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Driving the Market Process: "Alertness" Versus Innovation and "Creative Destruction"

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ABSTRACT: This paper summarizes and compares the theories of entrepreneurship of Joseph A. Schumpeter and Israel M. Kirzner as presented in their major scholarly contributions to economic analysis. It is argued that Kirzner's theory of entrepreneurial action as "the driving force of the market" contributes greatly to a fundamental understanding of the market process. In contrast, it is argued that Schumpeter's theory that entrepreneurship is the agent of "creative destruction" of an ongoing state of general equilibrium is spurious. It is also argued that his view that entrepreneurship is the internal force for the economic development of any economy, market or non-market, reveals a seriously inadequate understanding of both the market process and the economics of non-market economies.

KEYWORDS: entrepreneur, entrepreneurship, market process, Austrian School

JEL CLASSIFICATION: B31, B53, E32, L26, O12, O31

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INTRODUCTION

This paper argues that Israel Kirzner's theory of entrepreneurial action as "the driving force of the market"—an extension and further development of Ludwig von Mises's concept of functional entrepreneurship—contributes to a fundamental understanding of the market process. In contrast, Joseph Schumpeter's spurious theory that entrepreneurship is the agent of "creative destruction" of an ongoing state of general equilibrium as well as being the internal force for the economic development of any economy, whether market or non-market, reveals his seriously inadequate understanding of both the market process and of the economics of non-market economies. Although there are some complementary features in the two theories, it will be shown that Schumpeter's production-driven model lacks the conceptual foundation needed for an understanding of any social economy.

The first section of the paper summarizes Schumpeter's concept of entrepreneurship and his use of it as a *deus ex machina* for economic development. Kirzner's concept of entrepreneurial "alertness" as the driving force of the market process is explained in section two. Section three compares and contrasts the two visions. Section four presents the conclusion that Kirzner's concept of a coordinating "alertness" trumps Schumpeter's entrepreneurial "creative destruction" in understanding the market process, although it is argued that much additional work is required to complete the theory of entrepreneurial action.

SCHUMPETERIAN ENTREPRENEURSHIP

1. Schumpeter's Theory of Economic Development

a. The Entrepreneur as Leader

Schumpeter's concept of the entrepreneur, as outlined in his 1911 *The Theory of Economic Development*, is a vision of an unusual, even unique, human being. Where most people are followers, Schumpeter's entrepreneur is a leader; where the mass of mankind are "static types," his entrepreneur is (Schumpeter [1911] 2011, p. 100) "a man of action [who] acts with…decisiveness and energy;" where the mass of mankind are (ibid., p. 112) driven by "hedonic impulses," his entrepreneur (ibid., p. 105) is driven by "the pleasure provided by creative construction" and strives to acquire goods to gain "social power." In sum, Schumpeter's entrepreneurs are (ibid., p. 100) "leaders that vigorously rise above the masses, personalities that carry the rules of their behavior within themselves." According to Schumpeter, an entrepreneur (ibid., p. 101) does not respond to demand, he "forces his products onto the market," because the masses (ibid., p. 138) "cannot be persuaded to cooperate for development…they are forced."[1]

In non-market economies, the entrepreneurial force is (ibid., p. 141) "direct authority and physical coercion," whereas in a market economy (ibid., p. 140) the entrepreneurial force is exerted through the use of money to purchase the goods needed by the entrepreneur to create a new combination of existing goods, an "innovation."[2] The entrepreneur obtains the money he needs (ibid., p. 143–148) by saving, borrowing from savers, or by means of credit created by bankers. Using either the force of arms or the force of money, the entrepreneur (ibid., p. 111) "is a steady source of changes in the field of economy [and] *the* cause of *economic* development because he creates change of the economy *out of the economy itself*."[3] In this

[1] Even stronger is the statement, "Coercion is exerted on the reluctant mass which basically does not want to know anything of the new, often does not know what it is all about." (Ibid., p. 215) The concordance between Schumpeter's early vision of the entrepreneur as leader and that of Friedrich von Wieser, is noted by Streissler (1981, p. 66). Wieser's last book *The Law of Power* (1926) even can be viewed as an extended *ex cathedra* meditation on the qualities of, and necessity for, such leaders if there is to be social progress. In Wieser ([1926] 1983), see especially pp. 41–42, 65, 189, 347 and 387 on the entrepreneur's pursuit of power and pp. 189–190 and 310 on entrepreneurial-led demand. According to Machlup (p. 95), Schumpeter acknowledged Wieser as one of "two authors to whom [he] felt closest affinity" [the other was Walras] in his first book, the 1908 *Das Wesen und der Hauptinhalt der theoretischen Nationaloekonomie*.

[2] In particular, see Schumpeter's *Theory of Economic Development* [1912], chapter 7, in Backhaus (pp. 98–105) on the social aspects of entrepreneurship in both communist and market economies and the irrelevance of the entrepreneur's personal labor or of property rights for his role in economic development. In contrast, property rights are a key requirement for Kirzner (as they are for Mises) in a theory of entrepreneurship because, as argued below, Mises/Kirzner entrepreneurship can only occur in the context of a market economy.

[3] From the text, it is clear that Schumpeter is not assuming that this is the case for an abstract model economy, such as he presents in the first volume of his *Business*

process, "it is the ability to subjugate others and to utilize them for his purposes, to order and to prevail that leads to successful deeds—even without particularly brilliant intelligence." (Ibid., p. 123)

In this early work, Schumpeter has created a *deus ex machina* to drive the process of economic development in both market and non-market economies. This is even more apparent when it is realized that there is neither a reasoned nor an explicit historical explanation of why or how entrepreneurial innovation is exerted by such a unique "man of action."[4] Schumpeter even says (ibid., p. 133) that the "right" innovational choices are done "without any particular deliberation, unconsciously, and without precisely identifying his reasons to himself." The entrepreneur "is characterized by the energy of the act and not that of the thought." (Schumpeter [1912] 2003, p. 110) The activity represented is termed "economic enterprise" and its results are argued to be economic development and net progress in living standards.

b. The Economic Context For the "Man of Action"

Schumpeter's individual entrepreneur is a force for economic development in an assumed context of (Schumpeter [1911] 2011, p. 157) a temporarily existing static circular flow of economic activity. The "essence" of economic development is (ibid., p. 159) that of the entrepreneur as the internal agent of change. This is in contrast with what (ibid., p. 163) he says characterized Classical School theory, where development was argued to be the "organic growth of the economy" by a change in external circumstances such as population, technology, capital accumulation, "progress in economic organization of industrial society," or "development of needs."[5]

Cycles (1939) for instance; he is assuming that it is the case in both existing and historical economies.

[4] The point is that there are many conceivable ways in which either "the pleasure provided by creative construction" or "social power" might be sought. Why do so by entrepreneurial innovation? This suggests that the characteristics of Schumpeter's entrepreneur are historically observed traits of successful business leaders used by Schumpeter to create an ideal type for his theoretical protagonist, although he does not say this.

[5] Wieser ([1926] 1983, p. 4) also claimed that the power that transforms society is "internal power" rather than "external power." It is found (p. xxxvii) in the "tension

Instead, economic development (ibid., p. 174) "consists of partial developments that succeed each other but are relatively independent" and are more like waves that abruptly change the level of the economy, some increasing social well-being and some decreasing it. The net effect depends (ibid., p. 176) on the concrete content of the developmental process. Some economic agents are adversely affected, others benefit.[6] Nevertheless, all social sectors are linked to each other and changes in one sector spread to all the others and the society in general evolves. (Ibid., pp. 216–217.) It evolves from one level to another because (Schumpeter [1912] 2003, p. 76) "there is no such thing as a dynamic equilibrium [because] development, in its deepest character, constitutes a disturbance of the existing static equilibrium."

One consequence of this vision of an economy in a temporary static equilibrium that is shattered by an interior force, restructured, and then moved to another level of activity, is theoretical dualism. There is (Schumpeter [1911] 2011, p. 190) a role for a theory of an equilibrium state of affairs and (ibid., p. 192) one for a theory of economic development because "the economic life of a people consists of two different types of processes that are both real."[7]

between leader and masses." Machovec argues (pp. 46–49) that Schumpeter thought that Classical School development theory lacked endogeonous forces of growth because (p. 47) "*Schumpeter mistakenly believed that the classical economists shared Walras' vision of the market economy as an essentially stationary system*." Schumpeter had apparently undervalued the extensive commentary in Smith, Bentham, Senior, and Mill on "projectors" and their innovations in pursuit of profit, as well as their willingness to pay high interest rates in order to do so. Even Marx portrayed an active role for the entrepreneur as an internal agent of change. For arguments supporting this critique see Machovec (1995, pp. 107–138).

