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ARTICLES

EDUCATIONAL NOTE

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Israel Kirzner on Coordination and Discovery

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Abstract
Israel Kirzner has been a leader in fashioning an Austrian school of economics. In his rendering of the Austrian school, one finds a marriage between Friedrich Hayek's discourse with Ludwig von Mises's deductive, praxeological image of science – a marriage that seems to us somewhat forced. The Misesian image of science stakes its claims to scientific status on purported axioms and categorical, 100 percent deductive truths, as well as the supposed avoidance of any looseness in evaluative judgments. In keeping with the praxeological style of discourse, Kirzner claims that his notion of coordination can be used as a clear-cut criterion of economic goodness. Kirzner wishes to claim that gainful entrepreneurial action in the market is always coordinative. We contend that Kirzner's efforts to be categorical and to avoid looseness are unsuccessful. We argue that looseness is inherent in the economic discussion of the most important things, and associate that viewpoint with Adam Smith. We suggest that Hayek is much closer to Smith than to Mises, and that Kirzner's invocations of Hayek's discussions of coordination are spurious. In denying looseness and trying to cope with the brittleness of categorical claims, Kirzner becomes abstruse. His discourse erupts with problems. Kirzner has erred in rejecting the understanding of coordination held by Hayek, Ronald Coase, and their contemporaries in the field at large. Kirzner's refraining from the looser Smithian perspective stems from his devotion to Misesianism. Beyond all the criticism, however, we affirm the basic thrust of what Kirzner says about economic processes. Once we give up the claim that voluntary profitable activity is always or necessarily coordinative, and once we make peace with the aesthetic aspect of the idea of concatenate coordination, the basic claims of Kirzner can be salvaged: Voluntary profitable activity is usually coordinative, and government intervention is usually discoordinative. But the Misesian image of science must be dropped.

JEL Codes: A10, B00, C7, D2
Keywords: Coordination; Concatenation; Discovery; Entrepreneurship

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I. Introduction

Israel Kirzner is best known for his work on the role of discovery and entrepreneurship in economic affairs. He sees entrepreneurial alertness as the vital human faculty to apprehend opportunities for one's betterment. Entrepreneurial discovery entails interpretive shifts and awakenings. It goes beyond the deliberate search for or mechanical response to new information. Kirzner's insights about discovery are in contrast to the kind of economics that regards human beings as interpretively flat and fixed – that is, working within an unchanging understanding of their own ends and means. Game theory typically assumes common knowledge – interpretational symmetry throughout the "game." Knowledge is flattened down to information: There is no heterogeneity of interpretations and no role for judgment over interpretations. If economists confine their thinking to stories of final and symmetric interpretation, they will under-appreciate the role of discovery and entrepreneurship in economic affairs. More specifically, they will fail to do justice to laissez-faire (Kirzner, 1985).

Kirzner strives to integrate his discovery ideas into theories of market coordination. Refining ideas at both ends – discovery and coordination – Kirzner works to maintain that, *in market activity, successful voluntary entrepreneurial action necessarily enhances coordination.*

Our attitude toward Kirzner is great admiration mixed with frustration and regret. We embrace the central teachings – notably, that successful entrepreneurship and voluntary activity more generally usually enhance coordination, and, even more typically, that restrictions on voluntary activity diminish coordination. We are thoroughly supportive of those broad themes developed and expounded by Kirzner.

We feel, however, that Kirzner has made errors. Our impetus is to strengthen the central teachings by identifying and correcting the errors. Greater robustness of the central claims – that entrepreneurship, that freedom conduces to better coordination – is achieved by two sorts of changes. First, in certain respects the claim must be weakened. Kirzner makes "always"- or "necessarily"-type claims – categorical claims – where the claims instead should be "usually" or "by and large." Second, changes are needed in the formulation and semantics. Suitably tailored, the chief messages still ring out but become looser. Broadly speaking, our approach is *greater robustness through greater looseness.*

If we basically agree with Kirzner's teachings, then why the disagreements? We begin by offering a broad interpretation of why Kirzner would develop the ideas in ways we deem erroneous.

II. Mises, Kirzner, and the Project of Austrianism

Kirzner has been a leader in building an Austrian identity within economics. The narrative makes Ludwig von Mises the central figure of the Austrian tradition, although the tradition is said to originate with Carl Menger. In Kirzner's view, Friedrich Hayek also looms large, but Hayek is thought to develop the economics of Mises. Kirzner and his followers tend to homogenize Hayek and Mises.

Although Mises and Kirzner declare their economics to be "value free" (or "*wertfrei*"), it is clear that they believe that economics ought to address the most important things, notably major policy issues, and that they believe that the economics profession and public culture poorly appreciate laissez-faire. It is clear that Mises, Hayek, and virtually all self-described Austrian economists are motivated to advance classical liberalism, but that impetus is not distinctive to Mises, Hayek, and the self-described Austrians. If there is to be a distinctive Austrian identity, it must draw on other elements.

Kirzner sees Austrian distinctiveness in the praxeology of Mises, who propounded a view of economics as a science built on fundamental, a priori axioms of human action. Mises ascribes to his praxeology a truth status like that of mathematics:

> The theorems attained by correct praxeological reasoning are not only perfectly certain and incontestable, like the correct mathematical theorems. They refer, moreover, with the full rigidity of their apodictic certainty and incontestability to the reality of action as it appears in life and history. Praxeology conveys exact and precise knowledge of real things. (Mises, 1966, p.39)

It is upon a supposed status of axiomatic foundation, logical deduction, and apodictic certainty that Mises and those who have promulgated an Austrian identity, led by Kirzner and Murray Rothbard, stake their claim for a distinct science of economics, a science that happens to support libertarian conclusions.

Hayek, however, never embraced Mises's approach and never promulgated an Austrian identity. Compared to Mises, Hayek is considerably looser and more pragmatic – and pragmatist. We think Hayek is closer to, say, Adam Smith and Edwin Cannan, than to Mises. Hayek sees economics not as an exact or deductive science but as part of the civilization's general cultural purpose, and hence as framed by the civilization's notions of the good. Hayek (1978a) said: "Mises himself was still much more a child of the rationalist tradition of the Enlightenment and of continental, rather than of English, liberalism…than I am myself."[1]

"[T]he diverging interests of [Mises and Hayek]," suggest Keith Jakee and Heath Spong (2003, p.473), "is potentially relevant to the disunity that has surfaced within the Austrian school since the 1970s." They relate that divergence to tensions in Kirzner's discourse, particularly between the Misesian image of science and the theories about entrepreneurship.[2]

The wing of Austrianism associated more closely with the ideas of Murray Rothbard and with the Ludwig von Mises Institute clearly elevates Mises (and Rothbard) above the squishy Hayek. In "Mises and Hayek Dehomogenized," the Rothbardian Austrian Joseph T. Salerno (1993) argues that Hayek is importantly different than Mises. The wing more associated with Kirzner and Peter Boettke, however, tends to homogenize Mises and Hayek. Many of Kirzner's followers seem to subscribe to the homogenization and to Kirzner's writings on coordination (for example, Ikeda, 1990; Thomsen, 1992; Sautet, 2000; Boettke, 2001).

While earning an MBA at New York University during the 1950s, Kirzner encountered Mises and his private seminar. Kirzner was captivated and, along with Rothbard, became a leading protégé. Working under Mises, Kirzner earned his Ph.D. in economics at NYU in 1957. Throughout his career, Kirzner has remained loyal to Mises's conception of "the pure, universal truths of economic

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[1] Hayek made related remarks about Mises's undue rationalism and emphasis on the a priori in an interview published in *Hayek on Hayek* (Hayek, 1994, p.72-73) and in his foreword to Mises's *Socialism* (Hayek, 1978b, xxxiii).

[2] There is much congruence between our views and those of Jakee and Spong (2003). They are skeptical of the homogenization of Mises and Hayek, and would seem to favor Hayek. Also, they repeatedly make an issue of a distinction that seems to track ours, presented below, between plan fulfillment and retrospective plan affirmation (p.477 n.24, p.480-81, p.482 n.32). They, however, seem to enter into the dubious practices of speaking of equilibrium, equilibration, etc., without reference to a model (e.g., p.474-78), and of speaking of equilibrium and coordination apparently as though they were interchangeable (e.g., p.480).

theory" (Kirzner, 2001, p.56), or Mises' image of science. We contend, like Jakee and Spong (2003, p.470-73), that Kirzner has been committed to building a distinctive Misesian science of economics.

Kirzner has produced extensive discourse, in which a central word is *coordination*. Kirzner (2000, p.133) writes that coordination is "a clear-cut, objective criterion…which may satisfy the intuitive conviction of economists that their science does objectively demonstrate the economic 'goodness' of some economic policies." Thus, for Kirzner, coordination signifies economic goodness. He claims to show that voluntary, successful entrepreneurial action in the market necessarily advances coordination or is coordinative. Notice the two important features: The claim is categorical, or 100 percent – that is the nature of praxeological truth and, to Misesians, the mark of economic science. Second, the claim lends support to (though does not seal the case for) libertarian policy, for to obstruct such entrepreneurial action, as with government restrictions, would be to prevent coordinative actions.

To our thinking, Mises, Rothbard, and Kirzner are alike in their image of science. *Coordination* does not play a large role in Mises and Rothbard, but Kirzner makes great efforts to develop the concept of coordination in order to integrate teachings of economic liberalism with Mises's image of science. In contrast, Smith and Hayek may be said to advance the teachings of economic liberalism in ways that mostly avoid modernist conceptions of such discourse.

III. Concatenate Coordination: Hayek, Coase, and so on

Along with other economists of their times, Mises and Hayek used the term *coordination* in the sense of "concatenate coordination," an appellation used by Klein and Orsborn (2008) in order to distinguish it from the "mutual coordination" of later discourse following Thomas Schelling and game theory. Klein and Orsborn make a systematic investigation of how economists have used the term *coordination*. They suggest that, until around 1970, the way that economists used *coordination* is best understood in the following way: A concatenation of activities and resources is coordinated to the extent that the concatenation would be satisfying, pleasing, or even beautiful to a mind imagined to behold it. Hayek's usage of *coordination* nicely fits this understanding, but Kirzner (2000, ch.10) contends that his coordination is true to Hayek's. We wish to disentangle concatenate coordination from some of Kirzner's characterizations of coordination and hence will dwell a bit on concatenate coordination.

Up to around 1930, the primary economic talk of "coordination," aside from usage in the transportation literature, concerned the concatenation of activities within the firm. But in the 1930s a new moment occurred that may be marked by a lecture given by Friedrich A. Hayek in 1933 at the London School of Economics (LSE) and published that year in *Economica* as "The Trend of Economic Thinking." Hayek takes *coordination* to the extensive economic cosmos. This step was not entirely novel,[3] but it now becomes prominent in Anglo-American economics. The LSE during the 1930s seems to have bubbled with talk of coordination beyond the firm.

In the lecture Hayek extends the idea of concatenate coordination beyond the eye of any actual coordinator:

> From the time of Hume and Adam Smith, the effect of every attempt to understand economic phenomena – that is to say, of every theoretical analysis – has been to show that, in large part, the *co-ordination* of individual efforts in society is not the product of deliberate planning, but has been brought about, and in many cases could only have been brought about, by means which nobody wanted or understood, and which in isolation might be regarded as some of the most objectionable features of the system. (Hayek, 1933a, p.129; emphasis added)

Hayek is describing independent actions that lead to outcomes beyond the actor's intention and comprehension – spontaneous order. Like the concatenate coordination within the firm,

[3] Such usage occurs notably by Herbert Spencer, who in *First Principles* (1862) used the term coordination in drawing biological analogies. Besides some writers who made biological analogies similar to those of Spencer, the searches by Klein and Orsborn find other scattered and fleeting occurrences of "coordination" meaning spontaneous concatenate coordination in works by Henry George, John Bates Clark, Philip Wicksteed, Ludwig von Mises, David Friday, Lawrence Frank, Raymond Bye, and Shorey Peterson. These are shown in worksheets available from the authors or at http://www2.sofi.su.se/~1st/docs/Klein-Orsborn_Coordination_in_HET2.xls.

coordination means *desirable* arrangement or outcome. But, *desirable to whom?*

The matter, Hayek emphasizes, calls for great delicacy:

> The limitations of language make it almost impossible to state it without using misleading metaphorical words. The only intelligible form of explanation for what I am trying to state would be to say – as we say in German – that there is *sense* [*Sinn*] in the phenomena; that they perform a necessary *function*. But as soon as we take such phrases in a literal sense, they become untrue. It is an animistic, anthropomorphic interpretation of phenomena, the main characteristic of which is that they are not willed by any mind. And as soon as we recognize this, *we tend to fall into an opposite error, which is, however, very similar in kind: we deny the existence of what these terms are intended to describe.* (1933a, p.27; emphasis added to the final sentence)

Hayek would steer us away from that "opposite error." He suggests that society has a "sense" like an "organism." He even writes that a notion of social organism is necessary to economics: "The recognition of the existence of this organism is the recognition that there is a subject matter for economics" (1933a, p.27). Yet he makes these suggestions with great caution. Classical liberals dread the hazards of any society-as-organism metaphor.[4] The lecture is quite remarkable as an early expression of the dilemmas in opposing society-as-organization notions while trying to say that liberal processes are coordinative. But, coordinative to whom? In the case of the firm, an answer is fairly clear – the owners/managers. But for a polycentric spontaneous system, there is no tangible analog.

The way to interpret the "sense" of the social "organism" of which Hayek spoke is to think of a fictitious mind able to behold the extensive tapestry of social affairs, in principle including future generations, and inclined to judge it in a manner that parties to the discourse are presumed to find acceptable. This imagined judge is like that being whose hands, according to Adam Smith, are invisible. Alluding to Hume and Smith, Hayek too wants to talk about

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[4] Like Hayek, Simon Newcomb (1886, p.7-8) articulates cautions while going forward with the organism metaphor.

coordination beyond the eye of any actual human coordinator. This understanding of coordination comports perfectly with the dictionary definition of the transitive verb *to coordinate*, to put things into a pleasing order or arrangement. Necessarily embedded within such understanding are aesthetic or moral sensibilities relevant to the interlocutors. The understanding thus involves deep dimensions that are, in Adam Smith's words, "loose, vague, and indeterminate" (1790, p.175, p.327).

