REVIEW
Kirzner's Economics of Entrepreneurship

Competition, Economic Planning, and the Knowledge Problem by Israel Kirzner

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Entrepreneurship is widely thought of as a specialized secondary topic, which can somehow be divorced from the majority of economic theory and analysis. As much of Israel M. Kirzner's work demonstrates, markets depend crucially on entrepreneurial planning, competition, experimentation, and profit-seeking speculation, in the face of the uncertainty of an unknown and unfolding future. Without entrepreneurs, markets lack precisely those characteristics which account for their ability to coordinate production and further improve on an initial optimum. Boettke and Sautet have selected some of Kirzner's most important contributions, and through the papers collected in this volume, the reader can follow Kirzner's developing thought on entrepreneurial competition and market process from 1974 to 2000.

The book is divided into four parts, with journal articles, prefaces, and other essays grouped by topic. Part 1 presents five papers which argue for the central place of entrepreneurial planning in the definition of competition, going beyond static-equilibrium's emphasis on a final outcome meeting formal requirements. Kirzner emphasizes the process markets actually pursue in reality over the idealized formalism of constrained optimization. Kirzner's development of market process economics, based on an entrepreneurial management of disequilibria, marks a major departure away from mainstream neoclassical formalism and toward greater realism. Part 2 includes seven papers exploring how recognizing the centrality of entrepreneurs in market process helps us understand how market exchange allows for the marshalling of essential information which would otherwise be useless and inaccessible. Markets subject innovations to profit-and-loss incentives which privilege innovations offering economic benefits. Part 3 consists of six articles on how market exchange processes information, and Part 4 consists of two longer and more comprehensive essays.

Part 1, The Nature of Competition, includes "Capital, Competition, and Capitalism," "Prices, the Communication of Knowledge, and the Discovery Process," "Competition and the Market Process: Some Doctrinal Milestones," "The Driving Force of the Market: the Idea of 'Competition' in Contemporary Economic Theory and in the Austrian Theory of the Market Process," and "The Irresistible Force of Market Competition." These five articles not only critique the static-equilibrium model of perfect competition, but lay out its limitations, and discuss how entrepreneurship contributes to real-world competition. Following Mises and Hayek, Kirzner explores how prices transmit information, and how entrepreneurs compete to take advantage of these signals to deliver superior market outcomes, which allow both consumers and other entrepreneurs to better coordinate their plans.

Part 2, Coordination, Economic Planning, and the Knowledge Problem, includes "Economic Planning and the Knowledge Problem," "Knowledge Problems and their Solution: Some Relevant Distinctions," "The Economic Calculation Debate: Lessons for Austrians," "Hedgehog or Fox? Hayek and the Idea of Plan-coordination," "Calculation, Competition, and Entrepreneurship," "Comments on the Debate between Professors Leontieff and Stein on National Economic Planning," and "Hayek's Theory of the Coordination of Markets: a Commentary to Accompany the Facsimile Edition of Hayek's *Preise und Produktion*." This section presents seven papers relating to

knowledge problems and the socialist calculation debate. If one accepts the static-equilibrium model of perfect competition, it appears attractive to remove wasteful competition to improve efficiency. However, the standard model is not realistic. Kirzner demonstrates that market process provides outcomes which meet efficiency and welfare requirements, but only by giving us a means to act on and exploit decentralized and inarticulable information. He also shows that efficiency and welfare maximization will always be beyond the grasp of central planning which takes the welfare-maximizing and information-generating decisions out of the hands of individual actors, where they always reside in reality. The last essay in this section is available here for the first time in English.

Part 3, Information, Knowledge, and Advertising, includes "The Open-endedness of Knowledge: Its Role in the FEE Formula," "Knowing about Knowledge: a Subjectivist View of the Role of Information," "Information-knowledge and Action-knowledge," "Comments on R. N. Langlois, 'From the Knowledge of Economics to the Economics of Knowledge: Fritz Machlup on Methodology and on the 'Knowledge Society,'" "Advertising," and "Advertising in an Open-ended Universe." This section presents five articles on knowledge-processing in the context of competitive market exchange, including two very interesting articles on advertising.