[6] Schumpeter notes here a difference between communist and market economies. In the former, "goods often will be discarded before they are worn out," and this means a loss of real output from them. In the market economy the entrepreneur decides what is efficient and the losses in value as new machines replace old ones is a mere accounting loss since "the entrepreneur only makes a profit because he serves the economy… "(Schumpeter [1912] 2003, p. 79) Nevertheless, Schumpeter claims, "profitability is always an indicator of economic productivity" in both the communist and market economies. (Ibid., p. 80.) There is no explanation of what is meant by "profitability" in a communist economy, or how there it could be calculated.

[7] In his 1908 *Das Wesen und der Hauptinhalt der theoretischen Nationaloekonomie*, Schumpeter states, "My presentation rests on the *fundamental separation of 'statics' from 'dynamics'* in economics [because] 'Dynamics' differs from 'statics' in every

This opinion sits in stark contrast to the Austrian School tradition beginning with Carl Menger, and extending through Ludwig von Mises to Israel Kirzner and Murray Rothbard, that market process theory eschews theoretical dualism.[8]

It is also apparent in the presentation that Schumpeter's early theory of development, like the social power theory of his mentor Wieser, is basically an *ex cathedra* verbal architecture.[9]

c. The Entrepreneur Recast

The revised edition of *The Theory of Economic Development* (1926), first translated into English in 1934, recasts Schumpeter's vision of entrepreneurship. He continues to argue that economic development is the result of a force internal to the economy that (1934, p. 64) "displaces the equilibrium state previously existing." Now, it is new firms that introduce new combinations of productive means, financed by credit created by banks "out of nothing." (Ibid. pp. 66–74.) This process he calls "enterprise" and its functionaries are "entrepreneurs."

Fifteen years after his first edition of TED, Schumpeter qualifies the uniqueness of his entrepreneurial type by arguing (ibid., p. 78) that "being an entrepreneur is not a profession and as a rule not a lasting condition [and entrepreneurs] do not form a social class in the technical sense, as, for example, landowners or capitalists or workmen do." In a footnote (ibid., p. 81) he briefly clarifies the difference between his views in the first edition and those in the

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respect, in method as well as in substance." In Schneider, [1970] (1975), p. 6. Also see Machlup (1951, p. 99).

[8] Of course, Mises (1966, p. 244*ff*) conceded that although the market process takes place in real time and never achieves a final state of rest it is analytically useful to imagine what would occur if all data changes and the time element are abstracted from to visualize an "evenly rotating economy." This becomes an *argumentum a contrario* to better comprehend the effects of data change in the market process itself.

[9] Streissler asserts (1981, p. 65) that the entrepreneur, as envisioned by Schumpeter, was "an anti-theory not derived from, but opposed to, the practice of the Vienna of his day." The actual practice, again according to Streissler, was typically invention, not innovation, and organizational talent was scarce. Because of his unique views, Schumpeter had the "bad manners" of an *enfant terrible* in Viennese society.

second. He says that he now views entrepreneurship as a type of conduct or characteristic created by "aptitudes differing *in kind* and not only in degree from those of **mere** rational behavior." [Emphasis mine.] Entrepreneurship is a behavior that results in leadership, rather than being the action of a special kind of man. It is (ibid., pp. 85–88) the result of an "intuition" that leads to an "effort of will" and subsequent leadership "only where new possibilities present themselves."[10] Schumpeter emphasizes (ibid., p. 90) his departure from traditional textbook psychology and says, "We do not adopt any part of the time-honored picture of the motivation of the 'economic man.'"

Nevertheless, Schumpeter cannot resist referring to needed entrepreneurial characteristics, such as (ibid., p. 93) "the dream and the will to found a private kingdom," and "the will to conquer," and "the joy of creating." He asserts (ibid.) that this economic action is "akin to sport," where it is not the "fruits of success" that are sought—after all, "the financial result is a secondary consideration…an index of success"—it is "success itself" that is desired. "Pecuniary gain" is an "expression of success" only in "an acquisitive society," not in "other social arrangements."(Ibid., p. 94.)

d. The Entrepreneur as Social Product

Because of the supplemental material found there, it is worth referring briefly to Schumpeter's *Entrepreneur* entry in the 1928 *Handwoerterbuch der Staatswissenschaften*—an entry that was written in 1926 and is contemporaneous with the publication of the revised edition of TED.

He begins this article by asserting (Schumpeter, [1928] 2003, p. 236) that whether an economy is a socialist or an exchange economy, their "essential economic principles and results" are analogous. The "collective economic process" of any economy is (ibid., p. 237) subject to constraints imposed by "the social whole" such that one should "interpret the action of the group as the primary and

[10] Schumpeter specifically denies (ibid., p. 88) that the functional leader finds or creates these possibilities; they just exist "abundantly accumulated by all sorts of people," perhaps like appropriately shaped rocks in stony soil that one stumbles over, picks up and inserts into one's slingshot to bring down a bird for dinner.

essential, and to understand the autonomy of the economic unit as a derivate that has to be explained in each particular instance."[11]

Further, the evolution of "the enterprise" from the eleventh century to the twentieth has had the result (ibid., p. 242) that "the modern enterprise… in its essence, structure and methods increasingly approaches the character of a public administration." In this context, the entrepreneur (ibid., p. 247) "is simply the middleman between the owners of productive services and the consumers;" and, in an economy in general equilibrium, the profit rate would be zero. A greater importance to the entrepreneurial function can only be given if it results in enterprise creation through leadership. The primary requirement for this is "strength of will" to dominate in an exceptional situation, which means (ibid., p. 248) that "leadership is never purely embodied in concrete persons, and its essence therefore has to be carved out of a more or less complicated conglomerate by way of analysis."

From the entrepreneur as a unique sort of person, Schumpeter has moved to viewing entrepreneurship as a unique social function imposed somehow by special circumstances that present "new possibilities." He recognizes five types:

(1) the production and carrying out of new products or new qualities of products,

(2) the introduction of new production methods,

(3) the creation of new forms of industrial organization (for instance trustification),

(4) the opening up of new markets,

(5) the opening up of new sources of supply. (Ibid., p. 250.)

For an explanation of why any of these occur, Schumpeter refers the reader to the second edition of his TED. He urges further research on what is indispensible for entrepreneurship and on the reasons for its decline. In regard to the latter, he posits (ibid., p. 255) that "incessant innovation" is democratizing the leadership function and decreasing its importance. It is here that we see seedling thoughts of his later theories in *Business Cycles* and in *Capitalism, Socialism, and Democracy*.

[11] Compare Wieser ([1926] 1983, pp. 56–64) on the social dependence of the individual.

2. Schumpeter's *Business Cycles*

Early in the first volume of this book Schumpeter asserts (1939, Vol. I, p. 34) that with regard to the question of causation of "all the fluctuations, crises, booms, depressions that have ever been observed, the only answer is that there is no single cause or prime mover which accounts for them." There is not even a "set of causes." Each event is historically individual, he claims. Schumpeter's own approach to an explanation of these events takes the form of a model of "the economic process" that begins and ends in a Walrasian general equilibrium.[12]

The model has certain "external factors" and certain "internal factors." External factors include population change and monetary factors. Internal factors include changes in tastes, changes in quantity or quality of factors of production, and changes in methods of supplying commodities. Schumpeter excludes (ibid., p. 43) external factors as a source of change in the economic process because he says he wants a disaggregative theory of change.[13]

Tastes are held constant because Schumpeter argues that they are created by producers and production is constant in general equilibrium. Change in either the quantity or the quality of factors of production cannot occur because whatever saving is taking place flows immediately into investment (presumably for replacement capital). Saving itself must be constant as (ibid., p. 83) "most of its sources, as well as most of the motives for it, would be absent in a stationary state" because in that state profit is zero, current income is constant, and future income—the primary motive for saving—is constant.