In writing of society as organism, Hayek cites the 1923 and 1932 German language editions of Mises' *Socialism* (1981), which not only affirms the notion of the social organism but uses it very extensively (as may be easily confirmed by an electronic text search). Interestingly, in Mises's later magnum opus *Human Action* (1966, p.589) there is but a single, insignificant instance of such usage. The disappearance reflects deep changes in Mises's intellectual enterprise; as Kirzner (2001, p.54) notes: "Mises' distinctiveness had *not* yet been firmly established by 1930." Further, it should be recalled that Hayek entered intellectual maturity as a mild socialist and a pupil of Friedrich von Wieser, whose works burble with notions akin to social organism (Shearmur, 1996, ch.2). Hayek (1978a) noted that he had come from Wieser and that Mises "gradually, but never completely, won me over." It is true that Mises converted Hayek on economic policy, but there is no reason to suppose that Mises drove organism metaphors from Hayek's mind, particularly as at the time Mises himself was expounding on them. Hayek said that "[Mises's] *Socialism* told us [young idealists] that we had been looking for improvement in the wrong direction" (Hayek, 1978b, p.xix) – not that the book transformed their idea of improvement.

Coordination ideas were explored at the LSE by Hayek's colleagues W.H. Hutt (1934), Arnold Plant (1937), and Ronald Coase (1937). Coase posed his problem: "In view of the fact that, while economists treat the price mechanism as a co-ordinating instrument, they also admit the co-ordinating function of the 'entrepreneur,' it is surely important to enquire why co-ordination is the work of the price mechanism in one case and of the entrepreneur in another" (1937, p.389). Hayek's idea of coordination was apparently no different from that of Coase and many other economists. Yet Kirzner develops claims about coordination that he presents as true to Hayek and part of a distinctively Austrian sort of economics.

IV. Kirzner's Coordination Often Seems Like Concatenate Coordination

A great many of Kirzner's statements about coordination read fine as concatenate coordination. Early in his career, he described the price system as a coordinative force in society: "Clearly, with innumerable producers making independent decisions as to production techniques, the economy must *coordinate* these decisions so as to ensure that each producer uses those resources least needed elsewhere in the economy.…An efficient system will provide sufficient reward to each participant to enable all participants to enjoy the benefits of the widest possible range of resource services" (1963, p.38). Elsewhere, Kirzner writes: "Within the firm, activities are co-ordinated by central direction, not by market competition via a price mechanism" (1992a, p.161).

Indeed, we find Kirzner articulating the construct of a mind imagined to behold the vast concatenation and its potentialities, as when he writes that the actions of buyers and sellers who have not noticed certain profit opportunities "are, *from the perspective of omniscience*, uncoordinated and inconsistent" (1985, p.59; emphasis added), or when speaking of coordinating traffic flow: "Were *an omniscient single mind* to make the decisions for *all* the drivers, that mind might arrange the drivers' actions in a smooth and safe fashion" (1992a, p.140; first emphasis added).

Because we believe that concatenate coordination conforms to the coordination discussed by Herbert Spencer, Simon Newcomb, Mises, Hayek, Coase, and hundreds of others, we think it is significant that a great many of Kirzner's utterances about coordination might be read that way. It gives the reader the impression that Kirzner is adhering to conventional usage, and it allows Austrians to speak to wider audiences. Our view, again, is that the coordination talk among Austrians ought to become sensibly about concatenate coordination – but, again, doing so would upset their claim to distinctiveness in the matter. In earlier work, Klein (1997a) proposed that Kirzner's basic claims be understood as by-and-large claims about concatenate coordination, but this proposal was vigorously resisted by Kirzner (2000, p.132-148, p.199).

V. Kirzner's Troubled Claims about Coordination

Kirzner's discourse has come to center around "coordination." Kirzner introduces and attempts to reconcile a jumble of claims about coordination. Before addressing the problems, we lay out the pieces that Kirzner attempts to fit together.

Two background conditions should be clarified. In speaking of whether economic actions are coordinative, Kirzner does not mean burglary, fraud, and other coercive actions (e.g., Kirzner 1992b, p.93); he confines the discourse to voluntary action. Second, Kirzner means entrepreneurial action that is successful, in the sense that the agent does not feel that his entrepreneurial action was an error but rather that it was gainful. Kirzner acknowledges that actors may make losses and feel regret, and that such voluntary acts might be discoordinative. His statements concern the coordinative aspects of the successful entrepreneurial seizing of gainful opportunities (e.g., Kirzner, 1992a, p.21-31). Kirzner is on solid ground in supposing that markets do *not* tend toward specific agent errors, and *do* tend to weed out loss-making activity and to correct agent errors (2000, p.31), so it is appropriate to focus on successful entrepreneurial action in characterizing market tendencies. Although there are issues about which actions are to be deemed entrepreneurial, we, too, mean such actions that are voluntary and successful.

A. "Every Entrepreneurial Gain is Coordinative"

The great virtue of Kirzner's coordination discourse is the emphasis he places on discovery, on the idea that new discoveries of gainful activities represent advances in coordination – a point too often neglected by formalistic economists and by interventionists who presume that regulators can know the economy and its potentialities well enough to manipulate it beneficially. We salute Kirzner (1992a, p.151) when he writes that entrepreneurial discoveries constitute "steps through which markets tend to achieve co-ordination, gradually replacing earlier states of widespread mutual ignorance by successively better co-ordinated states of society." Concatenate coordination will typically recognize such discovery as coordination: A humane liberal mind imagined to behold the vast tapestry and its potentialities normally will smile upon the discovery of such opportunities.

But the Misesian image of science leads Kirzner to make strong claims about the relation between coordination and the discovery of such opportunities. He maintains that every instance of discovering and seizing gainful opportunity advances coordination, and, inversely, every unexploited opportunity represents a failure in coordination, as shown by the following quotations:

- "to identify absences of coordination among the plans of market participants *it is sufficient* to identify profit opportunities" (1973, p.222; emphasis added).
- "where an unexploited mutually beneficial exchange opportunity for A and B exists, the resulting 'inefficiency' can be described as an absence of coordination" (1973, p.216).
- Kirzner suggests that *all* profit opportunities are "created by initial discoordination" (2000, p.21).
- Kirzner asserts that market entrepreneurship *always* advances coordination when he refers to "a possibly faulty functioning of the market" as "a possibility we have denied" (2000, p.86).

So Kirzner frequently says that market entrepreneurship is always coordinative. There is another issue worth clarifying before proceeding: In assessing whether an entrepreneurial action enhances coordination, what is the comparison? What is the hypothetical alternate concatenation? How do we characterize the concatenation *without* the entrepreneurial event? Like Kirzner, we focus on the discovery of opportunity. We suggest that usually the most relevant alternate concatenation is to imagine that for some adventitious reason the actor misses the opportunity. Imagine that an extraneous, unwelcome distraction interrupted the moment of discovery, preventing (or perhaps delaying) the actor's discovery of the opportunity, and, in consequence, after getting past the distraction he goes about his affairs without any really usable apprehension or formulation of the opportunity – without any sense of having "gotten an idea." In the case of distraction, we don't know exactly what would happen or how coordinative that world would be – possibly, the entrepreneurial action in question would itself have been a distraction to an *even better* discovery, which is now *realized* by virtue of the adventitious distraction that blocks the lesser discovery – after all, there is usually an even better opportunity out there. We resort to supposing, however, that without discovering the opportunity in question the actor instead carries out actions that are more obvious, closer to routine. With Kirzner, we say that there is no tendency to experience one discovery when a merely adventitious distraction would have brought one to an even better discovery – otherwise people would invite random distractions. It could happen, of course, but it would be somewhat aberrant. Accordingly, for our perspective as social analysts, the "expected" concatenation of the world without the discovery is more commonplace than the world with the discovery, more like "the day before" in the relevant context. It is a world without the "development" of the new discovery.

B. "Coordination is the Fulfillment or Compatibility of Plans or Expectations"

Kirzner (2000, p.190) characterizes coordination "as the state (or the process leading towards the state) in which the individual plans of independently-acting persons display mutual compatibility. Such compatibility may be couched, as in the preceding sentence, in terms of plans, or it may be couched in terms of decisions, or of expectations." He adds, "The fundamental idea in this coordination concept is that we (the economic or social scientists) are interested in the extent to which the decisions made by an individual correctly anticipate (and take advantage of) the decisions in fact being made by others" (2000, p.191).

Elsewhere Kirzner offers the following characterization: "A fully coordinated state of affairs, for our purposes, is one in which each action taken by each individual in a demarcated set of actions *correctly takes into account* (a) the actions in fact being taken by everyone else in the set, and (b) the actions which the others might take were one's own actions to be different" (2000, p.136; emphasis added).

Kirzner inversely characterizes discoordination as involving discordance, disappointment, or regret: "disappointment and/or regret…must ultimately ensue from patterns of action which incorrectly anticipate and depend upon the actions of others in the system" (2000, p.145); "The entrepreneurial-competitive process becomes visible…as discovering and correcting discordant individual plans and decisions" (1973, p.218).

Notice that Kirzner has run together two perspectives that entail different sets of sentiments. One perspective regards how things go along a chosen plan (or projected path of action), the positive sentiment there being fulfillment and the negative being frustration or disappointment. The other perspective regards retrospectively the chosen path as opposed to some could-have-been alternate path, the positive sentiment being affirmation of the choice one made and the negative being regret or self-reproach. For example, an employer hires Meg and it all goes fine and as expected, the plan is fulfilled, but once the action is irreversible the employer realizes that he could have offered the job to Valerie, who likely would have accepted and been better, and he feels he *should have* thought of that. This would be a case of fulfillment of the plan but nonetheless regret and an introspective sense of error. Our distinction seems to correspond to ones presented by Jakee and Spong (2003, p.477 n.24, p.480-81, p.482 n.32 referring to Jack High 1982), who argue that Kirzner's idea of entrepreneurial alertness "becomes *overly elastic* and therefore must carry too much of his argument" (p.480). We, too, contend that Kirzner blurs the distinction, which is elaborated in Table 1.

Table 1: Two Perspectives about a Plan: Fulfillment vs. Retrospective Affirmation

	Positive	Negative
Sentiment along the path pursued	Fulfillment Compatibility	Disappointment, frustration Discord
Sentiment looking back on the path pursued, as opposed to some alternate path	Affirmation	Regret, self-reproach Error, according to Klein (1999) and *sometimes* Kirzner

Kirzner also uses the term "dovetailing" to express the positive aspects of coordination, as when he says: "Co-ordination does not refer to the well-being achieved through its successful attainment; it refers only to the dovetailing character of the activities that make it up" (1992a, p.185, 191; see also 2000, p.183, p.196). He even says that "dovetailing" is the "earmark" of coordination (2000, p.190). Later we discuss Kirzner's usage of the term "dovetailing."

C. "Coordination Makes No Resort to Social Aggregation"

Kirzner insists that the coordination criterion "relies not at all on any notions inconsistent with subjectivism or with methodological individualism" (1992a, p.185); "The coordination criterion does not purport to say anything whatever about aggregate well-being" (2000, p.144); "It is possible to evaluate a system of social organization's success in promoting the coordination of the decisions of its individual members without invoking any notion of social welfare at all" (1973, p.216).[5]

D. Diagram of Three Rubrics

A two-step process at work in Kirzner, by which he asserts that Hayek (and Mises) really meant what Kirzner means by "coordination." Let us explain with reference to Table 2.

Rubric I: Here is concatenate coordination, and here is where Mises and Hayek properly belong. When they spoke of coordination, they almost always meant concatenate coordination. The occurrences of *coordination* are few in Mises and abundant in Hayek.[6] The meaning is clearly concatenate. Note that "coordination" did not play a significant role in Mises's propounding of praxeology, so, while we reject that propounding, we see no particular problem in Mises's usage of coordination.[7]

Rubric II: Here is a Kirznerian coordination wherein expectations/plans are fulfilled, compatible, or affirmed. We noted earlier that there is actually quite a lot floating around in Kirzner's utterances about fulfillment, compatibility, and affirmation, or – to take them in their negations – disappointment, incompatibility, and regret. The variations here have to do with the distinction between what happens along a path of action (or plan) and how one regards

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[5] Hayek at times invokes aggregation quite readily, for example: "the ordering and productivity enhancing function of prices, and particularly the prices of services, depends on their informing people where they will find their most effective place in the overall pattern of activities – the place in which they are likely to make the greatest contribution to aggregate output" (1978c, p.63).

[6] These are shown in worksheets available from the authors or at: http://www2.sofi.su.se/~1st/docs/Klein-Orsborn_Coordination_in_HET2.xls.

[7] Kirzner (2000, p.198) writes: "Now Mises himself never did focus explicitly on plan-coordination in all of his work; he never did focus on the dispersed character of knowledge, and on the consequent coordination problem. (This does not mean that Mises's seminal insights in each of the above two areas cannot be faithfully articulated in plan-coordination terms; it merely means that Mises himself never explicitly recognized this possible articulation.)."

the entire path in retrospect. The variations here give rise to different versions of the claims under rubric II, and we shall see that the versions have differing implications.

Rubric III: Here is a Kirznerian coordination wherein every entrepreneurial discovery is coordinative.

Table 2: Kirzner has projected III onto Hayek by attributing II to Hayek and equating II and III.

I Concatenate coordination	II A notion of fulfillment or compatibility	III A notion of opportunity-exploitation
Hayek's (and Mises's) statements about coordination.	Kirzner holds that coordinative actions necessarily entail the resolution of problems in fulfillment or compatibility of plans or expectations (or the correction of error).	Kirzner holds that *every* entrepreneurial gain is coordinative.