Finally, Part 4, Two Essays on Markets, presents two longer, relatively late articles on market process theory, "How Markets Work: Disequilibrium, Entrepreneurship, and Discovery," and "Entrepreneurial Discovery and the Competitive Market Process: an Austrian Approach."

I. THE NATURE OF COMPETITION

"Capital, Competition, and Capitalism," originally a lecture at Hillsdale College, critiques the claim that competition can operate without private property, and the related assertion that private ownership acts as a barrier to entry, and thus is incompatible with competition. The views Kirzner critiques here would support central planning, representing a rather extreme socialist view that competition under private ownership is wasteful and exploitative, and that central planning requires socialization of ownership, which would then permit a resource-conserving competition for the benefit of all. In fact, perfect competition assumes small firms and an undifferentiated product, but makes no assumption about who owns the means of production.

Kirzner points out that market competition includes entrepreneurial competition to uncover unrealized opportunities and improve resource allocation in production. Competition for profits rewards anyone who is able to improve allocative efficiency, though this subsequently reduces profit opportunities. Kirzner also notes the literature's general confusion among owner-shareholders, corporate managers, and entrepreneurs, pointing out that entrepreneurs need not own any capital at all—they profit from buying undervalued goods and resources and selling or using them where they are valued more highly. They can profit from this arbitrage precisely because it guarantees goods will be utilized more efficiently. Central planning would mistakenly prohibit this arbitrage as wasteful and inefficient.

"Prices, the Communication of Knowledge, and the Discovery Process," highlights the need for market participants to anticipate the plans of others. The extent production and consumption plans are coordinated is the extent the market succeeds in efficiently satisfying our wants. High prices signal to producers which resources are most scarce or in greatest need, and low prices present entrepreneurial opportunities when those resources can be substituted for more expensive ones. Because no market participant possesses complete information, real markets never reach a neoclassical constrained optimum. It is only through competing to uncover new information, attempt innovative production and marketing methods, satisfy new wants, or for consumers to try new products, etc. that market process brings about market outcomes in reality—it should be little wonder that real-world outcomes fail to conform to theoretical descriptions of what a constrained optimum should look like.

"Competition and the Market Process: Some Doctrinal Milestones," traces out how the perfectly competitive model was supplanted by more specialized and realistic alternatives. Edward Chamberlin (1933) and Joan Robinson (1933) introduced the monopolistically-competitive model as an advance beyond perfect competition, but only under static equilibrium conditions which assumed away the possibility of disequilibria, or any role for market process. Kirzner draws on Machovec's (1995) account of the emergence and development of perfect competition theory, though he takes issue with some details. As Kirzner sees it, hitherto loose and non-descript conceptions of competition were gradually purged of their vestiges of process thinking, generally simplifying and formalizing the analysis at the expense of realism.

Kirzner explains the significance of Hayek's (1948) paper "The Meaning of Competition," and draws on Hayek's work to critique inconsistent uses of competition by other economists. Markets are cooperative institutions which process information to set prices, allocate resources, coordinate plans, expectations, and activities, communicate future wants from consumers to producers, etc., while also providing incentives which reward participants who can improve any part of the process. Thus, market process is anything but static, and works through anything but an equilibrium.

The disequilibrium prevailing at any time and place is merely the raw material acted on by market process. The information-processing aspect of market process is a form of indirect communication—not especially amenable to central planning—generally employing unutterable knowledge which the market accommodates remarkable well, if not always flawlessly, and which provides the backbone of a sophisticated system of social cooperation we take for granted. Kirzner acknowledges John M. Clark's (1955, 1960) efforts to promote a dynamic understanding of competition, but as he notes, this was ignored by the profession. Although criticism of the static-equilibrium understanding of perfect competition continued to proliferate after 1960, much of contemporary mainstream microeconomics continues to prefer the sterile formal elegance of competition as a state of affairs, over the messy disequilibrium reality of competition as market process.