This leaves only a change in the methods of supplying commodities, i.e. "innovation," as a possible source of change in

[12] This is hardly surprising, given that Schumpeter later identified (1954, p. 242) the Walrasian general equilibrium concept as "the Magna Carta of economic theory" and asserted (ibid., p. 827) "so far as pure theory is concerned, Walras is… the greatest of all economists."

[13] For a discussion of whether Schumpeter's business cycle theory (and, by implication, his economic development theory) should be classified as an exogenous or endogenous theory, see Hansen (pp. 80–81).

the economic process.[14] At this point, Schumpeter asserts (ibid., p. 86) that "innovation is the outstanding fact in the economic history of capitalist society." By "innovation" he means (ibid., p. 87) a change in the production function, that requires (ibid., p. 93) new plants or the rebuilding of old plants and (ibid., p. 94) New Firms—the process of "enterprise." The result is downward shifting cost curves (for existing products), competition with Old Firms, and disruption of the Walrasian general equilibrium.

Of course, the main question here is, "Whence the innovations?" Schumpeter's source is (ibid., p. 96) "the rise to leadership of New Men." They have foresight of the new and the Old Firms are forced by competition to copy them. The result is (ibid., p. 101) "clusters of innovations" and an evolution of the system that is "lopsided, discontinuous, disharmonious by nature."

At this point, Schumpeter refers the reader to TED for an economic and sociological analysis of both enterprise and entrepreneurs and provides a brief recapitulation of what he said of the latter in his second edition. Successful enterprise has the result of temporary profits that are net gains, but which will be eroded (ibid., p. 105) "in the subsequent process of competition and adaptation."

Entrepreneurs themselves are not risk-bearers; that function is supplied by the capitalists. Schumpeter here assumes that it is banks that make the loans by ad hoc credit creation since (ibid., p. 110) banks "are nothing but establishments for the manufacture of means of payment."[15] So far as the temporary profits are concerned, they are (ibid., p. 124) the main source of interest payments "and the only 'cause' of the fact that positive rates of interest rule in the markets of capitalist society."[16]

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[14] The similarity to Marx's "method of exclusion" that is used in order to discover the source of economic value in the first chapter of his *Das Kapital* is striking.

[15] It is rare to find an economist who praises John Law for his means of finance, but Schumpeter is among those who do. He only faults Law (ibid., p. 114) "for purposes which failed to succeed." Streissler (1981, p.70) points out that Schumpeter's view that inflationary credit creation has positive effects was "deviant" when compared with those of his Austrian contemporaries. In his "Preface," Frisch (1981, p. ix) notes that Schumpeter is very popular with bankers.

[16] Although acknowledging the truth of the time preference theory of interest, Schumpeter maintains that interest is a monetary phenomenon and he explicitly rejects (1939, Vol. I, p. 126) what he identifies as the Swedish and Austrian School

3. Schumpeter's *Capitalism, Socialism, and Democracy*

The initial argument of Schumpeter's 1928 article *Entrepreneur* becomes the general theme of *Capitalism, Socialism, and Democracy*. The evolution of "the social whole" shapes and reshapes the "collective economic process" such that (1950, p. 419) social orders are transformed into one another through time. Specifically, he argues in this book that the achievements of capitalism in industrial organization (ibid., p. 61) "undermines the social institutions which protect it," and will inevitably lead to its decomposition and replacement by a state socialistic economic order, a centrally-planned economy.[17]

Adopting an approach similar to Marx's historical materialism, which he terms (ibid., p. 43) "the economic theory of the future," Schumpeter presents yet another *ex cathedra* vision as an extension of his general argument in TED and *Business Cycles*.[18]

He terms (ibid., p. 82) capitalism "an evolutionary process," a "process of creative destruction," driven by the new products, processes, technology, markets, and organizational forms created by enterprise. Capitalism (ibid., p. 124) broke up the feudal environment and created a new class for achievement and attracted "the strong wills and strong intellects" who led its economic development.

As he sees it, the fact is (ibid., p. 131–133) that progress is becoming "mechanized" and the entrepreneurial "aptitudes that

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"natural rate of interest" concept of "a permanent net return from physical means of production."

[17] Wieser ([1926] 1983), pp. 27, 88, 357) also sees an evolution to socialism as a possible future result of capitalistic economic concentration.

[18] See also p. 162 where Schumpeter applauds Marx's "vision" and says, "We can also agree with him in linking the particular social transformation that goes on under our eyes with an economic process as its prime mover." For an argument that the similarity between Marx's version of historical materialism and that of Schumpeter is superficial and that Schumpeter omits the key element of class warfare between proletariat and bourgeoisie see Fellner (1981, pp. 54–58). For an argument that Schumpeter fundamentally misinterpreted Marx see Heilbroner (1981, p. 99–101). For a brief argument that the causality in Schumpeter's vision is the opposite of Marx's historical materialism see Zijlstra (1981, p. xiv). Langlois (2003, p. 295) points out that while Marx envisions the economic failures of capitalism as destructive of it, Schumpeter sees capitalism as a victim of its success as an economic order.

are present in only a small fraction of the population" are no longer needed. Innovation has become routine, and economic progress is "depersonalized and automated" in large corporations with salaried managers and passive stockholders. In sum, he claims, "The modern corporation, although the product of the capitalist process, socializes the bourgeois mind" such that property rights and "free contracting" are irrelevant to progress.[19]

If capitalism is inevitably to yield to state socialism and the planned economy, can socialism work? "Of course it can," he claims. (Ibid., p. 167.) Against Mises, and without specifics, Schumpeter mentions that he favors the arguments of Friedrich von Wieser, Vilfredo Pareto, Fred Taylor, Oscar Lange, Abba Lerner, and Enrico Barone. It is at this point that Schumpeter reveals not only his utter ignorance of the gist of Mises's argument (1920 and 1951) against the possibility of economic calculation under socialism, but also a basic lack of understanding of the market process itself.

He does so by claiming (1950, p. 173) that "production—including transportation and all operations incident to marketing—is nothing but the rational combination of the existing 'factors' within the constraints imposed by technological conditions" and "distribution… is completely severed from production." How these "rational combinations" are to be determined is not indicated. There is no specific reply to Mises's argument that only prices determined in markets for privately-owned higher order goods provide a basis for the economic calculation that produces factor combinations.

Why production and distribution are separate questions in both a market economy and a planned state socialist one also is not explained. Schumpeter then asks how relative values of consumer goods will be determined under socialism and replies that an authority would do it, just as would a Robinson Crusoe.[20]

[19] A recent article that provides some empirical support to an argument like this is that of Aghion, Van Reenen and Zingales (2013). They provide a model and data to argue that an increase in institutional ownership of large corporations has the result of an increase in innovation by the firm, presumably because it lowers the downside risks for upper management. Schumpeter's influence on Galbraith's critique of modern capitalism in his *The New Industrial State*—which Chicago School economist George Stigler once characterized as Galbraith's "New Feudalism"—is noted in Machovec (p. 59).

[20] One of Schumpeter's Austrian mentors [Others included Eugen von Boehm-Bawerk and Eugen von Philippovich, according to Schneider (1975, p. 1)], Wieser,

But, what of the argument of Friedrich von Hayek (1935) and Lionel Robbins (1933) that although socialism is theoretically possible, it is "practically impossible?" To that, Schumpeter replies that the socialist bureaucracy could use the method of trial and error (presumably he is referring to the Lange 1936 and 1937 argument) to determine those prices. In fact, he claims (1950, p. 186) that socialist management of production and distribution would operate better than the commercial management of capitalism because there would be no uncertainty about competitors' decisions and collective action would be normal. Socialism would, in fact, be more efficient because (ibid., p. 189) the "economic efficiency of a system we will reduce to productive efficiency." After all, large-scale production units of capitalism are more efficient than small or medium-sized ones, he claims.

What is meant by "productive efficiency" and how it would be measured is not indicated. He asserts that socialist planned progress would also eliminate the business cycle, presumably because (ibid., p. 132) "innovation itself is being reduced to routine," making progress automatic. Also, because the socialized economy's general population will become accustomed to change, there will be less need for entrepreneurial will and personality than is the case in a market economy.