Kirzner projects III backwards onto Hayek (and Mises), first, by attributing II to Hayek's meaning of coordination, and, second, by equating II and III. We feel that both steps are unacceptable.

E. Kirzner's Invocation of Hayek

Hayek wrote a few passages about expectations or plans being fulfilled, realized, or mutually compatible. In every such instance, however, he was speaking of either equilibrium or order, *not coordination*. In 1937, Hayek wrote: "For a society, then, we can speak of a state of equilibrium at a point of time – but it means only that the different plans which the individuals composing it have made for action in time are mutually compatible" (Hayek, 1937, p.41). Perhaps one may read Nash equilibrium into Hayek's idea of equilibrium. Hayek later (1978c, p.184) says he prefers the term "order" to "equilibrium," and in trying to clarify "order" he writes of plans being realized or expectations being correct (1973, p.36, p.44-55, p.103, p.106f).[8] The important thing about these passages is that "coordination" is nowhere to be found. Hayek never equates equilibrium and coordination, and never defines or characterizes coordination in terms of plan/expectation fulfillment or compatibility.

Indeed, in "Economics and Knowledge" (1937, p.58), Hayek first writes of equilibrium and then emphasizes that such a position of equilibrium "is not an equilibrium in the special sense in which equilibrium is regarded as a sort of social optimum" – this special sense being coordination, though he does not use the word. Thereafter in the article, Hayek talks in a way highly reminiscent of his 1933 lecture. He speaks of a "social mind" (p.54) that sees opportunities unknown to actors in the position of equilibrium. In no way does Hayek affirm usage of the term "equilibrium" for the "social mind" concept. Hayek's primary point is that "equilibrium analysis can really tell us nothing about the significance of such changes in knowledge" (p.55). Thus, Hayek's point is that important coordination claims cannot be derived solely from "the pure logic of choice." Decades later, Hayek (1983) said he wrote the piece "to persuade my great friend and master, Ludwig von Mises, why I couldn't accept all of his teachings."

It is clear that Hayek used coordination with a connotation of economic goodness. Kirzner concedes that "at least sometimes" Hayek used coordination to mean "some desired overall patterned outcome" (2000, p.189). Referring to Klein (1997a), [9] Kirzner concedes (p.199) that such usage in Hayek conforms to Klein's idea of concatenate coordination, and Kirzner himself provides several excellent Hayek quotations in which coordination means concatenate coordination. Kirzner concedes that these occurrences of coordination do not coincide with his own notion of coordination: "such coordination is certainly not defined in terms of the mutual compatibility of independently made plans or independently held expectations" (p.189).

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[8] In Hayek's order, plans "can be *mostly* realized" (1978c, p.184; emphasis added) and that expectations "have *a good chance* of proving correct" (1973, p.36; emphasis added), showing philosophical departure from the categorical approach of Mises.

[9] Kirzner refers to Klein (1997a), where concatenate coordination was originally and regrettably dubbed by Klein as "metacoordination." That regrettable term also appears in Klein (1998).

Kirzner then insists "that, *at least part of the time*, Hayek was using the term 'coordination' not in the sense of Klein's [concatenate] coordination, but in the sense of the achievement of mutual compatibility among independently-made individual plans (without regard to any overall desirability of this outcome)" (2000, p.199). But the evidence is thin. At the top of page 191, Kirzner quotes two essays by Hayek, but the quotations by no means clearly involve Kirzner's notion that coordination hinges on plan/expectation fulfillment or compatibility. In one quoted passage, Hayek says that in a decentralized system "some method must be found for coordinating these separate plans which does not depend on conscious central control" (Hayek, 1941, p.144). The grand concatenation of course entails individuals' plans, and of course a good concatenation must entail good coordination of such plans. The other quotation has Hayek speaking of a decentralized system "with prices conveying to each the information which helps him to bring his actions in relation to others" (Hayek, 1939, p.194). The phrase is brief and "in relation to others" is vague, but it is appropriate to read the "helps him" in the following allegorical invisible-hand sort of way: Free prices conduce to individual actions corresponding in a rough way to the actions that individuals would take if they were cooperating in the commonly valued project of making a good overall concatenation. Thus, the "helps him" is allegorical – prices help individuals do their part in the imagined cooperation. Hayek is contrasting the effectiveness of the decentralized approach to that of central direction which, in the very next sentence, is said to entail the construct of "some individual mind." Hayek is yet again grappling with the problem of his 1933 lecture, where he affirmed the need to speak of some such "sense" of the social "organism" even in argumentation against central control.[10] The passages that Kirzner invokes are but further instances of Hayek speaking of concatenate coordination.

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[10] Further, note that talk of prices "conveying" or "communicating" information – as Hayek famously writes elsewhere – also is metaphorical or allegorical. Literally speaking, the only information communicated by a price is how much money it will take to get the seller to sell. There is no literal communication about relative scarcities, profit opportunities, and the like. But again, in the allegory implicit in Hayek, the communication of such things would correspond in a rough way to the inducements arising from prices.

Similar interpretation should be applied to the single occurrence of the term *dovetail* in Hayek's *Individualism and Economic Order*. We enter into consideration of "dovetail" because Kirzner and his followers have used this somewhat mysterious term to signify the distinctive Kirznerian notion that coordination hinges on plan fulfillment/compatibility. As noted, Kirzner (2000, p.190) says that "the dovetailing of individual purposive efforts" is the "earmark" of such coordination. Let us examine Hayek's employment of "dovetail," which occurs in the essay "The Use of Knowledge in Society" as the essay appears in *Individualism and Economic Order*:[11]

> Which of these systems is likely to be more efficient depends mainly on the question under which of them we can expect that fuller use will be made of the existing knowledge. This, in turn, depends on whether we are more likely to succeed in putting at the disposal of a single central authority all the knowledge which ought to be used but which is initially dispersed among many different individuals, or in conveying to the individuals such additional knowledge as they need in order to enable them to *dovetail* their plans with those of others. (Hayek, 1948, p.79; emphasis added)

Once again, we see Hayek's main concern as concatenate coordination, and we would interpret "enable them to dovetail their plans with those of others" as describing the allegorical need to guide individual efforts in ways that improve the concatenation. Hayek is considering which system is "more efficient," and how "fuller use" may be made of knowledge. A dove's tail serves as metaphor for concatenate coordination: Feathers intermesh so as to produce the curves of the tail; it consists of minute individual protrusions, and, like other spontaneous orders in nature such as crystals and snowflakes, is beautiful or pleasing to a mind imagined to behold it. The individual feathers do not have plans and hence do not experience plan fulfillment. At the same time, we recognize that "dovetail" does carry a connotation that, in their situations, individuals experience a kind of plan fulfillment and *mutual* (or Schelling) coordination with their partners. But that connotation does

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[11] We notice that as originally published in the *American Economic Review* in 1945, Hayek used "fit" in lieu of "dovetail."

not detract from the larger concatenate-coordination interpretation, for one core value of the moral community of which Hayek is participating in is that individuals should normally experience a sense of purpose, fulfillment, and local cooperation (or mutual coordination) in their lives.

Kirzner (2000, p.191) next tries to show that Hayek is Kirznerian by providing two quotations in which Hayek writes of plan/expectation fulfillment or compatibility, but in those passages Hayek is speaking of equilibrium, not coordination. In fact, the two papers that Kirzner quotes, namely Hayek 1937 and 1939, contain no occurrence of the term *coordination* or its cognates.[12]

The *only* proper location of Hayek in Figure 2 is under rubric I, concatenate coordination. Kirzner locates him "at least part of the time" under rubric II. Then, in equating II and III, Kirzner implies that Hayek is therefore with him under rubric III. Now we turn to the problems of equating II and III.

VI. The Disparities between Kirzner's Two Pieces

As we have seen, Kirzner makes strong claims about coordination in relation to plan fulfillment/compatibility and in relation to the discovery of opportunities. These are represented in Figure 2 as rubrics II and III. To maintain his categorical system, these two pieces must fit neatly together. Here we argue that those two pieces do not fit neatly together. Our own understanding leaves open the distinct possibility that weakened versions of the claims may be vitally important, as elaborations on concatenate coordination, but we think that the categorical versions should be jettisoned.

A. Entrepreneurial Discovery Need Not Entail Any Experience of Correction (or, III Does Not Imply an Error Version of II)

[12] Similarly, elsewhere Kirzner (2000, p.79) writes of how Austrian economics "has dismissed the idea that the function of the market is to allocate resources efficiently" and instead embraces the idea that the function of the market is "one of coordinating the plans" of participants, and then says how this coordinative function "has been interpreted as that of promoting" discovery, and cites, aside from his own work, Hayek's "Competition as a Discovery Procedure" (1978c). The term *coordination*, however, does not occur in Hayek's piece.

Kirzner (1985, p.52) writes: "To act entrepreneurially is to identify situations overlooked until now because of error."[13] In addition, Kirzner holds that error necessarily entails disappointment and/or regret: "The entrepreneurial-competitive process becomes visible…as discovering and correcting discordant individual plans and decisions" (1973, p.218). Our objection can be couched within an example offered by Kirzner (1979, p.161). Robinson Crusoe stands on shore catching fish day after day. One day he realizes that he could better catch fish by making a boat. Kirzner writes: "Nothing has changed since yesterday except that Crusoe has discovered that his time is more valuably spent in building the boat than in catching fish. He has discovered that he had placed an incorrectly low value on his time. His reallocation of his labor time from fishing to boat-building is an entrepreneurial decision, and, assuming his decision to be a correct one, yields pure profit in the form of the additional value discovered to be forthcoming from the labor time applied." In this story, does Crusoe *necessarily* experience feelings of disappointment or regret? In our view, it is possible that he would experience regret in not having come to the boat-method sooner. Kirzner says that Crusoe "has discovered that he had placed an incorrectly low value on his time." That telling suggests regret; it suggests that Crusoe feels that he had erred in not previously seeing the boat-method opportunity. But with a slight change in the story we may have Crusoe entrepreneurially discovering the boat-method opportunity without any such feeling of regret – indeed, the term "entrepreneurship" would seem to suggest an insight that was not obvious. At any rate, it is perfectly natural to have Crusoe one day seeing the boat-method without his experiencing any sense of previous error, feeling neither regret nor disappointment. Indeed, if Kirzner maintains that every entrepreneurial discovery implies preceding error and hence disappointment and/or regret, then humanity must be a lugubrious lot, for they often look back on their preceding actions with a better interpretation of the information they had had. By making his claims categorical, Kirzner boxes himself into identifying error (and hence disappointment and/or regret) in any previous action that one would revise based on one's *later*

[13] Similarly: "The opportunities that market entrepreneurs perceive and exploit are created by earlier coordination failures by market participants" (Kirzner, 1992b, p.91).

interpretation of the information. But such talk will often simply do violence to our language. One day a light bulb – illuminating how he may fashion a boat – goes off in Crusoe's head. This entrepreneurial moment is, quite plausibly, one of gleeful pride. Crusoe does looks back on yesterday with neither disappointment nor regret; rather, today he feels a sense of improvement and forwardness. Entrepreneurship does not necessarily entail preceding error or any sense of disappointment or regret. As for the coordinative aspect of the story, it is natural enough to say that Crusoe's discovery is coordinative, for a mind imagined to behold the potentialities would smile on Crusoe's advancement. That mind would see a better concatenation of resources and efforts in Crusoe's world. The story is one of coordinative entrepreneurial discovery, but Kirzner's strict coordination claim involving error, disappointment, or regret must be dropped.

It is straightforward to take the point beyond Crusoe to the normal economy. Entrepreneurial actions in the economy simply need not entail any disappointment or regret about preceding actions. A story of entrepreneurial discovery is Somerset Maugham's verger who, unable to satisfy his urge for a smoke, is struck by the notion of opening a tobacco shop in the lacking area. In Maugham's story, the verger feels neither disappointment nor regret in not having come to the idea earlier, nor does anyone else. There is no reason to insist, as does Kirzner, that there was any prior error. If in Kirzner's system entrepreneurial discovery necessarily entails "correcting discordant individual plans and decisions" (1973, p.218), then there is something very wrong with the system. If prior to the verger's discovery some being had a feeling of discord, that being could only be an imaginary one who beholds the potentialities – and Kirzner says that is not what he means.

B. Entrepreneurial Discovery Often Upsets Other People's Plans (or, III Does Not Imply a Fulfillment Version of II)

By all intuitive accounts, entrepreneurial discovery often upsets people's plans. Entrepreneurs often surprise established businesses, upset customs, and frustrate some customers. Had the entrepreneurial discovery not occurred, those customs and businesses would have gone forward as planned – actual expectations would have been fulfilled.

Kirzner notes (2000, p.142, p.250) that he has received this objection many times. Kirzner deals with the objection by saying that the plans and expectations held by the other businesses and their customers were erroneous all along – that they did not correctly take into account the realities of the situation. It will be useful to scrutinize Kirzner's discourse on this matter.

In a subsection called "Entrepreneurial Innovation – Coordinative or Disruptive?" (2000, p.249-252), Kirzner takes up the challenge:

> To see why and how I believe it is possible and accurate to insist on my use of the term 'coordinative' to describe the entrepreneur's behavior, it will be useful to focus on an example of bold, creative, innovative Schumpeterian entrepreneurship responsible for a dramatic technological breakthrough, revolutionizing an entire industry. (p.250)

Notice that Kirzner promises an example of "the entrepreneur's behavior" – in the singular – but in the ensuing pages we never find such an example. The next sentence reads: "Consider the invention and innovation of the automobile in the U.S." He elaborates on the example, but henceforth, at least four times, it is now "entrepreneurs" – plural – who wrought the changes. Rather than the unique action of one individual, several entrepreneurs have come up with the same discovery and are simultaneously carrying it out or are poised to carry it out. In this story, no single entrepreneur really upsets the plans of the buggy-makers, because if entrepreneur A fails to make the discovery, the buggy-makers' plans will be devastated just as thoroughly and just as swiftly by B, C, D, and E. Thus Kirzner writes: "The truth, as we now know, is that it was an industry sitting on a powder keg waiting to explode" (p.251). Thus, Kirzner has shifted from "the entrepreneur" to an example that does not face up to the challenge. Suppose there is one pioneering entrepreneur without like in sight. If we compare the world with and without that entrepreneur's discovery, we see that without his discovery some buggy makers will go on better, their plans will be fulfilled, at least for a longer stretch. Dealing with the buggy-makers' disappointment and incompatibility that *does* result from the entrepreneurial discovery, then, must lead Kirzner into issues of aggregation.