"The Driving Force of the Market: the Idea of 'Competition' in Contemporary Economic Theory and in the Austrian Theory of the Market Process," contrasts perfect competition with the Austrian school's more subtle, less-formalized, conception of entrepreneurial competition and market process. Market process explains how entrepreneurial producers anticipate and respond to consumer demand and changing market conditions, without recourse to extreme assumptions about market organization. Entrepreneurs face profit-and-loss incentives—gaining profits when they correctly anticipate future market conditions, but suffering losses when their plans fail. Market process subjects entrepreneurs to an unrelenting discipline, because any profit-seeking innovator in this speculative environment faces the pressure of imitative arbitrage which eventually removes the original profit opportunity. Market organization—whether perfect competition, monopoly, monopolistic competition, or oligopoly—emerges from market process, as a product of speculative efforts to uncover entrepreneurial profit opportunities and preserve them as long as possible.

"The Irresistible Force of Market Competition," starts from the observation that the perfectly-competitive model's assumption that individual producers are price-takers unable to influence the market price, removes any role for entrepreneurial experimentation. However helpful it has been to examine this static-equilibrium result devoid of entrepreneurial action, its real-world applications are limited. Real markets feature competition among entrepreneurs, and assuming away entrepreneurs' innovative, speculative, and profit-seeking behavior, strictly limits the ability of our economics to explain the market process of the actual economy.

Neither are formal models with such limited applicability likely to be fruitful in offering general guidance for policy or regulation, and the resulting policy has not been conspicuous by its success—often leading to demands for further intervention. Market process generates the pattern of resource allocation, creates the constellation of market prices, and results in the satisfaction of consumer wants. In contrast, the focus of mainstream neoclassical microeconomics is on whether competition is present as a formal state of affairs—in other words, whether arbitrary conditions are met, which is largely irrelevant in reality and cannot inform effective policy.

II. COORDINATION, ECONOMIC PLANNING, AND THE KNOWLEDGE PROBLEM

"Economic Planning and the Knowledge Problem," summarizes and extends Hayek's work on knowledge limitations facing central planners. Kirzner notes that individual-level planning is essential and goes on all around us, and that individual plans are speculative and constantly revised in the face of changing conditions and the acquisition of new knowledge. Individuals are free to make the critical choices of what plans to adopt or attempt, what information to seek or be alert to, and when to revise their plans—as individuals, they bear the cost and responsibility of implementing their own plans, and profit if their plans succeed as anticipated.

Kirzner and Hayek observe that central planning authorities lack first-hand knowledge at the level of individual consumers and producers. At best, central planners rely on crude aggregates or summaries, which average hypothesized individual measurements and proxies for subjective appraisals that cannot be quantified. The central planner does not face the same optimization problem, but substitutes a simpler, macro-optimization problem—which,

though it can be solved analytically, can never have any economic meaning.

From the neoclassical perspective of constrained optimization, the centrally-planned outcome must be misspecified for at least some consumers—if not for all. It would actually be an exceedingly rare and exceptional occurrence for a centrally-planned optimization problem to be correctly specified for *anyone* it purports to benefit. At best, central planners can only force substitution of a misspecified aggregate optimization problem for the myriad optimizing choices of individual agents, whose knowledge is in constant flux, both expanding and becoming dated, who face direct incentives to economize effectively, and who optimize in terms of unique, subjective, and inarticulable preferences.

"Knowledge Problems and their Solution: Some Relevant Distinctions," introduces Kirzner's famous Knowledge Problems A and B. Knowledge Problem A occurs when beneficial exchanges fail to occur, either due to sellers' over-optimism in demanding a higher price than buyers are willing to pay, or buyers' over-optimism in requiring a lower price than sellers are willing to accept. Knowledge Problem A is a problem of over-optimism, and is self-correcting—over-optimistic sellers lower their asking price to dispose of unsold inventories, or over-optimistic buyers realize the need to pay more. (Here, the buyer's reservation price must exceed the price they had anticipated based on their reading of market conditions, but still affords them some consumer surplus, though less than they had hoped for.)