4. *History of Economic Analysis*

Schumpeter slightly expands his argument for the possibility and practicality of the planned state socialist economy in Chapter 7 of his last book.[21] He once again praises (1954, p. 987) Friedrich von Wieser's theory of the socialist economy as presented in Wieser's *Natural Value* (1893), and alludes to its advance in the hands of Vilfredo Pareto, Enrico Barone, Oscar Lange, and Abba Lerner.

makes this argument in both *Natural Value* (1893) and *Social Economics* (1927). For an explanation of its completely spurious foundation see Bostaph (2003), especially pp. 24–29. Wieser uses an imaginary unit of utility, the "natural value," as a means of calculation for planners. Schumpeter does not mention such a unit in his assertion that the planning authority could act as a pretend Crusoe.

[21] His widow and editor, Elizabeth Boody Schumpeter, notes at the beginning of that chapter that Section 5, "The Theory of Planning and of the Socialist Economy," was written by J.A.S. in 1948 and 1949.

He asserts that Barone had shown how a "system of equations" analogous to those of the Walrasian pure competition general equilibrium model could be constructed for a socialist economy. The only problem then remaining would be that of distribution. This would be solved by issuing money and allowing the population to spend it on the output (somehow produced using known "coefficients of transformation") which would produce demand and supply functions. Investment decisions would be made by the planning bureaucracy.

The arguments of Mises, Hayek, and Robbins that the absence of private property prevents resource price formation and thus economic calculation, Schumpeter terms "definitely wrong." He asserts that trial and error could be used to determine equilibrium prices.[22]

KIRZNERIAN ENTREPRENEURSHIP

1. Mises on Entrepreneurship

In *Human Action*, Ludwig von Mises defines and uses the term "entrepreneur" in three different ways. Despite his denial (1966, p. 255) that "the equivocal use of this term may result in any ambiguity in the exposition of the catallactic system," his third definition muddies the theoretical waters that are clarified by the first two.

Mises's first concept of "the entrepreneur" (ibid., p. 251) is one of an ideal type. It is to be used to attain a historical understanding of economic aspects of one's own past actions and of the past actions of others. Autobiographical and biographical narratives, economic history, descriptive economics, and economic statistics all create

[22] This statement is made on p. 989, fn 12. J.A.S. says that "the method of 'trial and error'" will be "described below." Presumably this refers to the Walrasian process of "tatonnement" summarized on pp. 1004–1015. Hayek responded to a similar assertion by Oscar Lange in "Two Pages of Fiction" (1982) that the knowledge required for central planners to do trial and error cannot be made available to them. Kirzner adds (2000, pp. 25–26) that Lange's assumed perfect competition equilibrium model is a completely inappropriate theoretical context for understanding the market process. For an insightful discussion of the Walrasian roots of Lange's model and the resulting influence on Schumpeter see Machovec (pp. 56–57, 72–78, 178–179).

and use "the entrepreneur" as an ideal type in their attempts to conceptualize and to explain past human action.[23]

Economic theory requires another concept of "entrepreneur." This second concept identified by Mises is that of the entrepreneurial function in catallactic theory. That function is necessarily performed (ibid., p. 252) by all actors in a market economy. This is the case whenever one is theorizing about action taken with the intent of affecting an uncertain future state of the market.[24] Mises says, "The term entrepreneur as used by catallactic theory means: acting man exclusively seen from the aspect of the uncertainty inherent in every action." (Ibid., p. 253) Thus, there is an entrepreneurial aspect to the actions of farmers, laborers (ibid., p. 254), lenders (ibid., pp. 253 and 539), and commodity speculators (ibid., p. 256). All are actors speculating in part as they provide for the uncertain future.

As a functional concept, entrepreneurial action is necessarily restricted to the context of the theory of the market economy because it involves (ibid., p. 229) the economic calculation of profit and loss, and the actions taken with a view toward future profit. Such calculation can only be done using appraisals of future market prices. Specifically, entrepreneurial profit is obtained by (ibid., p. 290) "anticipat[ing] better than other people the future demand of the consumers" and (ibid., p. 293) employing the

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[23] Foss and Klein say (2012, p. 28) that their own theory of entrepreneurship is based on the theories developed by Richard Cantillon, Frank Knight, and Mises. Their entrepreneur is an asset-owning manager who exercises judgment, making key strategic decisions concerning the use of productive resources under uncertainty. This seems akin to this first concept of Mises of the entrepreneur as an ideal type. If so, this would seem to incorporate a methodological conflict into their own work. Rather than a general concept, they are using a collective one as their theoretical foundation. They use for theory construction what Mises argued was to be used for history. Such an approach is explicitly presented as institutionalist in Kalantaridis. Mises's view of the difference between theory and history is expounded in (Mises, 1957). Mises's view also implicitly criticizes Schumpeter's use of his entrepreneurial ideal type in his development and cycle theories.

[24] As Mises points out (ibid., p. 248), human action always involves speculation, whether in a market economy, a socialist one, or by Robinson Crusoe. This is because action is always directed towards an uncertain future. In contrast, entrepreneurial action is confined to the context of a market economy because it involves economic calculation and this cannot be done in a planned economy, as explained in the next paragraph.

factors of production to meet that expected demand in a context of uncertainty of the outcome. This is what makes entrepreneurship "the driving force of the market." (Ibid., pp. 250, 255, 299)

The use of the functional concept of entrepreneurship also requires the theoretical context of market disequilibrium because (ibid., pp. 290, 294–295) there are no money profits in the Evenly Rotating Economy. Yet, the entrepreneurial aspect of human action is always (ibid., pp. 295, 711) driving the market economy toward such a state of general equilibrium, even if the ever changing data of the market prevents it from ever attaining that state. Mises says, "Entrepreneur means acting man in regard to the changes occurring in the data of the market." (Ibid., p. 254.)

Acting to profit from an anticipated future state of demand, "an imaginary construction of a pure entrepreneur" would be (ibid., p. 253) one who is propertyless because his borrowed assets would be matched by his liabilities to lenders.[25] Says Mises, "If he succeeds, the net profit is his. If he fails, the loss must fall upon the capitalists."[26]

Mises's third concept of "entrepreneur" is what muddies the theoretical water. This is the concept of "entrepreneur-promoters." These are (ibid., p. 255) "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

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[25] Salerno (p.193) argues that this imaginary construction "collapses into contradiction" if used for anything but the "imaginary construct of functional distribution" of income. "The entrepreneur *qua* uncertainty bearer must be a property owner" because "only property owners can bear the burden of uncertainty." This seems a non sequitur. The "burden" of uncertainty need not be necessarily restricted to actions involving possible monetary losses. A theory that required the term "entrepreneurship" to be restricted to such actions would sacrifice generality by adding an institutional aspect to the concept. Of course, one might say that all actors own themselves in principle and thus even the pure entrepreneur is a property owner.

[26] Given this statement, it is difficult to understand why Hebert and Link (1982, p. 96) assert that Kirzner differs from Mises in that Kirzner's "entrepreneur" (sic.) does not have to own capital and place it at risk. It is also difficult to see why Foss and Klein claim Mises as an intellectual forbear while also saying (2012, p. 41, fn. 19), "We do not find the concept of pure entrepreneurship or the 'alertness' metaphor useful to understanding the nature of the market system." Perhaps, Mises (1962, p. 112) confuses the issue when he says, "The entrepreneurs are those on whom the incidence of losses on the capital employed falls."

than the crowd, the pushing and promoting pioneers of economic improvement." Mises claims that this term is "narrower" than the functional one and "cannot be defined with praxeological rigor."[27]

Yet, he claims that there is a need for the term because of (ibid.) "a general characteristic of human nature that is present in all market transactions… the fact that various individuals do not react to a change in conditions with the same quickness and in the same way." Thus, he thirdly defines (ibid., p. 336) the entrepreneur as "leader" or "promoter."[28]

Mises's third concept is akin to the first or "ideal type" concept, and its presumed necessity may actually be a result of the usefulness of constructing an ideal type of the market for the purpose of historical explanation, rather than being a requirement of a theory of catallactics. Mises's own words support such a view when he says (ibid., pp. 255–256) that "an entrepreneur" can hedge against the future until he is no longer an entrepreneur; and, *if all commodities had futures markets, only dealers in futures would be entrepreneurs*.[29] [Emphasis mine]

The focus on the designation of individuals as "entrepreneur-promoters" rather than on the functional entrepreneurship of acting man is descriptive, rather than theoretical. This view is also buttressed by Mises's assertion that the entrepreneur is (ibid., p. 291) "the man…driven solely by the selfish interest in making profit and in acquiring wealth." After all, when distinguishing between the historical and the functional concepts of entrepreneur, Mises says, "*History* is intent upon classifying men according to

[27] Mises says that the contrast between the "promoter" term and the functional one is akin to the contrast between "money" and "medium of exchange;" however, "money" is usually defined as "anything that can be used as a medium of exchange." Mises himself uses (ibid., pp. 202, 208, 398, 401) this definition. Perhaps he means that particular forms of the medium of exchange differ in their "moneyness." If so, he does not say this.