Another notable instance of Kirzner attempting to address the same challenge is in Kirzner (2000, p.142f), where he answers Klein (1997a). Again, we fail to see Kirzner zeroing in on the comparison of worlds with and without a particular entrepreneurial discovery. Again, human experience – *verstehen* – is not to be credited: "The apparent earlier calm which, as a result of the aggressive new competition, has been followed by sudden disruption, was in fact utterly misleading. That calm was a façade . . ." (p.143). In sketching the example, Kirzner does not make explicit an assumption about multiple simultaneous entrepreneurs; instead, this example carries an implicit assumption that the incumbents who foolishly thought they were experiencing calm actually themselves had access to the opportunities in question, and could have taken them into account. Under that assumption, Kirzner is interpreting his claims under rubric II strictly in the "takes into account" version, and not at all in the fulfillment/compatibility version – the distinction again based on how things go along a chosen plan and retrospection regarding the chosen path. Thus we find Kirzner shifting from one version of II to another so as to sustain the various pieces, as though the versions of II all cohere as one. At any rate, one should once again insist: If we stick to the original simple example, in which the opportunity exists for only a single potential entrepreneur, then we must see that some disappointment or upset comes *only* in the entrepreneurial event. In judging it to be coordinative nonetheless, Kirzner must be engaging in some kind of aggregation – which he denies – or not really invoking rubric II in any fundamental way at all.

C. Fulfillment and Compatibility Need Not Imply No Further Profit Opportunities (or, a Fulfillment Version of II Does Not Imply III)

Here we deal with the fulfillment/compatibility version of the claims under rubric II. We contend that the fulfillment and compatibility of plans and expectations do not imply that there are no betterment opportunities out there. A network of people may carry on spontaneously, each making plans and forming expectations about the doings of the others, and they may find their plans and expectations to be fulfilled and mutually compatible in every reasonable and intuitive sense, and yet they may be overlooking opportunities for both individual and social betterment. There may be an opportunity for a better mousetrap out there, but the overlooking of that opportunity by everyone does not necessarily involve any upset to their plans or expectations. When the discovery occurs, people might make their future plans accordingly, but there is no necessary implication that their plans up to or at such time go unfulfilled or encounter incompatibilities.

Presumably, that is why, within this rubric, Kirzner at times couches the condition in terms of *taking things into account*, as when he characterizes coordination as entailing that one "correctly takes into account" how things would go for oneself "were one's own actions to be different" (2000, p.136). If one had, instead, built that better mousetrap (and by implication, we are to suppose, in the first instance discovered the opportunity), then things would have gone better for him. So Kirzner's "takes into account" can do the work necessary to get II to imply III, but fulfillment and mutual compatibility, by themselves, do not deliver that result.

We now replay the point in the contrapositive – that is, we examine the Kirznerian notion that not-III implies not-II: Does the non-existence of a betterment opportunity imply that people do not feel disappointment, discord, or regret? Here we must make use of our earlier distinction between how things go along a chosen path and retrospection regarding the chosen path. The non-existence of a betterment opportunity *does* imply that people do not feel retrospective regret about the chosen path (assuming of course that they do not come to new spurious notions about what opportunities had existed). As we understand the terms, regret goes with error, and the non-existence of a betterment opportunity implies no error. However, the non-existence of a betterment opportunity does not imply that people do not feel disappointment or discord. That is, things might not go as hoped or expected, even though there was no particularly better way to go about things. It was only the sentiments and expectations that were faulty, not the decisions or actions.

We believe that, all within rubric II, Kirzner has mixed together the two different sets of sentiments about a plan: fulfillment vs. retrospective affirmation. Hayek's words about equilibrium and order – which Kirzner treats as words about coordination – involve fulfillment and compatibility (or, in the negation, disappointment and incompatibility). As Kirzner wishes to claim Hayek as his own, Kirzner uses fulfillment and compatibility, but Kirzner seems to sense that what really does go with his discovery ideas (rubric III) is, rather, "taking into account" (or, in the negation, regret). It is only that version of II that implies III.[14]

VII. Problems in Seeing Kirzner's Two Ideas as Characterizations of Coordination

The previous section considered the Kirznerian ideas of II and III in Table 2. That consideration was primarily immanent criticism of the purported cohesion between those pieces, not criticism of those ideas as necessary characterizations of coordination. Now we focus on the characterizations of coordination in those terms.

A. Problems in Fulfillment, Etc., as Characterization of Coordination

Kirzner (1992a, p.141-43) develops a traffic signaling system example to explicate coordination. The example proceeds from the point of view of the traffic engineer, not any of the motorists. Kirzner speaks without reservation of programming the system "to control the flow of traffic in some optimal manner" (p.141) to avoid collisions and delays. The purpose to which Kirzner puts the example is to distinguish between the coordination achieved by a static signal program and that achieved by an adaptive signal program that changes based on the history of traffic patterns. This is all well and good – Kirzner at his best. We say that in both aspects, the coordination of which Kirzner speaks is naturally interpreted as concatenate coordination.

Now, suppose the signal program was quite bad – by standards relevant to those likely to be talking in a concerned way about such things. Following Kirzner: "Southbound drivers find themselves waiting at red lights, let us say at 3:00 in the afternoon, for several minutes during which no traffic flows at all in the east-west directions. Clearly this waiting is unnecessary; it means that north-

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[14] To carry through on the scheme here, we note that III does not imply that (or any other version) of II. That is, as we have already argued, entrepreneurial discovery does not imply disappointment, incompatibility, or regret. The reason we see the relation (that is, the relation between the "takes into account" version of II and III) as *only one-way* is that we have narrower conceptions of what constitutes an entrepreneurial discovery and what constitutes an error, with the narrowness being a matter of how obvious the opportunity is (or was) – with obviousness understood within and depending upon the context of the discourse. Following Klein (1999), entrepreneurial discovery is only the discovery of non-obvious opportunities, and error is only the non-discovery of obvious opportunities. Thus, entrepreneurial discoveries do not imply previous errors.

south drivers are compelled to act in a fashion that is not co-ordinated with the decisions of the east-west drivers" (p.141-42). Our point is this: Where, in this sorry concatenation, is there any necessary disappointment, incompatibility, or regret in plans or expectations? Suppose that motorists are familiar with the system. They get into their cars expecting a dreary journey with long delays; their plans and expectations are fulfilled. Moreover, they have no opportunity to improve their situation. There is no sense of regret, nor any feeling of discord or incompatibility with the plans of other motorists.

In this example – which both Kirzner and we readily identify as discoordination – if there is any sense of disappointment, incompatibility, or regret, it must be on the part of the traffic control chiefs. But again there is no guarantee that such persons actually feel any disappointment, incompatibility, or regret. We would hope they care enough about motorists' delays that they come to such sentiments, and we would hope that reform of the system is viable, but, even if not, we may still describe the situation as poor coordination. It is natural to us to think about the satisfaction that a benevolent mind would feel in the achieving of a better signaling system. As for our description of the concatenation as a "sorry" one, we may say that if the benevolent being in fact guided the traffic officials so as to produce the observed system, *that being would feel regret* over the guidance it issued, a regret that derives in some aggregate manner from its sympathies with the motorists.

The previous examples of Crusoe and of the verger do not necessarily imply any disappointment, incompatibility, or regret. Likewise, people might experience disappointment and discord without there being any discoordination in decisions and actions.

The Kirznerian rubric II involves sentiments and expectations. In our view, the only part to be retained in a significant way is to associate regret or self-reproach with error[15] – an association that Kirzner strongly affirms *sometimes* (Kirzner, 1979, p.128-130, p.146, p.147; 1985, p.56; 1994, p.224-25). As for the other sentimental and expectational aspects of Kirzner's discourse about coordination – the positive notions of fulfillment and compatibility, the negative notions

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[15] In the matter of associating regret/self-reproach with agent error, we would allow the element of regret to be merely potential or vicarious. In the matter of associating regret/self-reproach with social error, we project the semantics of agent error onto beings that might be only fictitious, metaphorical, or allegorical.

of disappointment, incompatibility, and discord – we see them as only very loosely related to coordination. The problem is that our actions involve hopes, visions, and vague awareness of possible contingencies. Often, our doings are better described as "muddling through." There is often ambiguity about whether "our plans" go as expected. They rarely go as well as we wish, and they almost never go in a way that is utterly surprising, and how we describe the experience might depend on the discourse situation. Further, suppose that people learn to expect little. Does fulfillment or disappointment depend on the dispositions or personalities of the individuals involved? While we accept discovery as highly consonant with concatenate coordination, we do not have the same view of fulfillment and compatibility.[16]

B. Problems in Claiming that Every Entrepreneurial Action Is Coordinative: "All Swans Are White"

One can make a system in which all swans are white by defining certain non-white birds as non-swans. In managing the "field of force" of our scholarly discourse (Quine, 1961), we jointly manage the strength of claims (the minimal percentage of swans that are white) and the semantic distinctions so as to achieve reasonable consistency. But consistency is not our only objective. Not all consistent systems are equally good. We have to consider the value or usefulness of *an entire field*, one against another (Quine, 1961). If you make your claims 100 percent, you have a much more complicated – and possibly eccentric – set of distinctions. You might have to attend to definitional "redistricting" in myriad minute instances to protect your 100 percent. Consider the opposite extreme. Suppose you work with 0 percent statements: "Swans are white zero or more percent of the time," "Swans have feathers zero or more percent of the time," and so forth. Then, for consistency, you don't have to worry about your distinctions at all; even bananas may be counted as swans. But 0

[16] Perhaps these terms have gotten into the swirl because of the extensive Austrian discourse involving *equilibrium* and its cognates. Austrians have a practice of speaking of "equilibrium," etc., without reference to a model. To our mind, "equilibrium" and its cognates are tropes that only have meaning within certain genres of metaphor or storytelling involving a model. The speaker chooses model metaphors to serve the purposes of the discourse. Whether some particular phenomena are to be described as equilibrium or disequilibrium depends on the model employed.

percent claims aren't serviceable. In managing this Quinean problem, we adjust at both ends, finding percentages for our claims in light of the practicality and meaningfulness of the semantic options. Like Mises and Rothbard, Kirzner holds an image of science that makes him enamored of 100 percent claims. As a concomitant, we contend, he ends up making impractical distinctions. Adam Smith was much more attuned to the Quinean problem, much less enamored of 100 percent – even suspicious of it – and more respectful of semantics "plain and intelligible to common understandings" (Smith, 1776, p.687).

Kirzner says that 100 percent of successful entrepreneurial actions are coordinative. We say it is less than 100 percent, but high enough to give the claim presumptive truth. It seems to us that many kinds of counter-examples can be creditably presented. There are surely cases in which a first mover into a market space happens to be below average, and that things would have gone better if the first mover had *not* moved into the space and gummed it up. This first-mover problem crops up with regard to product lines, conventions, standards, internal procedures, relationships, etc. Many other kinds of examples might be given in which entrepreneurial gain is discoordinative, including monopolistic situations, speculative situations, misleading advertising, exploitation of ignorance (e.g., tourist traps), shirking and laziness, opportunism, exploitation of a commons, businesses that are obnoxious or distasteful to some of the local community, and demerit markets. Ricketts (1992, p.77-78) offers the example of a putative entrepreneur getting his acquaintances drunk and talking them into a deal that they'll later regret. He also speaks (p.82) of interloping entrepreneurs undoing beneficial long-term practices. All of these can be voluntary, profitable, and frowned on by the moral community involved in our coordination talk. While the proper presumption is that voluntary successful entrepreneurship is coordinative, there is no basis for insisting that it *always* is.[17] When Kirzner attempts to deal with some of these challenges, he leaves us unsatisfied.

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[17] George Selgin (1983, p.39) distinguished between "equilibrating" and "coordinating," and challenged Kirzner on the claim that entrepreneurial action is necessarily coordinating. At one point (p.39) Selgin associates coordination with "increased well-being."

C. Was The Communist Manifesto *Coordinative?*

In a moment of entrepreneurship, a man discovers an opportunity to write a certain book, get it published, and sell many copies. He enlists a collaborator and voluntarily agrees with publishers to produce the book, who voluntarily sell it to "sovereign" consumers. The book is very popular. Gains are made by the entrepreneur and his associates. Their plans and expectations are fulfilled. They have no regrets.

The author is Karl Marx, and the book is *The Communist Manifesto*. On Kirzner's view, it seems, one would have to say that the entrepreneurial act was coordinative. It would seem to satisfy all of his diverse aspects of coordination. In our view, however, it is reasonable for those who regard *The Communist Manifesto* as pernicious to judge this entrepreneurial act discoordinative. To a liberal humane mind imagined to behold the vast concatenation and its potentialities, the creation of *The Communist Manifesto* is a sad and lamentable day. Even if we set aside the pernicious effects the book has had on coercive policymaking, the cultural effects were unfortunate.

Kirzner would, no doubt, say that Marx's writings are filled with errors. But one would have a hard time interpreting the acts involved as error in Kirzner's economic sense. Marx gained, his associates gained, the activity was voluntary, and nothing was regretted. To our way of thinking, Marx's errors were not agent errors, but were errors only in the allegorical sense exposited earlier when discussing the traffic signal system: If the imaginary benevolent being in fact guided Marx and Engels to produce *The Communist Manifesto*, that being would feel regret over the guidance it issued. Even though there is no agent error, there can be error in terms of the "sense" of the social "organism" of which Hayek (1933a) spoke. Voluntary, successful entrepreneurial developments are sometimes discoordinative.

