disturbances or tendencies? One reasonable case can be made that they qualify as disturbances, not tendencies. Indeed, in the free market, clusters of errors of that nature do not last for all time. They can be damaging to many agents in the economy for some time, but the mechanism of profit and loss eventually reasserts itself in the right direction.

Take the stock market as an example. Value investors such as Graham, Buffett, and Munger know well that one may lose more than 50 percent of one's investment before making money. I remember Munger explaining, many years ago, that anyone who is not able to withstand (psychologically) such potential losses should not be in the business of investing. A consequence is that holding an asset for less than five years makes it impossible to assess correctly its quality -- a major rule of value investing à la Graham. In many cases the "optimal" holding period is forever. Any particular stock may see its value vary widely over long periods, but eventually the quality of the investment will drive the stock price. Value investors know this, and they consistently find gains from trade over time: Buffett, Munger and *many* others have done it.

Hence one element has been missing from our conversation. As Gerald O'Driscoll and Mario explained well, we must think of the market process as taking place in real time.[35] Once one incorporates time into the analysis, Mario's distinction between local and broader equilibrium becomes spurious. Indeed, the concrete pattern of events taking place (in real time) may include outliers and other errors that reinforce themselves for a long while, but not forever. Value investors eventually are vindicated (if indeed it was a faulty bubble), as other investors realize their past erroneous assessments. My point is that *there is no standard of time to judge the extent to which learning has taken place*. Over the long run (whatever that may mean), local disturbances, such as price bubbles, fade into history. This pattern is seen over and over again in the stock market (and in other markets). What always remains are tendencies for potential gains from trade and innovation to be seized, for prices to gravitate closer to marginal and average costs, etc.

If there is some discussion to have about equilibration, it is not with regard to a situation in which all possible gains from trade and innovation would be exhausted and perfect coordination would be effected. (This situation serves as a foil in some, but not in all, cases.) The discussion to have is with regard to the existence of social order, defined as *the constant (or continuous) emergence of a high degree of social (or plan) coordination* (*or a high degree of exhaustion of potential gains from trade and innovation*). I think this is exactly what Kirzner talks about (and also Gerald, Mario, Pete, and many others). The market process does not generate perfect coordination, but constantly produces a dynamic movement, which maintains a high -- but not perfect -- degree of social coordination.

This process is possible because the market consists in the simultaneous elimination of innumerable local price discrepancies over time. Some entrepreneurial errors -- which Mario mentions -- may be exacerbated and will only disappear over time, but other opportunities may be seized rapidly and will bring prices down to the level of costs within a shorter time.[36] I don't see how -- short of faulty government policies -- the existence of disturbances (however strong they may be) that create discoordination over some period of time can invalidate the fundamental insight Kirzner unearthed (but which had been *the* insight of mainline economics since the classical period and before), i.e., the tendency for induced variables to gravitate towards the values of underlying variables, *over time*, thereby creating a constantly high degree of social coordination.

Endnotes

[34.] See Cowan and Rizzo's (1996) excellent article on the topic.

[35.] Gerald P. O'Driscoll Jr. and Mario Rizzo, *The Economics of Time and Ignorance*, 2d ed, (London: Routledge 1996).

[36.] And this is without mentioning other issues such as the difficulty of replicating certain specific assets, which makes it harder for others to pursue some opportunities for profit, etc.

CLOSING THOUGHTS

by Peter G. Klein

I've really enjoyed this exchange and am grateful to Pete, Mario, and Fred for their comments and responses.

I often get asked by students, practitioners, or journalists, "What is the Austrian theory of X?" In most cases, there isn't one -- that is, there is no single Austrian approach to a given topic. The Austrian tradition includes a rich variety of theories, models, and perspectives on key concepts, mechanisms, and phenomena.