[28] This third concept seems a relative of the early Schumpeterian one of a unique type of person, but shorn of Schumpeter's emphasis on power seeking. Some support for this view is provided by Mises's claim that (ibid., p. 585) the "specific anticipative understanding of the conditions of the uncertain future defies any rules and systematization…it can neither be taught nor learned."

[29] Kirzner argues (1989, p. 89) that Mises used this concept of entrepreneur merely as "a simplification deliberately introduced to facilitate exposition."

the ends they aim at and the means they employ…. Economics, explor[es] the structure of acting in the market society without any regard to the ends people aim at and the means they employ….” (Ibid., p. 252) [Emphasis mine]

2. Kirzner's Early View of Entrepreneurship

In his price theory textbook, *Market Theory and the Price System* (1963), Israel Kirzner presents the basic theory of the market economy that he later uses both to refine and to extend Mises's explanation of functional entrepreneurship.[30] Most of the book simplifies the time dimension of decision making and human action into a sequence of single period plans; however, the appendix at the end provides a glimpse of the market process in real time and is a prelude to his later *An Essay on Capital* (1966).

Kirzner conceptualizes all participants in the market process as (1963, p. 5) purposive individuals who are constantly making plans, choosing among alternative actions, and acting and adjusting their plans and actions in response to the actions of others. The actions of every individual (ibid., pp. 3, 6) constrain the actions of all. This (ibid., p. 105) "*interaction* between the decisions made by all the participants in a market" is what Kirzner means by "the market process."

Of course, all markets in a market economy are (ibid., p. 21) interconnected by the fact that markets are created by acting individuals and acting individuals are interconnected in extremely complex social relations, including those of market exchange. What is regarded as a particular market is purely a matter of analytical convenience. The theory of the market process concerns the understanding of the workings of the entire market economy.

Particular markets in that economy are assumed (ibid., pp. 22–24) always to be in disequilibrium, although the activities of their participants are unintentionally equilibrating in their effects. A disequilibrium market is one in which individuals who are

[30] In his 2006 Prize Lecture after receiving the FSF-Nutek Award, Kirzner (2009, p. 146) sums up his life's work on entrepreneurship as "simply an expansion and deepening of insights articulated by my teacher, Ludwig von Mises."

attempting to improve their respective positions by interacting with others find their decisions and actions to be inconsistent with those of others. The responses of individuals to failures of their particular plans are to revise them so that further actions taken tend (ibid., pp. 26–31) to be more consistent with the decisions and actions of others. The result is greater overall consistency in the decisions and actions of all market participants. A bid to purchase a commodity may find no takers unless the bid price is increased. Increasing it makes it more consistent with the plans of other participants in the market for that commodity who wish to be sellers, but not at the lower price initially offered.

Market equilibrium, if it were ever attained, would represent complete consistency among the plans and consequent decisions and actions of all market participants.[31] Constant changes in the basic data of the market—the various purposes of participants and the alternatives presented to them—mean constant changes in the information used for decision making and these preclude any final achievement of any such market equilibrium. Any grand coordination, or general equilibrium, of the activities of all market participants in the interconnected market economy itself is also precluded for the same reason.[32]

Kirzner also assumes that market participants (ibid., p. 42) lack perfect knowledge and are always making decisions in some state of ignorance of actual market conditions. The price system partially alleviates this problem by providing (ibid., pp. 33–41) the key information for decision making among alternative

[31] Kirzner refines this later when he defines "equilibrium" as (1979, p. 110) "a state in which each decision correctly anticipates all other decisions," which is not true of disequilibrium states. The word "anticipates" implies decision making about future actions. In (2000, p. 5), he adds that in equilibrium there is "the complete absence of sheer ignorance;" that is, of ignorance of which one is unaware.

[32] Boudreaux's assessment (1994, pp. 53–54) that "Kirzner's contribution [adding the entrepreneur] is to fill a logical gap in mainstream theory [and] contributes to a better understanding of the forces of price determination" seriously understates the complexity and uniqueness of Kirzner's theory of the market process. Kirzner's theory of the role of entrepreneurial actions in a complex market process tending toward equilibrium, but never attaining one, is far from the mainstream focus on comparisons of timeless and mathematically sequential market equilibria. There is no entrepreneurial action in mainstream price theory because there is no uncertainty in it, and thus no role for human action to play.

courses of action such that participants can plan to minimize their opportunity costs.

Every participant in the market process not only acts as a consumer (a purchaser of commodities for consumption), but also as a resource owner (a supplier of resources to others) and an entrepreneur (a purchaser of resources for resale at higher prices) in some aspect of their decisions and subsequent actions. The entrepreneurial aspect of all decision making is (ibid., p. 17) the speculative one "for which *uncertainty is of the essence*;" that is, it involves choosing between two courses of action, both of which have uncertain outcomes.[33]

In particular, the awareness (ibid., p. 42) of a difference in prices offered and those asked for a commodity, or for the resources from which it could be produced, is the entrepreneurial element that identifies a profit possibility; and, subsequent action taken in its pursuit leads to greater coordination by reducing that price differential. If no such difference were to exist, then (ibid., pp. 247–249) there would be no opportunity for profit and no entrepreneurial activity would be stimulated.

The search for profits is (ibid., p. 303) a search for a lack of coordination among decisions and actions of market participants, or in other words for a misallocation of resources. Some market participants are (ibid., pp. 132–134, 224) more knowledgeable or have keener judgment than others and their profit-seeking efforts will meet with greater success. Nevertheless, their entrepreneurial actions benefit all market participants by moving resources from lower valued uses, as represented by their prices, to higher valued uses, thus (ibid., pp. 34, 251–260) increasing the overall efficiency of the system.[34] In this sense, the entrepreneurial function is (ibid.,

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[33] Foss and Klein claim (2012, pp. 18, 34) that Kirzner's entrepreneur does not bear uncertainty because the "entrepreneurial act" requires no assets. The uncertainty assumed by Kirzner (and by Mises) is of the outcomes of decision making, whether assets are owned or borrowed. Mises's functional concept of the act of "pure entrepreneurship" also (1966, p. 253) requires no assets, but decisions are made in the face of uncertainty.

[34] So far as what is meant by "efficiency" or "inefficiency" when referring to an individual action, Kirzner says (1979, p. 120), "Inefficient action occurs when one places oneself in a position one views as less desirable than an equally available alternative state." It is the result of error.

p. 43) "the driving force of the price system." Analytically, it (ibid., p. 252) reduces to actions of arbitrage.

In addition, production decisions are (ibid., pp. 148–149) essentially entrepreneurial and "the firm" represents an entrepreneurial unit.[35]

3. The Entrepreneurial Function in Kirzner's Capital Theory

Kirzner agrees (1966, p. 3) with Ludwig Lachmann ([1956] 1978, p. xv) that only entrepreneurial appraisal determines what is "capital." Capital goods are tangible, heterogeneous objects that are part of a subjective and speculative multi-period production plan that has not yet come to fruition. This way of viewing goods that are intermediate to the planned production of consumption goods places them firmly in (1966, p. 38) "a *teleological* framework" constructed by entrepreneurship and makes capital theory necessarily a disequilibrium study.

The production function itself becomes (ibid., p. 45) a choice set of present "opportunities," rather than a technological artifact. According to Kirzner (ibid., p. 91), "From the point of view of the decision maker himself, with the capital goods at his disposal, the past is of no consequence whatsoever." The function that capital goods perform for the producer is (ibid., pp. 93–95) to shorten the waiting period for the achievement of his speculative production goal.