In contrast, the more interesting Knowledge Problem B is a problem of over-pessimism. Here, beneficial exchanges never occur, either because of sellers' over-pessimistic belief that buyers are not willing to pay as much as they actually are, leading sellers to produce or acquire less of the product, or because of buyers' over-pessimistic belief that the sellers' price is higher than sellers will actually accept. In either case of over-pessimism, there is no unsold inventory to be marked down for disposal—it was mistakenly never produced.

Knowledge Problem B is not self-correcting, because it is not visible to either the producers or consumers. Knowledge Problem B calls for, and rewards, entrepreneurial awareness to identify these opportunities for beneficial exchanges. It is the ubiquity of unobserved instances of Knowledge Problem B which entrepreneurs compete to uncover and remedy. They produce products no one else would, to satisfy demand other producers failed to perceive or anticipate. Until others imitate them, entrepreneurs who identify such opportunities enjoy short-term monopolies, but the greater the advantage they take of their temporary market power, the more obvious are the price incentives which attract imitative competitors. In the absence of favorable government regulation, there is generally no mechanism for the first entrepreneur in these cases to maintain their monopoly indefinitely by creating entry barriers, but a sufficiently gifted and alert entrepreneur will already have moved on in search of the next arbitrage opportunity.

In "The Economic Calculation Debate: Lessons for Austrians," Kirzner shows how the socialist calculation debate contributed to the refinement of market process theory and enhanced our understanding of the role of entrepreneurship in maintaining competition. How markets process information is as crucial to understanding market process, as it is to appreciating the futility of directing similar activities on a command basis—the basis of supposedly "rational" economic planning, which purports to avoid the "wastefulness" of profit and competition.

Hayek further argued that perfect competition was a caricature of real markets, simply glossing over the most interesting features of market process—e.g., product differentiation, entrepreneurial alertness and innovation, market organization, etc. The central planning argument was that planners could crudely approximate a perfectly-competitive outcome, but failed to address the extent this falls short of recognizing or accommodating real-world conditions.

"Hedgehog or Fox? Hayek and the Idea of Plan-coordination," is an exceptionally ambitious attempt to address the extent Hayek might have come to view all economic problems as coordination problems. The hedgehog or fox dichotomy comes from the Greek poet Archilochus (c. 680 BC–c. 645 BC), "the fox knows many things, but the hedgehog knows one important thing" (Berlin 1953, Shackle 1966, ch. 12). In other words, Shackle contrasts an approach to knowledge which unifies and systematizes many disparate facts or aspects of reality within a single over-arching theory (the hedgehog), with the approach of taking the world as it comes, without trying to impose too arbitrary a straitjacket on our understanding (the fox). Kirzner concludes that Hayek has elements of both, but for Hayek the overarching theory is coordination through market process rather than constrained optimization.

Mises and Hayek presented Austrian business cycle theory in terms which O'Driscoll (1977), Garrison (1985, 1989, 2000), and Ionnides (1992) reframed in terms of plan coordination and information transmission. Hayek's view of general equilibrium was as a compatibility or dovetailing

among the otherwise independent plans of different actors. Capital markets coordinate speculative anticipations of future consumer wants with physical production through time. Without government interference, entrepreneurs compete to improve this intertemporal coordination among production plans, resulting in an absence of systematic discoordination. Expansionary government policy, however, makes the market order's natural plan-compatibility unsustainable, increasing production activity, financing additional resource use including labor employment, but bidding up the cost of scarce resources. Initially, everything looks good, as output, employment, and nominal incomes all rise.

Unfortunately, as the compatibility and coordination among entrepreneurial plans become critically unsustainable, half-completed production plans, with goods-in-process of limited substitutability, can no longer be completed. These partially-completed plans were predicated on the plans of others, which are already being adjusted or abandoned. Expansionary policy provides misleading signals and provides more investible resources than can be justified by individuals' savings. At this point, many production plans must be liquidated, and resource prices collapse as gluts of unneeded resources, partially-processed resources, and goods-in-process are offered for sale.

Although Austrian business cycle theory is still not well recognized as being well-integrated with market-process microeconomics, Kirzner shows that Hayek brought them far closer together than is widely realized, even among the Austrian school. Mises had made major contributions to business cycle theory and in criticizing central economic planning, but Hayek built on Mises' accomplishments, as Kirzner argues, by coming much closer to addressing both the calculation debate and Austrian business cycle theory with information theory.