As I hope this discussion has made clear, the same applies to competition and entrepreneurship. Kirzner has made important influential contributions to the modern Austrian literature on prices, markets, capital, and entrepreneurship. But while Kirzner draws on the powerful insights of Menger, Mises, Hayek, and others, his approach to the market process is his own. Kirzner's theory of entrepreneurship ranks with Knight's and Schumpeter's as foundational to contemporary entrepreneurship research. But Kirzner's theory is not "the" Austrian theory of entrepreneurship or "the" Austrian account of the competitive market process. In the spirit of Kirzner's own careful scholarship, we should continue to explore and appreciate a diversity of approaches within the Austrian tradition.

COORDINATION IS THE PROBLEM, ENTREPRENEURSHIP THE SOLUTION

Peter J. Boettke

Thanks to David Hart and Sheldon Richman for organizing this discussion, and to Mario, Peter, and Fred for their participation in this exchange of ideas on the nature of competitive behavior and the entrepreneurial market process. Hopefully, in our respective assessments of the contributions of Israel M. Kirzner, we have articulated some key insights in the theory of price and the theory of markets which are not limited to evaluation of Kirzner's work.

Differences remain among us as a result of (a) matters of intellectual tastes, (b) rhetoric and semantics, and (c) analytics and substantive claims about prices, profits, and markets. For my part, however imperfect in expression, I have tried to suggest that scientific progress will come from engaging analytical and substantive claims and trying to put aside the other sources of our differences. This is easier said than done, however. But still, in my judgement the critical issue boils down to how individuals *learn* under *alternative institutional arrangements* and understanding what adjustments and adaptations they must make to realize the mutual gains from social cooperation under the division of labor.

The central puzzle of the discipline of economics since its inception as a systematic body of thought has been how dispersed and diverse individuals who populate an economy are able to achieve complex coordination without a commanding authority dictating what is to be done, who is to do it, and for whom will it be done for. Instead, the tug and pull of competitive efforts will prod, direct, and encourage individuals to behave in such a way that the production plans of some will mesh with the consumption demands of others. Mutually beneficial exchanges will occur; least-cost technologies will be employed; and wealth will be created throughout the economic system. The prime mover in this process of coordination is the entrepreneur, who within an environment of well-defined and well-enforced private property rights, freedom of trade and association, sound money, and fiscal responsibility will act on any discrepancy between the induced (property ownership, relative prices, and profit-and-loss statements) and underlying (tastes, technology, and resource availability) variables of markets to adjust the situation and recalculate the pattern of exchange and production to bring those variables into alignment. This *entrepreneurial market process*, which assumes the institutional environment just described, engenders the mutual learning required for complex coordination. Property rights incentivize, relative prices guide, profits lure, and losses discipline. The market is constantly evolving toward a solution, and this evolution is best understood when we recognize both variation (entrepreneurial creativity and/or alertness) and selection (the market discipline of profit/loss). This is how markets work.

Matters of intellectual taste and semantics should not prevent us from understanding the fundamental contributions of Israel Kirzner to market theory and the price system. Kirzner's contributions elaborated on those of his teacher Ludwig von Mises, refined them, and applied them to the pressing theoretical issues in economic science of his time. There is much to learn in a careful and critical engagement with the criticisms offered by Mario and Peter, and in Fred's comments throughout this dialogue. And from my point of view, if this discussion leads readers to delve deeper and more critically into the body of Kirzner's work as reflected in his *Collected Works* being published by Liberty Fund, it will have more than served its purpose.

What is important to understanding Kirzner's contribution is not only the *institutional context* within which entrepreneurs learn of and correct errors in their pursuit of profit, but also, for the other participants of the discussion, the *intellectual context* in which Kirzner was arguing. To take him outside of that historical-intellectual context is to miss his fundamental contribution, that is, how the entrepreneur "fills the gap" of plan coordination in contemporary price theory.

Coordination is indeed the problem that has excited the imagination of economic theorists from the classics to the moderns. Entrepreneurship provides the solution, and Kirzner is on the list of great economic thinkers who saw and articulated this in the context of the debates of their time. That, I have argued, is a contribution worthy of our respect, admiration, critical engagement, and the highest scientific recognition in our profession.

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