Further, capital theory becomes (ibid., p. 74) an "intertemporal exchange" theory, where inputs at earlier dates are sacrificed for outputs at later dates and thus are "used up" in the process of production. The prices of capital goods are set in markets where the "subjective expectations" of individuals lead to bids and offers based on their various estimates of (ibid., p. 115) "the present

[35] Although Kirzner uses the term "the entrepreneur" in his discussion of production theory in chapters 8 and 9, and occasionally in other parts of the text, it is clear that he is not using it to refer to an ideal type or unique kind of individual. He is just focusing on the entrepreneurial role of production decision making under uncertainty that is being exercised by particular individuals. "The entrepreneur" is just a term of convenience for the explanation of the theory, although he notes (ibid., p. 304) that the market process tends to sort out the more successful from the less successful individuals performing an entrepreneurial function.

value…of the addition to the future flow of output that the capital good[s] can make possible."

One important implication of this theory is (ibid., pp. 118–122) that there is no such thing as a country's aggregate stock of capital; capital exists only as part of individual speculative (and thus "entrepreneurial") production plans and can cease to be capital merely by a change in a particular plan.

4. Entrepreneurship as "Alertness"

In *Competition and Entrepreneurship* (1973), Kirzner introduces the concept of "pure entrepreneurship." Rather than being an action, it is an aspect of consciousness possessed by any market participant—that of (ibid., p. 15) being alert "to changing buying and selling possibilities."[36] Initial ownership of an asset is (ibid., pp. 39–41, 47–49) irrelevant to the possession of this quality, but its use is (ibid., p. 16) "essentially competitive" in that acting to take advantage of a profit opportunity of which one is "alert" means competing with others for assets. Rather than a market consisting of entrepreneurs and other market participants, the market is envisioned as one of participants whose perceptions and decisions have an entrepreneurial dimension. The result is that the market process itself becomes (ibid., p. 15) "an essentially entrepreneurial one."

Actions to take advantage of an entrepreneurial alertness to a profit opportunity may (ibid., p. 17) involve the purchase of assets and the production of commodities; however, entrepreneurial actions still analytically reduce (ibid., p. 18) to arbitrage, whatever their time dimension.[37] At the center of the entrepreneurial market

[36] Heertje (1981, pp. 89–91) argues that this is a "refinement" of Schumpeter's concept of entrepreneurship because it provides a link between invention and innovation. For reasons given in my comparison of the two concepts of entrepreneurship later in this article, although both entrepreneurial concepts link invention and innovation, they do so in very different ways. Kirzner's early concept is far different from, rather than a refinement of, Schumpeter's entrepreneurial *deus ex machina*.

[37] It may be argued that offering (ibid., p. 24) "a more desirable product" than those the consumer considers to be substitutes is not arbitrage. Kirzner attempts to finesse this point in two ways. Initially, he argues (ibid., pp. 137–139, 143–144)

process are (ibid., pp. 34–35) the purposive, planning, deciding and acting human beings, imperfectly knowledgeable of all the data of the market and uncertain of the future, but pursuing their chosen goals, and being alert to changing profit opportunities in a necessarily disequilibrium world.[38]

The result of actions taken because of entrepreneurial alertness to profit opportunities is (ibid., pp. 216–221) a competitive process that enables market participants to more completely realize their goals by increasing their knowledge of market conditions and more closely coordinating their decisions and actions with those of others.

As was the case in his price theory textbook, in most of this book Kirzner continues to use the assumption of serial, single period planning and decision making for his explanation of the market process. In chapter 5, he takes up the question of the short run, long run distinction and argues against either factor definition or arbitrary time division as determinative. Instead, he opts for the perspective of the decision maker and confines the discussion to one of production costs and the case of monopoly, except for a brief summary (ibid., p. 207) of the pattern of actions that constitute the competitive market process as it proceeds through time.

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that the force of competition is such that the "more desirable product" will be offered at increasing quality and lower and lower prices. Product quality is asserted to be analogous to product price in the role that it plays for entrepreneurial alertness. Later, he argues (2000, pp. 126, 153–154) that the new way inputs are to be used to produce output, whether this means a technically new way of production or an entirely new output, "reveal[s] the present market as undervaluing these inputs." Lastly, he argues (2009, 150–151) that "pure profit opportunities" of whatever form all "consist of price differentials." A better word to use in place of "consist" would be "involve." Surely, price differentials are not the conceptual essence of profit opportunities created by innovative products or processes. Holcombe (2003b, pp. 17–18) argues that entrepreneurship "might be thought of as arbitrage," but to do so is an oversimplification of what is usually a complex process.

[38] Holcombe (2003b, p. 11, fn. 9) posits a difference between Mises (1966) and Kirzner (1973) on the question of whether entrepreneurial decisions can result in losses, the implication being that Kirzner assumes not. On the contrary, Kirzner (ibid., pp. 86–87) specifically allies himself with Mises in describing the entrepreneurial function as "action seen from its *speculative* aspect" and a gamble. He also describes (ibid., p. 78) "perceived profit opportunities" as having a "relatively precarious character" and footnotes (ibid., p. 84, fn. 54) Mises (1962 and 1966) as the source of his discussion of "the entrepreneurial role."

5. Refining Entrepreneurial "Alertness"

After *Competition and Entrepreneurship*, Kirzner wrote a number of papers that further clarified his concepts of entrepreneurship and the theory of its role in the market process. As he had done in *Competition and Entrepreneurship* (1973, pp. 85–86), he continued (1979, p. 7; 1992, p. 131; 1982a, pp. 139–159; 1997, p. 33) to argue that his concept of entrepreneurship as "alertness" to the discovery of profit opportunities was also that of Mises. To his earlier work Kirzner added a more explicit discussion of the knowledge problem in economic calculation, as presented in the market equilibrium theory of Friedrich Hayek.

In particular, Kirzner adapted (1979, p. 20; 1992, pp. 132–133, 139–150) Hayek's argument that the dispersed knowledge and particular intentions of market participants are brought into agreement by the market process. This coordination of their expectations and actions is what Hayek meant by equilibrium. For Hayek, how market participants learn to change their plans so that they correctly anticipate the actions of others was an empirical question. Kirzner's adaptation and extension of Hayek's argument denies empiricism and claims (1979, 28–31; 1992, pp. 150–151, 160) that it is entrepreneurial alertness that provides the mechanism for market participants to discover useful information and to revise their plans so as to create more plan coordination in markets. This makes the argument theoretical, rather than empirical, because entrepreneurial alertness is an element of all purposeful human action.[39]

So far as the method of discovery of new information is concerned, Kirzner argues that it cannot be a calculated process of searching, where the costs of search are weighed against the value of the information to be obtained. This (1979, p. 142) would assume prior knowledge of that for which one is searching. Instead, the discovery of new information must be (ibid., p. 146) a spontaneous movement out of ignorance into the knowledge of the plans of other market participants. As such, it is the result of entrepreneurial

[39] For an argument that Kirzner's concept of equilibrium as a state in which there are no unexploited profit opportunities differs from Hayek's concept of equilibrium as a state of mutually compatible plans on the part of all market participants see Holcombe (1999, pp. 229–231) and (2003b, p. 14).

alertness, which differs in quality from one person to another. This leads Kirzner to conclude:

> What the market process does is to systematically translate unnoticed opportunities for mutually profitable exchange among individuals into forms that tend to excite the interest and alertness of those most likely to notice what can be spontaneously learned. (Ibid., p. 150.)

Although this means that the existence of a pure profit opportunity is a result of ignorance, it also means (ibid., p. 179) that its discovery is not always the result of luck. In fact, luck (1997, p. 74) "calls for no human action whatever." Further, if the fact that the market process takes place in the real time continuum is recognized explicitly, entrepreneurial alertness may discover a pure profit opportunity (1985, p. 11) "marked out by earlier market conditions (or by future market conditions as they would be in the absence of [entrepreneurial] actions)." Nevertheless, Kirzner contends (ibid., p. 111) "it is precisely the entrepreneur's awareness of the potential that the situation held for the wholly unexpected that may have stimulated action and discovery." In a sense, entrepreneurs often make their own luck. Action itself, entrepreneurial or otherwise, always (ibid., p. 54) is directed toward the future and its effects shape the actuality that is the present.