"Calculation, Competition, and Entrepreneurship," presents an appreciation of Don Lavoie's (1985) doctoral dissertation, and builds on Lavoie's analysis of socialist proposals to implement central economic planning, improve allocative efficiency, eliminate wasteful competition, abolish profits, increase aggregate welfare, etc. Buchanan's (1969) critique of central planning was based less on its inability to process a prohibitive volume of information, but focused on the need to offer some mechanism, hopefully more humane than brute force, to motivate individuals to seek preferences other than their own, namely, those of the planning authority. Lavoie argued that Mises' information argument against central planning, was more fundamental, and thus trumped Buchanan's motivation argument.

Kirzner emphasizes Buchanan's related argument that because interpersonal welfare comparisons are meaningless, there can be no meaningful social welfare function to maximize, and thus no formal optimum for a central economic planner to target. He then brings in Hayek's argument that the single market price, arrived at through the cooperation and interaction of everyone who participates—or voluntarily refrains from participating—in market exchange, is the freely and spontaneously-attained goal of central planning—the "correct" price. This is equally true for the whole constellation of market prices, and for the market-wide allocation of resources.

This social allocation, far from being amenable to improvement or further optimization through coercion and purportedly "scientific" planning, crucially depends for its validity on free choice at the individual level, where actual choice occurs and preferences reside. Government intervention, including central planning, can only impair allocative efficiency. At the same time, allocation can be improved through entrepreneurial experimentation, but this is only possible in a free market. Entrepreneurs face the discipline of profit-and-loss, and they pay the price when their speculative experiments fail. The economy progresses, as uncoordinated entrepreneurial failures are swamped by successful experiments which the market rewards, and which predominate over time.

Discussing O'Driscoll (1977), Kirzner notes the enduring appeal of viewing economy-wide allocative efficiency as a state of affairs, which may seem amenable to management by a central planner, as opposed to the outcome of market process. Nevertheless, he concludes "*our ability to treat society as an entity for which coordination-efficiency considerations are relevant, depends on the possibility of economic calculation in that society*" (p. 159, emphasis in original). Because the only way agent preferences are fulfilled and coordinated is through individual choice in a market economy, the information needed to arrive at the resource allocation solution cannot be developed, arrived at, or simulated in any other way.

"Comments on the Debate between Professors Leontieff and Stein on National Economic Planning," allows Kirzner to explain how entrepreneurs observe price divergences where identical goods are offered for sale at two different prices, and through arbitrage, correct the discrepancies—this might be considered market process's routine housekeeping. Price divergences result from failure to coordinate entrepreneurial plans, but entrepreneurial awareness is the

only cure for them, and is rewarded, at least temporarily, with arbitrage profits.

Thus, the oft-maligned profit motive performs the the indispensable function of moving the economy toward a higher state of coordination, and continues to act in the face of changing market conditions which invariably introduce new coordination failures among pre-established production plans already in operation. The market may never arrive at the optimal outcome of the neoclassical model, and if it is achieved, it may not persist long, but the market tendency is always to move closer to this ideal condition. Central planning, in contrast, cannot make this claim.

In "Hayek's Theory of the Coordination of Markets: a Commentary to Accompany the Facsimile Edition of Hayek's *Preise und Produktion*," presented here for the first time in English, Kirzner lays out the significance and contribution of Hayek's 1931 LSE lectures. Although Hayek does not yet frame his discussion in terms of agents' information or plan coordination, much less in terms of a distinction between sustainable and unsustainable plan-compatibility, because inflation fuels unsustainable booms in investment and production, the basis for these later developments is already present. Hayek examines the ways monetary expansion degrades information, impairs prices—including interest rates—reducing their ability to communicate the plans, beliefs, and expectations, and preventing the sustainable coordination of entrepreneurial plans. Kirzner points out Hayek's skepticism about the meaning and validity of macroeconomic aggregates, and the need for what we now call micro foundations of macroeconomics. He also explains how *Preise und Produktion* contributed to Hayek's later papers on knowledge, competition, and plan-coordination.