The Communist Manifesto is merely an extreme example of something that frequently occurs in cultural markets – the prosperity of unfortunate, discoordinative ideas, forms, beliefs, and sentiments. Even if we presuppose that coercion plays no role – that is, we assume that the cultural markets are perfectly free, and that there is no hazard of the cultural wares inciting coercive actions – it still makes sense to suppose that sometimes discoordinative activities will prosper. We may have good reason to believe that the very discoordinativeness of activities in such a setting gives rise to forces that tend to make the activities in question unprofitable, but there is no reason to suppose that such an invisible hand works instantaneously, which means that along the way it is likely that many agents will reap entrepreneurial gains from discoordinative actions.

D. "Markets" vs. "Institutions"

How would Kirzner deal with such contentions about cultural products? A clue might be found in his discussion of path-dependence. Kirzner (1992a, p.166-179) confronts the possibility of inferior patterns, standards, and practices getting locked in. Kirzner even uses "inferior" and "superior" to describe them. He gives the example of using feet and inches, and notes that "a superior system of measurement might have emerged" (p.172). He gives the example of "some hardy soul" (p.175) starting a path in a deep snow, and others following in this footsteps. He suggests that the path might persist through time as the route people follow even though it is very inferior to other routes that might have emerged. Kirzner seems to be acknowledging that, under the circumstances, successful entrepreneurial action by certain path-finders can produce inferior results. But he safeguards his categorical claims by saying that such cases concern "institutions," whereas his theories are about "markets." In the paragraph that concludes the essay, Kirzner writes:

> …these earlier economic insights into the spontaneously co-ordinative properties of markets do not, in themselves, provide any reassurance concerning the benign quality of the long-run tendencies of institutional development.…the spontaneous co-ordination which occurs in markets provides us with no basis for any extension of the welfare theorems relating to markets to the broader field of the theory of institutional evolution. (1992a, p.179)

Kirzner draws a line between "markets" and voluntary "institutions." But how does one draw the line? Will one say that any time there is any element of path-dependence – in products, in standards, in practices, in customs – the activity becomes "institutional" and hence cannot be taken as a challenge to his theory? But don't practices and customs suffuse all market activity? A barbershop, a grocery store, Craigslist.org, Amazon.com, etc. are, in every sense of the term, *institutions*. The expressions and workings of demand and supply typically proceed within the context of institutions. One might wonder whether Kirzner's "market" represents merely some blackboard example devoid of institutional context. Yet, Kirzner goes about his categorical coordination claims as though they have common relevance to real-world economic affairs. Where he separates "markets" and "institutions" Kirzner (1992a, p.166-179) offers no clarification of the difficulties in making that separation – he does not even acknowledge the difficulties.

Moreover, Kirzner's "inferior" and "superior" in speaking of "institutions" is quite mysterious. In speaking of "institutions," Kirzner avoids the term *coordination*, apparently because he wishes to reserve the coordination criterion for talk of markets. So what is the criterion for institutions? The only clarification is reference to Pareto rankings (p.170, p.172). But that is so narrow as to be useless – indeed, shouldn't we assume that the first hardy soul who trudged through the snow did so in a way that was individually optimal? Kirzner speaks of "inferior" and "superior" without any indication of the criterion involved, or of how it relates to coordination.

Brian Loasby (1982), Martin Ricketts (1992), and others have brought similar criticisms. Kirzner relates Loasby's challenge: "Loasby stresses not only the possibility of entrepreneurial mistakes in the face of an uncertain future, but also the possibility that entrepreneurs discover profit opportunities through deliberately misleading the consumer (Loasby, 1982, p.121) or through speculatively purchasing assets…" (Kirzner, 1992a, p.13-14). Kirzner sets up the challenge quite dramatically, but in the remaining 13 pages of the essay he never seems to answer it. He essentially addresses a different challenge, namely that sometimes entrepreneurs err and drive the market in a wrong direction (a matter that Loasby also raised). Kirzner writes: "the postulation of a tendency for profit opportunities to generate equilibration has not been put forward as an inexorable, determinate sequence. The emphasis upon the incentive to win profits has not been intended to deny the possibility of entrepreneurial losses" (p.21). His lengthy examples of the erroneous bicycle factor inducing a demand for steel (p.29-30) and of the shoe producer acting through time (p.32f) are examples of entrepreneurial error, not entrepreneurial success. He says at the end of the shoe-producer example: "But it is always the case, nonetheless, that appropriate entrepreneurial incentives do, at any given moment, offer themselves in regard to the path relevant to the realities" (p.31). But the issue is whether entrepreneurial incentives *not thusly* *appropriate,* too, might *ever* offer themselves, and Kirzner never seems to address the matter. He concludes the essay with many gestures at concession and relaxation of his claims (see esp. p.34-36), but without confronting the real challenge. Similarly, in responding to Ricketts' point that sometimes profit can be had in ways that are indubitably voluntary but manipulative, Kirzner (1992b, p.93) dodges it with the pronouncement that his work is not intended to apply in contexts "[w]here property rights are not well defined, not fully protected, or otherwise not complete enough to satisfy the conditions for a fully private enterprise economy."

E. Does Kirzner Stretch "Entrepreneurship" to Include All Action?

We suggest examples of discoordinative successful voluntary entrepreneurship, including:

- Misleading marketing practices, manipulation
- A low-quality first mover leading to lock-in
- Speculative bubble
- *The Communist Manifesto*
- Establishing an opium den in a community
- Local cultural effects (e.g., a brothel, obnoxious billboards)
- Opportunism, shirking, etc.

One way Kirzner might try to deal with some of these examples is to regard all action as entrepreneurial and thereby to disqualify some of the examples as cases of *omnilateral* successful entrepreneurship. Suppose a tourist trap sells tourist items at terms which, say, we know the consumer is very likely to quickly discover were bad terms. Suppose most such buyers will presently feel "ripped off."[18] Kirzner might say that this is not an example of successful entrepreneurship because the success is not omnilateral – the consumers, too, he might say, are entrepreneurs, and they do not feel the transaction was a success. Mises (1966, p.252) writes: "In any real and living economy every actor is always an entrepreneur," and

[18] To clarify further, assume that the consumer affirms the level of trust he had put in the merchant's decency. He feels, not that he erred, but that he was "ripped off," although not quite defrauded in a sense that would make what the merchant had done coercive.

Kirzner (1979, p.28) quotes the statement approvingly.[19] Thus, every consumer who walks into a 7-Eleven and buys a carton of milk instantiates the entrepreneur. We think that this indiscriminate use of "entrepreneur" or "entrepreneurship" is wrongheaded. Interpretive perception plays some role in all human action, but we think that the entrepreneurial aspect corresponds with the non-obviousness of the opportunity discovered.[20] Following the accustomed grooves of going to 7-Eleven to buy milk usually will not qualify. Rather than seeing a continuum of interpretive perceptiveness and demarcating an exceptional category as entrepreneurial – like Schumpeter (1934, p.81-82), not only for entrepreneurship but for "being able to sing" – Kirzner sometimes insists that the "zero" point of interpretive perceptiveness is mechanical and that *anything greater than zero* is entrepreneurship. It is like treating the idea of "fatness" as having more than zero fat on one's body, or saying that thin people are "a little fat." We believe that this is misguided. We believe that Kirzner conflates entrepreneurship and interpretive perceptiveness, just as the suggested analogy would conflate fatness and body weight. Properly speaking, thin people are not in the "fat" category at all, and people who show little or only ordinary interpretive perceptiveness are not in the "entrepreneur" category at all.[21]

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[19] See also Kirzner (1973, p.33f) and (2001, p.87).

[20] See Klein, 1999, p.61-62. Klein's approach would focus more on types of discoveries and discovery factors (Klein, 1997b), and would relinquish "entrepreneur" more to ordinary language; this relates to the point by High (1982, p.166) and Ricketts (1992, p.72) that Kirzner's system does not allow a place for entrepreneurial losses. The refocusing of Kirzner's insights on discovery factors, not entrepreneurship, also relates to the reservations that Peter G. Klein (2008) and Salerno (2007) have about Kirzner's characterization of entrepreneurship.

[21] Kirzner's overly expansive conception of entrepreneurship touches another problem we see in Kirzner. We focus on Kirzner's claim that every entrepreneurial event is coordinative. But Kirzner also asserts the converse – that coordinative enhancements come *only* by entrepreneurial actions. He suggests this when he writes: "What *alone* tends to introduce a modicum of consistency and coordination into this picture, preventing a situation in which even the slightest degree of coordination could exist only as a matter of sheerest chance, is market entrepreneurship, inspired by the lure [of] pure market profit" (1973, p.59; emphasis added; see also 1992a, p.151). We rejected Kirzner's claim that coordinative enhancements (save those by sheerest chance) come only by entrepreneurial action because we take a narrower view of entrepreneurship. To follow through on our analogy in the text, to say that coordinative enhancements

Indeed, Kirzner seems to be inconsistent in this regard. In keeping with ordinary language, Kirzner writes of entrepreneurial discovery as an "unanticipated enjoyment" that "lifts one out of the routine sequence of everyday experience" (1992b, p.86). In general, one naturally reads Kirzner's entrepreneur talk through the lens of ordinary semantics. Kirzner seems to revert to the overly expansive conception only when he needs to invoke an idea of omnilateral entrepreneurial success to get out of certain binds.

If Kirzner wants to hold that "every actor is always an entrepreneur," where does that leave him? First, his statement about the coordinativeness of activities that satisfy omnilateral successful entrepreneurship has coverage that is significantly truncated. Perhaps Kirzner would say that it simply does not apply to the tourist trap, which he might agree is discoordinative, since the consumers, too, are now counted as entrepreneurs. Could he likewise exclude the several other examples we offer? Perhaps, with enough work, but it seems to us that he will need to get into counterfactuals about collective action (e.g., in the path-dependent cases) as well as whether we may say that people *act* in the forming of certain attitudes, sentiments, expectations, and habits, and even in adopting certain beliefs: Are we to say that one commits entrepreneurial error in investing intellectual, moral, or spiritual capital in an inferior technological system, *The Communist Manifesto*, a drug habit, or identification with a "clean" neighborhood? Now that everyone is an entrepreneur, whatever basis we have for saying that an event is discoordinative might be turned by Kirzner into an instance of some entrepreneur not having acted successfully. Thus, once we minutely, idiosyncratically snip away all the discoordinative cases, we are left with only coordinative cases.

It appears that Kirzner goes to impractical lengths to preserve certain Misesian "pure, universal truths of economic theory" (Kirzner, 2001, p.56). But, if this is how Kirzner would handle the challenging cases, he must admit the truncated coverage of the application of those truths. The "pure truths" do not apply universally, except in the sense that they apply universally within the hodgepodge of cases in which they apply. This is unfortunate. The vital truths that Kirzner teaches would, if rendered in by-and-large versions, be more serviceable and more widely applicable. Instead,

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come only by entrepreneurial actions is like saying that coordinative enhancement come only by actions by fat people.

because of problems that comes with 100 percent conceptualizations, people jettison what is vital and good in Kirzner.

F. Is Kirzner Building Out Around an Axiom About Voluntary Interaction?

What would it mean for Kirzner for entrepreneurship to be discoordinative? Studying Kirzner's works carefully, one gets the feeling that "coordinative" is necessarily built into successful voluntary entrepreneurship – or, more generally, simply successful voluntary action – by Mises's dictum of human action.

Murray Rothbard was much more blatant in building out around an axiom about voluntary interaction. He propounds a principle of "demonstrated preference," minimizes talk of entrepreneurship and coordination, and states bluntly: "Voluntary exchanges, in any given period, will increase the utility of everyone and will therefore maximize social utility" (1962, p.770) as well as that "*no government interference with exchanges can ever increase social utility*" (1956, p.252). Rothbard makes his claim to 100 percent deduction quite clear: "since all government actions rest on its taxing power, we can deduce that: *no act of government whatever can increase social utility*" (1956, p.252). Similarly, Joseph Salerno (1993, p.131) writes: "We may thus conclude that every act of intervention unambiguously lowers social welfare." Kirzner often seems to be making the same kind of 100 percent claim, but much less explicitly. If so, why not make it explicit? If Kirzner is intent on having a system in which voluntary implies coordinative, why not make that clear from the outset, and then proceed to show how he proposes to alter the entire field of concepts, semantics, and statements so as to achieve that goal? Doing so would have the virtue of directness.

In the essay "The Limits of the Market" (contained in Kirzner, 2000), Kirzner denies the possibility of faulty market operation; he denies the very idea of market failure. But in Kirzner's scheme, what would it mean for the market to be faulty, for there to be market failure? Has he done nothing more than twist coordination talk and its domains as needed so as to maintain that successful voluntary action in the market is always coordinative?

G. Economic Goodness and Some Larger Goodness

Even if one accepts Kirzner's distinction between "markets" and "institutions," and supposes that there remain substantive cases and issues in the "market" category, do we find Kirzner *in that domain* taking a firm Rothbardian libertarian line? No, we do not. We find out, essentially, that while coordination is the last word in *economic* goodness, it does not necessarily agree with some larger goodness. In Kirzner's eschewal of the Rothbardian line, we encounter another distinction:

> To say that the market process works successfully in the context of externalities is certainly not to pronounce the market outcome socially optimal… Nor is it, in and of itself, to declare governmental attempts compulsorily to internalize externalities, to be a definite error (since, after all, governmental policy may seek to reflect citizens' preferences as these are understood in moral or political terms, rather than in the narrow, austerely 'scientific' terms within which economic science is confined). (Kirzner, 2000, p.82)

Kirzner seems to be saying that his coordination claims pertain only to "economic" aspects of preferences, plans, expectations, opportunities, etc., as opposed to "moral and political" aspects. In the essay, Kirzner is not dealing with issues like culture or political identity but with conventional discussion of economic externalities such as pollution. Kirzner seems to be saying that it may be socially bad if gas stations sell leaded gasoline and make profits, but the external ill effects do not count in considerations of whether selling leaded gasoline is coordinative. Somehow those ill effects are cast out as "moral and political."