Recognition of these aspects of human action led Kirzner (ibid., p. 56) to flesh out his concept of "alertness" as the "motivated propensity of man to formulate an image of the future" and to be aware "of the ways the human agent can, by imaginative, bold leaps of faith, and determination, in fact *create* the future for which his present acts are designed."[40] The motivation for "a more accurately envisaged future" is that (1982a, p. 150) of pure profit

[40] Of course, any "realized future" in what constitutes the present is a joint result of natural law and human action. Human choices and actions can only create the present in accordance with natural law. In his introduction to *Method, Process, and Austrian Economics* (1982a, p. 4) Kirzner says he finds in Mises (1966) the kernel of this idea of "creating the future." He pursues the idea further in pp. 148–157. Foss and Klein (2012, pp. 75, 101) see profit opportunities as best characterized as "imagined" but not as either "discovered" or "created." Loasby (1989, p. 161) unaccountably accuses Kirzner of arguing that entrepreneurial action is always errorless and coordinating. Kirzner specifically allows for entrepreneurial error in (1982a, pp. 148–149) and (1985, pp. 56–57).

seeking. There is (1997, p. 40) even a "human propensity to sense (*without* deliberate search) where to find pure gain." In fact, he claims (2000, p. 19), "the human agent is at all times spontaneously on the lookout for hitherto unnoticed features of the environment (present or future), which might inspire new activity on his part" that might tend (ibid., p. 64) to benefit him.[41] Added to these insights is the claim (1985, p. 24–25) that entrepreneurship is "costless" and its supply "potentially inexhaustible."[42] Its essence (1997, p. 51) "consists in seeing through the fog created by the uncertainty of the future."

Rather than being restricted to present acts of arbitrage, as he had argued in his early scholarship, Kirzner's later work expanded (1985, pp. 84–85) the concept of entrepreneurship to specifically include arbitrage in the present, arbitrage through time or "speculative arbitrage," and innovation—"the creation (for a future more or less distant) of an output, method of production, or organization not hitherto in use."[43] The common feature in each of those examples (ibid., p. 86) is the incentive of pure profits created by perceived price differentials created by errors.

Also added (ibid., pp. 130–133) is an emphasis on competition—"the rivalrous activities of market participants trying to win profits by offering the market better opportunities than are currently available"—as a stimulus to the exercise of entrepreneurial alertness.[44] This "entrepreneurial element" (2000, p. 227) drives the

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[41] Also see (2000, p. 235), where he says that entrepreneurial alertness "is an alertness fueled, not necessarily by selfish or material goals, but by concern to further one's goals, whatever these may be."

[42] Kirzner justifies this claim with the assertion that a decision maker does not decide to apply a certain amount of alertness to the discovery of opportunities. But, surely, there is a "cost" in the form of the mental effort required to be alert. Mental states are not just a given. Kirzner does (ibid., p. 26) recognize the existence of a psychological dimension of entrepreneurship. Fu-Lai Yu (2001) explores this dimension in an effort to isolate how entrepreneurial perceptions differ from those of non-entrepreneurs.

[43] Also see (1992, p. 50) for this threefold explication that attributes technological progress to the third. The kinship to three of Schumpeter's types of new possibilities for entrepreneurship is apparent.

[44] In (2000, p. 222), Kirzner even recoins the term "the market process" as "the entrepreneurial-competitive market process" and says (ibid., p. 223), "Competitive activity is the activity which constitutes the market process." In here referencing

market process and exists "in each human being, by the propensity to notice the implications of earlier errors (which propensity is the essence of entrepreneurship."[45]

Further, entrepreneurship is now argued (1985, p. 157) to be a means of discovering "hitherto unnoticed reserves of available resources," eliminating any assumption that resources available for production are in any way fixed or absolute in amount.[46] He says (2000, p. 99), "To discover a resource, or a new way of using a resource is in effect to create that resource, or its new use."

Even the output produced following the creative act of entrepreneurship is "discovered" output; for example, (1989, p. 13) automobiles are not implicit in steel and labor or in entrepreneurial personality. Discovering a profitable opportunity to produce them by entrepreneurial alertness is (ibid., pp. 36–37) a surprise; it is (ibid., p. 44) like an artist's vision and (ibid., p. 47) "a creation *ex nihilo*."[47] Actual production involves both calculated risk ("close-ended ignorance") and the uncertainty ("open-ended ignorance") that can bring further surprises.

"CREATIVE DESTRUCTION" VERSUS "ALERTNESS"

Schumpeter's development and cycle theories resemble Classical School models in their emphasis on the production side of a socio-economy; however, unlike his interpretation of Classical theories, in Schumpeter's models production is not driven by "exterior" forces of population change, technology, capital accumulation or changes in economic organization.[48] Instead, it is entrepreneurial

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Hayek (1948 and 1978) on the meaning of competition, Kirzner acknowledges the influence of Hayek's discussions of how the bidding and counter-bidding for resources enables the selection of what to produce and how from competing alternative possibilities.

[45] Kirzner's conception of entrepreneurial response to perceived errors would include the activities of corporate raiders in capital markets who "correct" misallocated asset control. In contrast, as Machovec (1995, p. 41) points out, Schumpeter regarded such financial market activities as "social waste."

[46] Compare to the fifth of Schumpeter's types of entrepreneurial possibilities.

[47] Substantially the same argument is made in (1992, pp. 218–222), and in (1997, p 74).

[48] Again, see Machovec (1995, pp. 113–132) for an argument that Schumpeter's view of the classicals was mistaken.

innovations that spontaneously and unaccountably alter production functions, create temporary profits and drive the economy to new levels of production and consumption.

In market economies, new general equilibria will be achieved as profits are eroded away by competition into the normal state of zero profit. For such states to exist, he assumes perfect knowledge for all participants. Schumpeter does not address the question of general equilibria in non-market economies other than what may be implicit in his references to the socialist market arguments of Lange et al.

The Schumpeterian production-driven theories of development actually include no intrinsic role for consumer demand or market exchange. This is true even in his theory of capitalism's business cycles, where markets are a sideshow to entrepreneurial innovation and merely serve to erode temporary profits. He argues that entrepreneurial activity in any socio-economy is disruptive of existing production functions and is the mainspring for growth and development. Its sources are power seeking behavior and the desire to create new orders of production. Its primary means of expressing that behavior and those desires is innovation in product, production methods, industrial organization, and/or sources of supply. Rather than expected demand driving or calling forth entrepreneurship, it is entrepreneurship that forces the changes in output mix and consumer tastes.

In sharp contrast stands Kirzner's vision of a market socio-economy as a means for individuals to enhance their pursuit of personal goals through market exchanges. Kirzner's approach is rooted firmly in the Austrian soil first plowed by Carl Menger and later by Ludwig von Mises.[49] At the center of Kirzner's vision of the market process is the purposive individual, interacting with others in a context of constant changes in the basic data underlying market exchange. Imperfect knowledge of that data creates inconsistencies in the decisions made and actions taken by market participants that can be characterized as constituting a disequilibrium state of the market.

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[49] See especially Chapter IV, section 1 of Menger's *Principles* ([1871] 1971, pp. 175–180) and Mises (1966, chs. IV and V).

This stimulates the entrepreneurial discovery of profit opportunities, of which the primary means is a state of alertness to their possibility. Unlike Schumpeter's power-seekers, who disrupt existing production relations, Kirzner's entrepreneurial activity reduces to acts of profit-seeking arbitrage. It produces adjustments in the separate plans and actions of market participants that tend to decrease or eliminate inconsistencies and are thus unintentionally equilibrating.

Both Schumpeter and Kirzner see entrepreneurship as purposive, as well as being the driving force of a socio-economy, but Schumpeter endows it with a grander role. He applies it to all economies, whether market or non-market and presents it as a force of transformation that shatters existing production and consumption relations and drives the subject economies to ever-higher levels of wealth. Rather than being driven by perceptions of unfilled needs, the fulfillment of which would be equilibrating, Schumpeter's entrepreneurial action forces new products, processes, and technology into the economy and is, in essence, disequilibrating. The role of competition in Schumpeter's system is to erode newly created profits, while in Kirzner's theory competition provides a motivation for alertness to new profit opportunities.