III. INFORMATION, KNOWLEDGE, AND ADVERTISING

"The Open-endedness of Knowledge: Its Role in the FEE Formula," presents an appreciation of the work of the Foundation for Economic Education, addressing FEE's general philosophy—openness to new economic knowledge and a skepticism for dogma, respect and desire for freedom, and a tolerant, anti-dogmatic approach to spreading economic ideas. In Hayek's words, "Civilization rests on the fact that we all benefit from knowledge which we do not possess" (1973, p. 16).

"Knowing about Knowledge: a Subjectivist View of the Role of Information," argues that knowledge is inherently subjective, and that knowledge can be uncovered as we gain fortuitous experience in the absence of a planned investigation—we observe our own experience through the prism of our interests, perceptual focus, past experience, cognitive development, etc. In contrast, we can also engage in entrepreneurial planning to map out an investigatory programme, aiming at uncovering facts we want to know, or answer particular questions. We can modify such a programme in light of new knowledge. Kirzner addresses the social significance of seeking this "knowledge about which nothing is known," as well as how, through market process, disequilibrium adjustment improves the coordination among different agents' plans. The profit motive, far from being a wasteful drain on society, motivates agents in discovering new knowledge, coordinating plans, using resources more efficiently, fulfilling wants more urgently desired by others, and improving others' welfare.

"Information-knowledge and Action-knowledge," distinguishes between information and knowledge. In order to act on, and confer economic significance on, information (or information-knowledge), its entrepreneurial use-value must be appreciated by an entrepreneur who will potentially act on it, transforming this information-knowledge into action-knowledge. In some sense action-knowledge is always available to be conferred on given facts, but until the need or opportunity arises—and is recognized by a potential actor—the action-knowledge remains latent in the information.

The distinction might also be expressed as book-knowledge versus street-knowledge, and can be understood by considering a set of the *Enclopaedia Britannica* on the shelf. Unread, the information-knowledge is contained in the volumes, but to convert it into action-knowledge, one would start by reading the volumes, and would also have to realize how the reader-actor could use some of this information. The reader would have to be alert to opportunities to use the information-knowledge and attempt some practical applications. Some trial-and-error would be evident as the reader might experiment entrepreneurially to assess the action-value of some of the information. Just as learning more information-knowledge becomes easier the more we have already acquired, learning and applying action-knowledge apparently becomes easier the more we have successfully applied related action-knowledge in the past.

"Comments on R. N. Langlois, 'From the Knowledge of Economics to the Economics of Knowledge: Fritz Machlup on Methodology and on the 'Knowledge Society,'" addresses Machlup's focus on knowledge as an economic com-

modity—in his unfinished "Knowledge Project," he did not connect market outcomes to the processes of knowledge generation or transmission. Curiously, Machlup overlooked market process as a major component of the Austrian school's view, focusing instead on static equilibrium concepts. The Langois (1985) article Kirzner is commenting on contrasts Hayek's broader view of the role of knowledge, including communicating inarticulate knowledge through prices, with Machlup's narrower view of knowledge as a tradeable commodity.

Machlup deemphasized market process in favor of static-equilibrium outcomes. Kirzner suggests Machlup's view resulted from the Austrian school's failure to start making market process explicit until the late 1930s—and also that this handicapped the Austrians in responding to Abba Lerner's (1934, 1936, 1937, 1938) and Oscar Lange's (1935, 1936, 1937, 1938) arguments on the feasibility of central planning. The outcome of the socialist calculation debate might have been far more decisive if the Austrians had focused earlier on market process and information theory—the idea that prices communicate information which cannot otherwise be articulated, and that this communication allows the market to generate a spontaneous order which coordinates resource allocation and planned production.

"Advertising" and "Advertising in an Open-ended Universe" both address the function of advertising in providing information to market participants. Kirzner points out advertising's useful functions in informing us what products are being offered for sale, and suggesting potential uses for the goods and services advertised. Various criticisms of advertising, e.g., it exploits consumers by subverting their will, it debases our culture by appealing to crass commercial interests, it influences people to buy things they do not need, etc., all neglect advertising's entrepreneurial and communication functions.