There might be merit in distinguishing "economic goodness" from other kinds of goodness – notably some larger goodness that subsumes economic goodness. But Kirzner seems to make the distinction simply to maintain his 100 percent claims while eschewing the Rothbardian line about larger goodness. If we are serious about a distinction between economic goodness and larger goodness, we should get specific about: (1) what constitutes the distinction, (2) what, broadly, is the nature of larger goodness, and (3) what value the distinction has. Kirzner enters into nothing of the kind.

VIII. Can the Coordination Standard Be Used to Criticize Interventions?

Kirzner's works, efforts, and intellectual community are imbued with liberal purpose. The great message is that liberty is far more valuable and worthy than accorded by the public culture and public policy. The teachings on coordination are directly and deeply related to this great message. Kirzner indicates this deep connection when he writes:

> We can now understand how Mises came to believe that economic science leads us ineluctably to the conclusion that a policy favoring unfettered free markets, a policy of laissez-faire, of capitalism without any government intervention, is scientifically demonstrated to be the best policy. A free market works in a systematic way to encourage coordination among the decisions of market participants, with the motivating force being the needs and preferences of consumers. (Kirzner, 2001, p.170)

But, while the liberal character of Austrian discourse is plain, when we get down to specifics in Kirzner's works about the connection between coordination talk and policy argumentation, we encounter problems – and we believe that the problems arise from Kirzner's two basic errors: insisting on 100 percent and not embracing concatenate coordination.

A. Kirzner Seems to Say that We Cannot Use Coordination to Compare Policy Regimes

Despite the liberal flavor of Kirzner's coordination talk, his discourse grows abstruse and inconsistent in attempting to show how the coordination talk works in comparing coordination of policy regimes. He writes: "The criterion is itself admittedly unable to discriminate between the economic goodness of different moral/legal frameworks, unless one of them is taken as the relevant starting point" (2000, p.139). This phrasing (similarly found on p.138) would seem to suggest that you *can* discriminate between frameworks but that the judgment will depend on which one you start at. A full examination of the texts, however, leaves such a reading in doubt. Another possible reading is that Kirzner is saying you simply cannot make judgments of coordination across legal frameworks.

In attempting to elucidate, Kirzner offers the following:

> To see this at the most elementary level, imagine that agent alpha prefers a marginal unit of beef over a marginal unit of

> chicken, while agent beta prefers the chicken over the beef. It will make all the difference in the world, in our judgment of coordination or miscoordination in regard to the distribution of beef and chicken ownership, whether we (i) begin with a situation in which alpha and beta 'own' the chicken and beef respectively, or (ii) begin with a situation in which alpha, say, 'owns' *both* the beef and the chicken. From the perspective of situation (i), coordination would require that alpha finish up having the beef, and beta having the chicken. But from the perspective of situation (ii), it is that initial situation (in which alpha owns both the beef and the chicken) which is the coordinated situation. From a strictly economic perspective (i.e., from a perspective which is neutral in regard to the relative morality or legality of alternative initial property rights patterns of distribution) one cannot pronounce situation (ii) as economically 'bad' – even though that situation would be perceived as uncoordinated, were our initial vantage point to have been a situation in which the beef and chicken were, initially, differently distributed. (Kirzner, 2000, p.139)

Thus, Kirzner says that if we started with a situation in which alpha and beta each had a piece of meat, but ended with beta having both pieces, the outcome is uncoordinated. Kirzner implies, in parallel fashion, that if we started with beta owning both and ended with each having a piece of meat, it would be uncoordinated. Kirzner does not say how, from each starting point, such outcomes emerge. Kirzner's thrust seems to be that whenever there is an alteration in the "moral/legal framework," then coordination cannot be used. The meat example leaves us uncertain, however, since, in the first example, where Kirzner pronounces the outcome "uncoordinated" it would seem that beta stole alpha's chicken. If that is what Kirzner means to imply, perhaps he would say that individual coercion does not count as an alteration in the moral/legal framework.

Kirzner attempts to clarify by drawing an analogy between the coordination criterion and distance. "The question 'How far is it to Chicago?' cannot be answered except by reference to some 'arbitrarily-given' starting point" (p.139). True enough, but the kind of distance question that would be analogous to the question of comparative coordination is: Which is further from Chicago, St. Louis or Indianapolis? But Kirzner's discussions of these matters (principally at 2000, p.80f, p.138f) seem to suggest that there is no comparative coordination across policy regimes. On this reading, we simply cannot speak of whether a policy reform would help or hurt coordination: "coordination cannot be defined except within a given, adopted moral/legal framework; nonetheless, within that framework, it offers an objective criterion" (p.139). To follow through on the distance analogy, Kirzner, then, would be saying that we cannot speak of whether St. Louis or Indianapolis is farther from Chicago.

If Kirzner were to stick to this line, surely it would be quite astonishing. Despite the pervasive liberal character of all the coordination talk, we would be taking Kirzner to be saying that it is useless in comparing regimes. On this view, we cannot say that abolishing slavery was coordinative; we cannot say whether the imposition of pre-market approval for pharmaceuticals was discoordinative; we cannot say that socializing the food industry would be discoordinative. On this view, Kirzner's coordination criterion would say that voluntary entrepreneurial actions within a regime are coordinative, and little else.

B. But Kirzner Uses Coordination to Compare Policy Regimes

Although Kirzner seems to say that we cannot use coordination to compare policy regimes, he then on the next page (2000, p.140) uses it to compare policy regimes. The sole policy example addressed there is the issue of central planning versus free markets. Again, Kirzner is abstruse, and it is necessary to quote at length:

> What Mises showed, of course, was that at a deeper level, the central planner cannot create a true plan, since he cannot engage in 'economic calculation,' i.e., each part of the 'plan' is necessarily made without full awareness of its true implications for other parts of the attempted plan. What this means, in terms of our notion of coordination is that the actions called for by the attempted central plan are uncoordinated in the sense that, were the various agents in the socialized economy to have the freedom to make their own decisions (with full awareness of each other's decisions and potential decisions), (i.e., were they to be assigned specific property rights), they would find it mutually beneficial not to follow the pattern of actions in fact dictated by the central plan – even if the central planner's objective

> was that of fulfilling the preferences of agents, to the greatest socially possible extent. The economic inadequacy of socialist planning is thus to be understood as seen from the hypothetical starting point of some (i.e., any) pattern of property rights. (Kirzner, 2000, p.140-41)

The passage seems to be saying the following: If we assume that the central plan was intended to fulfill "the preferences of agents, to the greatest socially possible extent," and if instead of the socialist regime there was a pervasive assignment of private property rights, then the various agents would have done differently than the erstwhile plan, and on that basis "the actions called for by the attempted central plan are uncoordinated."

Kirzner deems the central plan "uncoordinated" on the basis that, acting under laissez-faire capitalism, "the various agents in the socialized economy…would find it mutually beneficial not to follow the pattern of actions in fact dictated by the central plan." Kirzner does not clarify the principle here, but he seems to be saying that any policy regime that results in outcomes other than those which would prevail under laissez-faire capitalism is uncoordinated. Since any significant departure from laissez-faire capitalism will result in different outcomes, the only thing that such a principle achieves is to render a binary criterion of economic goodness: Laissez-faire private enterprise regimes are coordinated, and all the others are uncoordinated. Such a criterion of economic goodness would be neither useful nor reasonable.

At other moments, Kirzner makes judgments about policy in terms of coordination very plainly. Consider the following two cases:

- "Imposed price ceilings may, similarly, not merely generate discoordination in the markets for existing goods and services (as is of course well recognized in the theory of price controls); they may inhibit the discovery of wholly new opportunities." (Kirzner, 1985, p.38-39)
- "Quite apart from the discoordination generated by such imposed prices in the markets for *existing* goods and services, price (and also quality) restraints also may well inhibit the discovery of wholly new opportunities" (Kirzner, 1985, p.143).

Here Kirzner casually cites the "well recognized" problems of price controls as instantiations of discoordination. Such discoordination would surely be a demerit of such regimes, in comparison to regimes without such discoordination.

Kirzner, despite himself, clearly wants to use coordination to judge policy reform. But in a footnote at the conclusion of the primary essay on the matter, he seems to acknowledge that things are unsettled: "We must readily grant that even if the arguments in this chapter are accepted, we have not yet firmly established the usefulness of the coordination concept as the criterion for economic goodness. The serviceability of the coordination criterion, as a device with which to rank a series of alternative policies, has to be concretely demonstrated" (2000, p.147, n18).

C. On the Evaluation of Price Controls

Now think about the earlier bulleted statements in which Kirzner says that price controls generate discoordination. How would he square that with his own characterizations of coordination? The "well recognized" disadvantages of rent control involve the deadweight loss from curtailed quantity transacted and the mal-allocation of those units that are transacted. In what way do these problems fit Kirzner's characterizations of coordination? Under rubric II, there is no way to see those problems as either a lack of fulfillment or compatibility of plans or expectations. People expect rent-controlled rates, they expect shortages, queues, and so on. Nor is there any regret on the part of market participants. As for rubric III, the well-recognized discoordination does not involve any missing of profit opportunities. The law expunges opportunities that would exist in the absence of the law. The standard analysis does not involve any unexploited opportunities. Kirzner has no basis in his characterizations for calling the well-recognized harms of rent control "discoordination."

Indeed, if we were serious about Kirzner's characterizations of coordination, where would that leave the libertarian economist? Quite plausibly, occupational licensing, the postal monopoly, and the government school system tend toward a regimentation of affairs and bring *greater* fulfillment of plans and expectations. Plans and expectations adapt to any environment, and, thus perhaps there are more moments of frustration and regret in a dynamic system than in a regimented one. Take regimentation to the extreme and think of life within a prison or military training camp; in Kirzner's terms of rubrics II and III, these would seem to suffer little discoordination.

The problem is Kirzner's characterization. Of course those interventions are discoordinative, for in the back of our minds is concatenate coordination. To a liberal mind imagined to know the set of possible concatenations, each of those interventions is undesirable relative to freer arrangements. The interventions are viewed as undesirable for a variety of reasons, including matters of discovery, and including standard deadweight-loss analyses.

IX. Why We Should Own Up to – and Properly Locate – the "Loose, Vague, and Indeterminate"

By 1973, the year of *Competition and Entrepreneurship*, the economics profession had for many generations experienced the trend toward formalization. Increasingly, human beings were being thought of as optimization machines – a trend exquisitely protested by Buchanan (1979) on moral grounds. On knowledge grounds, Kirzner illuminated crucial ways in which human beings cannot be reduced to machines. The trends against which Kirzner was leaning were part of a broader trend. Modernist social scientists felt the need to do value-free science, to establish separate scientific disciplines, and to schematize the discipline's teachings. These developments went hand-in-hand with the deterioration of any liberal consensus within the moral community – social democracy and interventionism were ascendant and socialism threatened radical change.

While Kirzner's sensitivity to knowledge's richness drew from Hayek, his image of economic science followed Mises. In developing his ideas about entrepreneurship and coordination, Kirzner attempted to preserve the Misesian praxeological vision of *wertfreiheit* and exact deduction from a priori truths. Kirzner answered one form of modernism with another. He worked hard to have a modernist economic science that incorporated his key insights, but over time the efforts grew increasingly abstruse.

In our view, economics is part of the humanities. It is really political economy, of a piece with moral and political philosophy. Inquiry, argumentation, and judgment in the field is bound to enter into realms of the "loose, vague, and indeterminate," to use Adam Smith's phrase (1790, p.175, p.327). Modernism may be seen as the effort to exile the loose, vague, and indeterminate.[22] The "utility" that agents maximized was utterly vague (Coase, 1977),[23] but no matter: the substance of "utility" was safely placed outside the province of economic science. All such nebulae were to be eliminated from the science. The aspiration was to make the science a sort of grammar, which Smith described as "precise, accurate, and indispensable" (1790, p.175). But the only way to do this is to skirt the most important things – that is, the most important issues, positions, and arguments. Any economics that speaks to the most important things is, whether it admits it or not, bound to enter into the loose, vague, and indeterminate. Kirzner is devoted to addressing the most important things. He ends up with plenty that is loose, vague, and indeterminate. His discourse includes ambiguities and inconsistencies, such as the following:

- Kirzner runs together two perspectives: Plan fulfillment vs. retrospective plan affirmation. Similarly, he is inconsistent on whether error entails regret.[24]
- Kirzner says that "every actor is always an entrepreneur" (1979, p.28) but also that entrepreneurial discovery "lifts one out of the routine sequence of everyday experience" (1992b, p.86).
- Kirzner says coordination cannot be used to make judgments across regimes, and yet he uses it to make judgments across regimes.
- Kirzner characterizes coordination with the ideas of both rubric II and rubric III, but we have argued that those two rubrics do not go hand-in-hand.

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[22] Incidentally, it might be proper to see "modern" as post-Newton, and Adam Smith really as something of an exception in the general, centuries-long stream. But modernism becomes especially virulent (and "value free") with the decline of liberalism/rise of social democracy.

[23] "To say that people maximize utility tells us nothing about the purposes for which they engage in economic activity and leaves us without any insight into why people do what they do" (Coase, 1977, p.43); "man must recognize that even within his own private sphere of action there is no maximand" (Buchanan, 1979, p.110); "Smith would not have thought it sensible to treat man as a rational utility-maximiser" (Coase, 1976, p.116).

[24] Again, Kirzner strongly associates regret/self-reproach with error at 1979, p.128-130, p.146, p.147; 1985, p.56; 1994, p.224-25.

Kirzner also makes dubious or vague distinctions, including:

- "markets" vs. "institutions" (1992a, p.166-179)
- "economic" vs. "political" preferences (or aspects/dimensions of preferences) (2000, p.82).

It makes sense that discourse about the most important things would inevitably involve the loose, vague, and indeterminate. If the most important things could be resolved by grammar-like sciences, then those things would be settled and would no longer be most important at the operative margins of discourse. While the aspiration is always to get *more* of a grammar into our understanding of the most important things, it is vain to think that we can ever elude the loose, vague, and indeterminate.