Kirzner views entrepreneurship as a human action that begins in one market of a market exchange economy with its effects eventually spreading throughout the whole economy. The market economy itself is viewed as a process of adjustment of human actions so that the increased coordination among market participants created by entrepreneurship better enables participants to achieve their separate goals. Whether the results are higher levels of wealth and/or the transformation of production and consumption is not really germane to the theory itself.[50] Nevertheless, the individual striving to better his condition through exchange relations produces the betterment of all in Kirzner's theory just as unintentionally as does

[50] Kirzner summarizes (1973, p. 81) the difference between his and Schumpeter's respective views of the primary importance of entrepreneurship as one of "sparking economic development" versus "enabling the market process to work itself out… with the possibility of economic development seen merely as a special case." If there are development opportunities, Kirzner insists (1979, pp. 115–117) entrepreneurship will respond to and embrace them, not generate them. Later, Kirzner argues (2009, pp. 150–151) that the Schumpeterian entrepreneur is one whose alertness to market imbalances sparks a creative response.

the "undertaker" in Adam Smith's "invisible hand" metaphor for wealth creation though production.[51]

In his later work, Kirzner does reveal some kinship with Schumpeter's entrepreneurial concept as he adds product innovation, technological progress, and resource discovery to the basic entrepreneurial function of "alertness" to profit opportunities. In a late and more favorable assessment of the Schumpeterian entrepreneur, Kirzner says (2000, p. 249) that being "somehow more prescient than others" is not enough. In addition, "entrepreneurial alertness… must unavoidably express itself in the qualities of boldness, self-confidence, creativity and innovative ability." In fact, he says (ibid. p. 249) that these qualities "express and sustain" alertness. Nevertheless, the kinship between the two concepts of entrepreneurship is merely one of methods or characteristics of its protagonists, not one of origins or purpose.

CONCLUSIONS AND SUGGESTIONS FOR FURTHER RESEARCH

Joseph Schumpeter's theory of entrepreneurship significantly differs from that of Israel Kirzner. This is particularly apparent in Schumpeter's argument that entrepreneurial activity is characteristic of both market and non-market economies and similarly drives their development. His explanation reveals his moorings in conventional neoclassical microeconomic theory, rather than in Austrian School market process theory.

There are several serious flaws in Schumpeter's theory of entrepreneurship. The Walrasian general equilibrium model on which he

[51] Boudreaux claims (1994, pp. 57–59) that Schumpeter's and Kirzner's theories of "entrepreneurial activity" are actually complementary, given sufficiently broad concepts of "competition" and of "equilibrium." Then, he defines away both concepts by saying that if there is "room for improvement" in a market, it is in disequilibrium and competition has work to do. This makes both concepts of the entrepreneur equilibrating. One only has to ask when there would be no "room for improvement" in a market to realize that this is not helpful in understanding the differences between the two. Young Back Choi (1995, p. 62) trivializes the question of whether entrepreneurial activity is equilibrating or disequilibrating by likening it to the question of whether a glass is half-full or half-empty. Yet, it would seem to matter whether entrepreneurs primarily act to create plan coordination or economic development. It also matters in real life whether someone is an optimist or a pessimist.

bases his theories of development and business cycles profoundly misrepresents the market process for reasons extensively treated elsewhere—particularly in the critiques of Mises and other Austrian School theorists. This is apparently what leads him to apply his entrepreneurial *deus ex machina* to both market and non-market contexts to the detriment of an understanding of either. In addition, his entrepreneurial *deus ex machina* as disruptor of general equilibrium lacks reasoned motivation.[52] It is not a pursuer of profit opportunities, it is a Prometheus without a first cause, a mere pragmatic device to get things going. Schumpeter's approach even runs opposite to the 1870s Marginal Revolution shift from production-driven to consumer-driven market process theory. His consumers are the tail that is wagged by the entrepreneurial dog.

Schumpeter also posits innovations as acts of entrepreneurship without an explanation of the source of the "new possibilities" that are used in innovation. He denies that they are found or created by entrepreneurship; they just come into existence somehow, lie about for awhile, are stumbled upon and get applied. His perfect knowledge assumption for a general equilibrium to exist in a market economy actually removes any rational source for entrepreneurial activity.

Kirzner's theory of entrepreneurship has obvious and substantial moorings in Austrian School market process theory as it has developed through the work of Menger, Mises, and Hayek. His extensive development of the specifics of the entrepreneurial aspect of human action has added significantly to our understanding of it. In sharp contrast to Schumpeter's ad hoc *deus ex machina*, Kirzner's entrepreneurial concept is founded on consumer sovereignty and enhances our understanding of how the market process aids individuals in their attempts to achieve chosen ends.

Nevertheless, there are discordant elements in Kirzner's vision. To find the essence of entrepreneurship in "alertness" to profit opportunities is insightful, but there must be more to it than that.

[52] As Boehm (1990, p. 230) points out, Schumpeter "doesn't explain *why* the entrepreneurs intrude themselves on the CF [circular flow]." Given his commitment (Schneider, [1970, (1975)], pp. 6–7) to the centrality of Walrasian general equilibrium for economic theorizing, perhaps Schumpeter's entrepreneur represents a makeshift device in an attempt to meld static with dynamic theory.

It takes an act of will to be alert, and a further act of will to decide to do something about it. The capacity to be alert to opportunities and to strive to profit from them is gutsy and not always present all the time or in all people.[53]

Further, Kirzner's own comparison (2000, pp. 239–257) of his concept of entrepreneurship with that of Schumpeter is inadequate in that he accedes to Schumpeter's "ideal type" view of "the entrepreneur," rather than (ibid., p. 263–264) being—as Kirzner himself recognizes—an aspect of human consciousness present in exchange relations. He does this when he characterizes the difference between their respective views as one between that of the entrepreneur as disrupter of equilibrium versus that of equilibrator, thus leaving out the ignorance, uncertainty, and purposefulness that give rise to the entrepreneurial aspect of all human action only in the market process.

It is also difficult to separate innovation from entrepreneurship, if entrepreneurship is entwined with (ibid., p. 249) "boldness, self-confidence, creativity and innovative ability," as Kirzner says it is. Expanding the definition of "arbitrage" to include innovation seems more like a slight of the hand than an argument. A focused alertness to possible market profit opportunities—of whatever sort—and the will to pursue them seems a necessary part of the concept of entrepreneurship. Kirzner's later writings appear to concede this.[54]

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[53] High (1990, pp. 40–41) wishes to add "judgment" to entrepreneurial alertness under uncertainty. But, all decision making requires "judgment" and no decision making occurs absent uncertainty. High claims (ibid., p. 54) that "the exercise of alertness does not require uncertainty to be present [and] a person may be sure of everything he does know, but not to know everything that can affect his well-being." This is open to objection on two grounds. No one can be absolutely certain of anything, save perhaps his own existence; and, "not to know everything that [could possibly] affect his well being" is to be uncertain. As Mises (1966, p. 68) says, "Man… can never be absolutely certain… that what he considers as certain truth is not error."

[54] Holcombe (1998) usefully applies the Kirznerian theory of entrepreneurial innovation to economic growth theory by adding the element of past entrepreneurial activity as generator of opportunities for new entrepreneurial activity, thus making Kirznerian entrepreneurship "the engine of economic growth." A taxonomy of possible sources of entrepreneurial profit opportunities, including past entrepreneurial activity, is found in Holcombe (2003a). Holcombe (2003b, p. 12) notes that Hayek's concept of the importance of the particular knowledge

Lastly, the comparison between the two theories of entrepreneurial action suggest that it may be time to drop the use of the words "equilibrium" and "disequilibrium" from economics. The market process is not about attaining "equilibrium," whether temporary or terminal. It is about purposive individuals seeking to achieve personal goals through exchange with others in a context of ignorance and uncertainty that requires speculation.[55] Market exchange is just one of the means for the peaceful pursuit of human ends. The language of classical mechanics provides inappropriate metaphors for the explanation of the process of market exchange. The first law of thermodynamics applies only to physical science phenomena, not to catallactics, which is a science of human action in which value is created rather than being equilibrated or merely not lost.

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of time and place suggests the parochial aspect of entrepreneurship. Fu-Lai Yu (1998) applies the Kirznerian theory to the development of emerging economies, attempting to broaden the approach and to combine it with the Schumpeterian theory in a basically neo-institutionalist explanation of likely development and growth paths, given certain behavioral, institutional, and historical assumptions.

[55] Fu-Lai Yu (2001, p. 49) refreshingly expresses the same opinion, using it narrowly to dismiss the usual contrast between Kirznerian (equilibrative) and Schumpeterian (disequilibrative) entrepreneurship.

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