The need for advertising would be limited in a world without new products, as hypothesized, e.g., by the neoclassical model of perfect competition. In the real world, where new products, brands, technologies, and approaches to product differentiation, are introduced all the time, not to mention new uses for established products, substitutes, complements, and the implementation of new marketing strategies, advertising makes us aware of these new opportunities to satisfy our wants, even if they are only potential opportunities until we choose and act. A given product may not satisfy our wants the way the ad campaign suggests, but this can only be uncovered through action.

IV. TWO ESSAYS ON MARKETS

The last section presents two longer essays on markets and entrepreneurial competition. "How Markets Work: Disequilibrium, Entrepreneurship, and Discovery," starts with an historical examination of the emergence and limitations of static-equilibrium neo-classical theory. As in earlier essays, Kirzner points out various limitations and departures from reality of such an equilibrium theory of markets. Entrepreneurs are alert to the market disequilibria the neoclassical model assumes away, and profit from removing through arbitrage. Thus, the equilibrium a free market tends toward is a moving target which is generally never reached, and if it ever is, is neither sustainable nor persistent.

Changing market conditions move markets out of equilibrium, as profit-seeking entrepreneurs experiment with new combinations aiming at better plan coordination and allocative efficiency. This creates a new disequilibrium, and new opportunities for temporary arbitrage profits. The emphasis on entrepreneurial discovery became a distinctive feature and advantage of the Austrian school, enabling the Austrians to explain why market process moves markets toward unreachable and constantly-evolving equilibria. Jevons' law of indifference, used to justify the general equilibrium condition, is for Kirzner and the Austrians, merely a general tendency toward this unattainable and transitory equilibrium.

Kirzner also reintroduces and further discusses his distinction between Knowledge Problem A—problems of self-correcting over-optimism—and Knowledge Problem B—problems of over-pessimism, which are not self-correcting, and can only be overcome through speculative risk-taking by alert entrepreneurs. Kirzner suggests viewing advertising as a tool entrepreneurs use to leverage competition, and ends by addressing monopoly regulation, welfare economics, and economic redistribution.

"Entrepreneurial Discovery and the Competitive Market Process: an Austrian Approach" was Kirzner's 1997 *JEL* article. In it Kirzner further explicates his view of the entrepreneur's role in driving market process through disequilibrium adjustment. When confronted by Knowledge Problem A, self-correcting over-optimism, entrepreneurs adjust prices to remove the surplus or shortage, a form of autonomous housekeeping. However, Knowledge Problem B, unobservable and potentially-persistent over-pessimism, calls for entrepreneurial alertness to improve market out-

comes, exploit incentives which are invisible and generally overlooked by everyone else, and earn profits by introducing new products, improving plan coordination and resource allocation, establishing new disequilibria, etc.

By recognizing the central role of entrepreneurship in allocation, both causing and responding to evolving market conditions, market process theory both complements and extends Arrow-Debreu (1954) equilibrium theory. In Kirzner's view, general equilibrium is best understood as an abstract formal condition which need not mirror reality to add to our understanding. Market process is "a systematic process in which market participants acquire more and more accurate and complete *mutual knowledge* of potential demand and supply conditions" (p. 325, emphasis in original), working through entrepreneurial discovery by alert participants. Kirzner goes on to show how market process theory, with its focus on entrepreneurial discovery which moves the market from one disequilibrium to the next, can be used to critique and inform, antitrust theory, social justice, welfare economics, and central economic planning.

Many of the articles collected in this volume are well-read and familiar, some already having been collected in *The Meaning of Market Process* (Kirzner 1992) and *The Driving Force of the Market* (Kirzner 2000). Nonetheless, these are all articles which reward rereading. A number of related articles are less widely read and offer additional insight, and it is beneficial to have them all collected in one place. The volume will be especially helpful to researchers who want to apply market process insights, better explicate the role and function of entrepreneurs, or better understand the mechanisms for the emergence and communication of market information. It is also a welcome recognition of Professor Kirzner's high place in contemporary market process economics and the theory of entrepreneurship.

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