Owning up to the looseness, we then may think about how best to manage and locate it in our discourse. Our view is that we ought to be open about the looseness of our sensibilities about the desirable, about goodness, and specifically here about the aesthetic aspects of *coordination*. Kirzner, by contrast, claims to have "a clear-cut, objective criterion" (2000, p.133), with the result that muddleness erupts throughout his teachings.

Mainstream economists have tried to relieve discomfort with the looseness that is inherent in their doings by replacing concatenate coordination with "efficiency," "optimality," and "the social welfare function." These are served up as precise and accurate maximands, but in fact they often become vague and indeterminate when put to important social purposes. In our view, economists should resist translating concatenate coordination as *efficiency* or *optimality* precisely because coordination does not pretend to or aspire to a maximand.

When an economist says, "Rent control hurts coordination," the statement addresses certain narrow consequences of rent control as well as the concept of coordination itself; in making the statement, the economist aims to edify listeners with regard to the relevant moral and aesthetic sensibilities. In his book *Adam Smith and the Virtues of Enlightenment*, Charles Griswold (1999) writes that Smith's "work evinces a sophisticated awareness of the problem of the relationship between form, content, and audience" (p.41), and that his discourse "is intended to persuade us to view things in a certain light, to refine the ways in which we judge and feel, and perhaps to encourage us to act in a certain manner" (p.49). Griswold thusly characterizes Smith's discourse as *protreptic* – a term that refers back to Greek discourse that endeavored to persuade students, whose basic outlook and attitudes are still formative, to come to a favored way of viewing the whole matter, both "cause" and "effect" and their relations in one encompassing formulation, in preference to competing formulations, attitudes, and outlooks. Griswold views the "invisible hand" in just this way:

> Just as the 'invisible hand of Jupiter" was part of the vocabulary of ancient 'superstition," the 'invisible hand' is part of Smith's philosophical and protreptic rhetoric whose purpose is likewise to establish order persuasively. The many 'teleological' or even, on occasion, 'religious' statements in *The Theory of Moral Sentiments* must be understood in connection with this aestheticized speculative outlook. (Griswold, 1999, p.333)

The economics literature that used "coordination" in discussing the vast concatenation had a similar protreptic quality, in that it addressed the aesthetic sensibilities that ponder the vast concatenation. The protreptic quality – addressed to edification of basic attitudes, aesthetics, and outlooks – did not fit the "value-free" values of putatively scientific economics, and hence was discouraged and displaced by more formal discourse. In the modernist century, each journal article or textbook chapter arranged for itself a neat setting and story, and "efficiency," "optimality," and "the social welfare function" were represented in those analytic settings. Yet, as game theorists from John von Neumann (Dore et al., 1989, p.xiv) to Robert Aumann (1985, p.42) have acknowledged, there is an aesthetic lurking behind such genres as well. The problem is that model-building aesthetics are typically ill-suited to addressing important social purposes. If we are going to make the aesthetic element accountable to important social purpose, we ought not to keep it in the dark.

Kirzner writes: "What is needed for an objectively-based normative economics, is a criterion which, like the criteria which identify a particular disease, can be unambiguously identified by economic science and which, again as in the case of disease, seems likely to be able to serve as a norm for goodness in the light of independently established, widely shared or otherwise assumed moral principles" (2000, p.134). Kirzner writes as though "disease" is hammered out by science, and then the business of human affairs puts that learning to use. Similarly, he thinks that science hammers out the coordination criterion, and then the morally relevant community may adopt the criterion as a norm in evaluating policies. But the separation is false and unnatural. If the morally relevant public did not perceive beauty to inhere in coordination, what sense would it make to use that protreptic term? Suppose the morally relevant public was virulently closed and illiberal. What kind of discourse situation would have an economist talking to them of coordination (whatever it is, but assuming it is broadly liberal) and calling it "coordination"? The auditors might listen to him and say, "Ah, thank you, now we understand better what we must do to achieve discoordination."

In the case of medicine, perhaps it is much easier to separate grammar and aesthetics. "Mental illness" aside, a disease is quite distinct from the organism it afflicts. It is simple to assume that we are rooting for the organism and against the disease. In social policy, however, the "disease" is societal practices, interests, and beliefs. It is often a matter of individuals being unenlightened, of their beliefs being their affliction. The dialectics of discourse drive it toward those disagreements in which interlocutors invoke sensibilities that are not so widely shared that we may usefully fashion them "objectively-based normative economics."

Kirzner (2000, p.145) writes: "Use of the coordination criterion involves no such moral commitment at all, on anybody's part. Use of the coordination-criterion presumes that those advised by the economist are morally concerned that members of society [achieve better coordination]." But wouldn't cooperating with policymakers entail a kind of commitment to their moral concerns? If advising the makers of public policy – or using the protreptic "coordination" in teaching 19-year olds how to interpret political and economic affairs – does not often or even typically entail moral commitments, then what does?

Kirzner elaborates on how Mises presupposes a value of "consumer sovereignty" among his readers (2001, p.169). Kirzner does not deal with whether it was reasonable to suppose that "consumer sovereignty" is an unrivaled value. Specifically, he does not explore what would happen to Mises' claims under the alternative assumption that people value collectivism. What would "coordination" mean to them? Suppose a social democrat favors the government school system relative to a voucher system, saying that it enhances coordination. Kirzner's formal characteristics of coordination (rubrics II and III) do not help much to dispute the claim, but, more importantly, Kirzner would be unwilling to negotiate the substance of "coordination." In contrast, a Smithian would dispute the claim but be upfront that what he deems misguided are not just narrower beliefs about specific consequences but broad beliefs as well. Most likely the social democrat will make claims that must drag us into a discussion of much wider consequences, including moral, sentimental, and cultural consequences.

There is a web of tacit understanding and sensibility that bonds us as scholars trying to serve the larger purposes. We are each individual in our interpretations and judgments, and yet we are somewhat kindred with one another. That essential condition inheres at every node of discourse:

> The word *I,* does not, like the word *man,* denote a particular class of objects, separated from all others by peculiar qualities of their own. It is far from being the name of a species, but, on the contrary, whenever it is made use of, it always denotes a precise individual, the particular person who then speaks. It may be said to be, at once, both what the logicians call, a singular, and what they call, a common term; and to join in its signification the seemingly opposite qualities of the most precise individuality, and the most extensive generalization. (Smith, 1761, p.219)

Every economics can be thought of as the thought of some imaginary composite economist, and every economist is an "I": "The words I have spoken and am yet to speak mean nothing: it is only *I* who mean something *by them*" (Polanyi, 1962, p.252).

Kirzner's attitude is to relegate anything loose and vague into not-economic-science quarters. For example, when he speaks of "a possibly erroneous initial distribution of rights" (2000, p.86), it is clear that the "erroneous" is, to his mind, completely separate from economic science. But is such a relegation wise? Why is Kirzner so sure that those quarters should exist separately and distinctly from judgments of coordination? By trying to relegate looseness to other quarters, Kirzner in fact ends up with brittle 100 percent claims surrounded by abstruse doctrine erupting with problems. It is a bit like managing vice: Attempts to eradicate it are vain – and discoordinative.

If, instead, we allow more of the loose and vague in our idea of coordination and confess the protreptic nature of it, then our by-and-large claims will be more robust, and we can enter more concretely and plainly into argumentation about issues, positions, and points with fewer worries about whether a particular concession upsets some axiom and fewer inhibitions about getting into waters muddied with moral, sentimental, and cultural consequences.

Economists can preserve the important presumptive claim that coordination is advanced better by free markets than by intervention, a claim true to Hayek. It is sound to see both competition and entrepreneurship as being coordinative, in that they usually – not always – bring about changes in the grand concatenation that make it better coordinated in the eyes of the humane mind imagined to behold it. Lower-cost firms replace higher-cost firms, consumers find new and better goods and services, people find more satisfaction in their work, and so on. Such general sensibilities help to justify Adam Smith's presumption of natural liberty and ultimately entail a sense of beauty "not unlike that which we ascribe to any well-contrived machine" (1790, p.326). Government intervention typically brings a variety of effects that the imagined mind regards as baneful. With the indicated modifications, the coordination teachings of the Austrian economists remain basically true and important – but it is doubtful that they remain distinctively Austrian.

References

Aumann, Robert. 1985. "What Is Game Theory Trying to Accomplish?" In *Frontiers of Economics,* ed. Kenneth Arrow and Seppo Honkapohja, 28–76. Oxford: Basil Blackwell.

Boettke, Peter J. 2001. *Calculation and Coordination: Essays on Socialism and Transitional Political Economy*. New York: Routledge.

Buchanan, James M. 1979. "Natural and Artifactual Man." In *What Should Economists Do?,* 93–112. Indianapolis: Liberty Fund.

Coase, Ronald. H. 1937. "The Nature of the Firm." *Economica*, 4(16): 386–405.

Coase, Ronald H. 1976. "Adam Smith's View of Man." In *Essays on Economics and Economists,* 95–116. Chicago: University of Chicago Press, 1994.

Coase, Ronald H. 1977. "Economics and Contiguous Disciplines." In *Essays on Economics and Economists,* 34–46. Chicago: University of Chicago Press, 1994.

Dore, Mohammed, Sukhamoy Chakravarty and Richard Goodwin. 1989. *John von Neumann and Modern Economics*. Oxford: Clarendon Press.

Griswold, Charles L. Jr. 1999. *Adam Smith and the Virtues of Enlightenment.* Cambridge: Cambridge University Press.

Hayek, Friedrich A. 1933a. "The Trend of Economic Thinking." *Economica*, 40: 121–137.

Hayek, Friedrich A. 1933b. "Price Expectations, Monetary Disturbances and Malinvestment." In *Profits, Interest and Investment*, 135-156. London: George Routledge and Sons, 1939.

Hayek, Friedrich A. 1937. "Economics and Knowledge." In *Individualism and Economic Order*, 33–56. Chicago: University of Chicago Press, 1948.

Hayek, Friedrich A. 1939. "Freedom and the Economic System." In *Socialism and War*, 189–211. Chicago: University of Chicago Press, 1997.

Hayek, Friedrich A. 1941. "The Economics of Planning." In *Socialism and War*, 141–147. Chicago: University of Chicago Press, 1997.

Hayek, Friedrich A. 1948. "The Use of Knowledge in Society." In *Individualism and Economic Order*, 77–91. Chicago: University of Chicago Press. (Orig. pub. 1945.)

Hayek, Friedrich A. 1952. *The Sensory Order: An Inquiry into the Foundations of Theoretical Psychology*. Chicago: University of Chicago Press.

Hayek, Friedrich A. 1963. "Rules, Perceptions, and Intelligibility." In *Studies in Philosophy, Politics and Economics*, 43–65. Chicago: University of Chicago Press, 1967.

Hayek, Friedrich A. 1973. *Law, Legislation and Liberty, Volume 1: Rules and Order*. Chicago: University of Chicago Press.

Hayek, Friedrich A. 1978a. "Coping with Ignorance." *Imprimis,* 7(7): 1–6. https://www.hillsdale.edu/news/imprimis/archive/issue.asp?year=1978&month=07

Hayek, Friedrich A. 1978b. Foreword to Ludwig von Mises's *Socialism*. Indianapolis: Liberty Fund, 1981.

Hayek, Friedrich A. 1978c. "Competition as a Discovery Procedure." In *New Studies in Philosophy, Politics, Economics and the History of Ideas*, 179–190. Chicago: University of Chicago Press.

Hayek, Friedrich A. 1983. "An Interview with F.A. Hayek." *Cato Policy Report* 5(2). http://www.cato.org/pubs/policy_report/cpr-5n2-hayek.html

Hayek, Friedrich A. 1994. *Hayek on Hayek: An Autobiographical Dialogue*. Chicago: University of Chicago Press.

High, Jack C. 1982. "Alertness and Judgment: Comment on Kirzner." In *Method, Process, and Austrian Economics*, ed. Israel M. Kirzner, 161–168. Lexington, MA: D.C. Heath.

Hutt, W.H. 1934. "Co-ordination and the Size of the Firm." *South African Journal of Economics,* 2(4): 383–402.

Ikeda, Sanford. 1990. "Market-Process Theory and 'Dynamic' Theories of the Market." *Southern Economic Journal,* 57(1): 75–92.

Jakee, Keith, and Heath Spong. 2003. "Praxeology, Entrepreneurship and the Market Process: A Review of Kirzner's Contribution." *Journal of the History of Economic Thought,* 25(4): 461–486.

Keynes, John M. 1930. *Treatise on Money* I. London: Macmillan.

Kirzner, Israel M. 1963. *Market Theory and the Price System*. Princeton, NJ: Van Nostrand.

Kirzner, Israel M. 1973. *Competition and Entrepreneurship*. Chicago: University of Chicago Press.

Kirzner, Israel M. 1979. *Perception, Opportunity, and Profit: Studies in the Theory of Entrepreneurship*. Chicago: University of Chicago Press.

Kirzner, Israel M. 1983. "Does Anyone Listen to Economists?" *Inquiry: A Libertarian Review*. April, 38–40.

Kirzner, Israel M. 1985. *Discovery and the Capitalist Process*. Chicago: University of Chicago Press.

Kirzner, Israel M. 1992a. *The Meaning of Market Process: Essays in the Development of Modern Austrian Economics*. New York: Routledge.

Kirzner, Israel M. 1992b. "Entrepreneurship, Uncertainty and Austrian Economics: Commentary on Ricketts." In *Austrian Economics: Tensions and New Directions,* ed. Bruce J. Caldwell and Stephan Boehm, 85–102. Boston: Kluwer Academic Publishers.

Kirzner, Israel M. 1994. "A Tale of Two Worlds: Comment on Shmanske." In *Advances in Austrian Economics*, Vol. 1, ed. Peter J. Boettke and Mario Rizzo, 223–226. Greenwich, Connecticut: JAI Press.

Kirzner, Israel M. 2000. *The Driving Force of the Market*. New York: Routledge.

Kirzner, Israel M. 2001. *Ludwig von Mises: The Man and His Economics*. Wilmington, DE: ISI Books.

Klein, Daniel B. 1997a. "Convention, Social Order, and the Two Coordinations." *Constitutional Political Economy*, 8(4): 319–335.

Klein, Daniel B. 1997b. "Discovery Factors of Economic Freedom: Respondence, Epiphany, and Serendipity." In *Uncertainty and Economic Evolution: Essays in Honor of Armen A. Alchian*, ed. John R. Lott, Jr., 165–180. New York: Routledge.

Klein, Daniel B. 1998. "Planning and the Two Coordinations, With Illustration in Urban Transit." *Planning and Markets*, 1(1). http://www-pam.usc.edu/volume1/v1i1a1s1.html

Klein, Daniel B. 1999. "Discovery and the Deepself." *Review of Austrian Economics,* 11: 47–76.

Klein, Daniel B., and Aaron Orsborn. 2008. "Concatenate Coordination and Mutual Coordination." Ratio Institute Working Paper 116. http://www.ratio.se/pdf/wp/dk_ao_coordination.pdf

Klein, Peter G. Forthcoming. "Opportunity Discovery, Entrepreneurial Action, and Economic Organization." *Strategic Entrepreneurship Journal*. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1141549

Knight, Frank H. 1921. *Risk, Uncertainty, and Profit*. Boston: Houghton Mifflin Company.

Loasby, Brian J. 1982. "Economics of Dispersed and Incomplete Information." In *Method, Process, and Austrian Economics: Essays in Honor of Ludwig von Mises*, ed. Israel M. Kirzner, 111–130. Lexington, MA: DC Heath.

Loasby, Brian J. 1983. "Knowledge, Learning and Enterprise." In *Beyond Positive Economics*, ed. Jack Wiseman, 104–121. London: Macmillan.

Maugham, W. Somerset. 1952. "The Verger." In *The Complete Short Stories of W. Somerset Maugham*, Vol. III, 572–578. Garden City, New York: Doubleday.

Mises, Ludwig von. 1966. *Human Action: A Treatise on Economics*. 3rd ed. Chicago: Henry Regnery. (Orig. pub. 1949.)

Mises, Ludwig von. 1981. *Socialism: An Economic and Sociological Analysis*, trans. J. Kahane. Indianapolis: Liberty Fund. (Orig. pub. 1922.) http://www.econlib.org/Library/Mises/msS.html

Newcomb, Simon. 1880a. "The Organization of Labor I: The Organizer as a Producer." *Princeton Review*, 1: 393–410.

Newcomb, Simon. 1880b. The Organization of Labor II: The Interest of the Laborer in Production. *Princeton Review*, 2: 231–46.

Newcomb, Simon. 1886. *Principles of Political Economy*. New York: Harper & Brothers.

Peterson, G. Shorey. 1930. "Transport Co-ordination: Meaning and Purpose." *Journal of Political Economy,* 38(6): 660–681.

Plant, Arnold. 1937. "Centralise or Decentralise?" In *Selected Economic Essays and Addresses,* 174–198. London: Routledge & Kegan Paul, 1974.

Polanyi, Michael. 1962. *Personal Knowledge: Towards a Post-Critical Philosophy*. Chicago: University of Chicago Press.

Quine, Willard van Orman. 1961. "Two Dogmas of Empiricism." In *From a Logical Point of View*. 2nd ed., 20–46. Cambridge: Harvard University Press.

Ricketts, Martin. 1992. "Kirzner's Theory of Entrepreneurship – A Critique." In *Austrian Economics: Tensions and New Directions*, ed. Bruce J. Caldwell and Stephan Boehm, 67–102. Boston: Kluwer.

Ricketts, Martin. 1994. *The Economics of Business Enterprise: An Introduction to Economic Organization and the Theory of the Firm*. 2nd ed. New York: Harvester Wheatsheaf.

Rothbard, Murray N. 1956. "Toward a Reconstruction of Utility and Welfare Economics." In *On Freedom and Free Enterprise*, ed. Mary Sennholz, 224–262. Irvington-on-Hudson, NY: Foundation for Economic Education, 1994.

Rothbard, Murray N. 1962. *Man, Economy and State: A Treatise on Economic Principles*. Auburn, AL: Ludwig von Mises Institute, 1993.

Salerno, Joseph T. 1993. "Mises and Hayek Dehomogenized." *Review of Austrian Economics,* 6(2): 113–46.

Salerno, Joseph T. 2007. "The Entrepreneur: Real and Imagined." Paper presented at Austrian Scholars Conference, Auburn, AL. http://mises.org/journals/scholar/salerno4.pdf

Sautet, Frédéric E. 2000. *An Entrepreneurial Theory of the Firm*. London: Routledge.

Schumpeter, Joseph A. 1934. *The Theory of Economic Development*, trans. R. Opie. Cambridge: Harvard University Press.

Selgin, George A. 1983. "Praxeology and Understanding: An Analysis of the Controversy in Austrian Economics." *Review of Austrian Economics,* 2(1): 19–58.

Shearmur, Jeremy. 1996. *Hayek and After: Hayekian Liberalism as a Research Programme*. London: Routledge.

Smith, Adam. 1761. "Considerations Concerning the First Formation of Languages." In *Glasgow Edition of the Works and Correspondence Vol. 4 Lectures on Rhetoric and Belles Lettres*, ed. J. C. Bryce, 203–226. Indianapolis: Liberty Fund, 1985.

Smith, Adam. 1776. *An Inquiry into the Nature and Causes of the Wealth of Nations*. Oxford: Oxford University Press, 1976.

Smith, Adam. 1790. *The Theory of Moral Sentiments*. Indianapolis: Liberty Fund, 1982.

Spencer, Herbert. 1862. *First Principles*. New York: D. Appleton.

Thomsen, Estaban. 1992. *Prices and Knowledge: A Market-Process Perspective*. London: Routledge.

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The Meaning of "Economic Goodness": Critical Comments on Klein and Briggeman

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Abstract
Klein and Briggeman's condemnatory judgments (a) of this author and (b) of modern Austrian economics are interpreted as apparently attributable to a pre-analytical rejection of all *purely economic* normative discussion. Upon examination, all their *specific* criticisms readily dissolve as representing unfortunate misunderstandings or argumentation inappropriately applying *their* worldview (in which there *is* no normative role for the *purely* economic) to a quite different conceptual context. Klein and Briggeman's revisionis doctrinal classification (resenting modern Austrian economics as *contrasted*(!) with Hayek's work) is categorically rejected as reflecting (i) quite mistaken assumptions concerning modern Austrian economics and (ii) serious misunderstandings of Hayek's contributions.

JEL Codes: B00
Keywords: Entrepreneurship; Coordination

I. Introduction

Daniel B. Klein and Jason Briggeman have written a troubling paper under the title "Israel Kirzner on Coordination and Discovery" (2010). Their paper may be seen as having two distinct aspects. Most of the paper consists of a series of exceedingly sharp criticisms of two papers of mine that focused on the "coordination" concept. As we shall see, these criticisms turn out either to be based on apparent misunderstandings, or simply to reflect a conceptual framework drastically different from my own. The substance of these criticisms does not identify serious flaws in the Mises-Hayek understanding of the market process, as my work has attempted to elaborate it. But this aspect of the Klein-Briggeman paper (which I will henceforth, with no disrespect intended, call K-B) is perhaps less significant than the second aspect. Even if K-B´s criticisms *were* valid, it would be necessary to point out certain serious intellectual pitfalls contained in their paper. This is because their criticisms are embedded in an idiosyncratic doctrinal-history framework (relating particularly to the Austrian tradition in modern economics). It is this framework that is the paper´s second aspect.

Now, although doctrinal history can certainly be written from more than one point of view, and it is therefore not easy definitively to demonstrate the invalidity of any particular perspective, I must, in all candor, confess to finding K-B's doctrinal history to be bizarre. Moreover, that doctrinal history appears to be based on several factual historical assertions or assumptions (including characterizations of my own work) that I personally know to be mistaken. Despite my genuine respect for Professor Klein and Mr. Briggeman, I believe it is important to alert the reader of their paper to what I can only describe as the peculiarities of their position.

The present paper is organized as follows: In Section II I take up critically the doctrinal-history framework reflected in K-B. In Section III I critically refer to K-B's insistence on a discipline in which all pronouncements are "loose, vague and indeterminate," with no "100%" statements permitted. In Section IV I provide a review of the principal features of that portion of my work criticized by K-B. This review is perhaps needed because K-B's summary of my positions is not, in my view, an adequate presentation of those positions. Section V is a brief section in which I demonstrate how K-B's positions seem to flow out of a worldview quite different from that held by most economists (whether Austrian or not). I shall show, based on this section, how K-B's attacks on my work flow naturally from their own worldview (and thus really do not constitute relevant criticism of my work, within its own worldview). Finally, in Section VI, I go through a long list of K-B's criticisms, in the order in which they appear in their paper, showing, I believe, that these criticisms readily dissolve – especially when adequate attention is paid to the conceptual context within which my work was presented.

II. Must Mises Go? (Or, "The Meaning of Modern Austrian Economics")

We may present K-B's doctrinal history as based on the following series of positions:[1] (1) There are today a number of economists who see themselves as continuators of an Austrian economics tradition

[1] In the first paragraphs of this section, it seems less confusing to cite references to myself as if in the third person.

that began with Carl Menger but reached its high point in modern times (in their view of themselves) in the work of Mises and Hayek. (2) These economists "are motivated to advance classical liberalism" (K-B, p.42) and see an Austrian uniqueness in this objective. (3) Two of Mises' followers, Rothbard and Kirzner,[2] have seen this libertarian uniqueness as inseparable from the Misesian praxeological framework (i.e., a framework that sees economics as a value-free series of logical deductions derived apodictically (i.e., with complete certainty) from the a priori human action postulate. (K-B, p.3) (4) Klein and Briggeman challenge the notion of defending classical liberalism on the basis of a supposed praxeological economic science, and see the possibility for such an economic defense to exist only in a looser, more pragmatic intellectual tradition, which they identify with Adam Smith and Edwin Cannan. Hayek, they maintain, belongs in *this* tradition, and is not to be seen as associated with today's self-described Austrians (i.e., with Misesian praxeologists[3]). (5) Kirzner "has been committed to building a distinctive Misesian science of economics" (K-B, p.5), and this is the root of Kirzner's errors in regard to the role of "coordination in advancing the cause of classical liberalism." In this commitment to a Misesian science of economics, Kirzner has vainly attempted to marry such a science to Hayekian insights into the richness of knowledge. While the thrust of Kirzner's defense of classical liberalism can be salvaged, his work is marred by his commitment to Misesian praxeology. Any salvage job done for Kirzner's work can preserve that which is true and important in his coordination teachings – but it is "doubtful that they remain distinctively Austrian" (K-B, p.48). In other words, if what is valuable in Kirzner's work is to be retained, the influence of Mises in that work must be dropped. (6) Since Mises must be dropped, modern Austrian economics must, to the extent that it depends on Mises, also be dropped.

The above (bizarre though it may appear) is, I believe, a fair summary of the dogmen-geschichtliche framework in which K-B offer their critique of my work on coordination. But several of the numbered positions listed above are quite erroneous. It is incorrect to

[2] Kirzner is described as having been "captivated"(!) by Mises ever since the 1950s (K-B, p.4).

[3] K-B recognize that Rothbard and Salerno see Hayek as importantly different from Mises, but for reasons unrelated to K-B's position.

claim (as in position (2) above) that modern Austrian economists see their science as primarily motivated to advance the cause of classical liberalism. K-B may dismiss the possibility of a wertfrei economics (just as others, such as Rothbard, have often dismissed such a possibility). But I can assure them that *as an ideal* many modern Austrian economists do see themselves as seeking *objective* understanding of economic processes. The circumstance that it turns out that such understanding demonstrates distinct economic advantages for a classical liberal society does not, in principle, nullify the need to ensure that the public does not dismiss such demonstrations as motivated by ideologically based preconceptions.

It is astonishingly incorrect to see (as is held in position (3) above) my own work as inseparable from the Misesian system of praxeology.[4] The truth is that I have, since my earliest scholarly work, attempted to distinguish Mises's understanding of economic processes from the epistemological framework in which Mises himself developed that understanding. I have for decades maintained that it is possible to appreciate that understanding *without* committing oneself to Mises's overarching praxeological framework. Whether one wishes to accept that epistemological framework or not need not determine one's acceptance of the Misesian understanding of the market process. The next section of this paper includes my substantive observations concerning Mises's praxeological framework. Here the point is that *no* acceptance of that framework is required in order to appreciate Mises's deep insights into the nature of the market process. It is *this* conviction that has led me (and other modern Austrian economists) to appreciate that while Hayek certainly did *not* accept Mises's epistemological framework, it *is* emphatically the case that Hayek's understanding of the dynamically

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[4] In a paper by Daniel Klein and Aaron Orsborn (Forthcoming), we find the following amazing (and utterly erroneous) statement: "the Austrians, particularly in the line of Israel Kirzner, have tried to fit claims about the coordinative properties of entrepreneurship and free markets to methodological ambitions of Ludwig von Mises for axioms, apodictic certainty, categorical deduction and the like and, we argue, have illegitimately read Hayek into their group…". (This statement is followed by a reference to my 2000 book, *The Driving Force of the Market*, and also to the K-B paper here under examination.)

While the paper presently being discussed does not include language quite so explicit, the reference (in Klein and Orsborn) to the K-B paper makes it clear that K-B's intent is entirely similar. The discussion in this paper should, for the record, establish this writer's complete rejection of this misreading of his work.

competitive market process is fundamentally identical with that of Mises. If (as is indeed of course the case) Mises's substantive insights have decisively shaped modern Austrian economics, this thus turns out to have molded modern Austrian economics along lines that have gained enormously from Hayek's work on competition, knowledge, and spontaneous coordination. Although K-B do not appear to say so explicitly, their paper strongly suggests that the substance of my own work does not derive importantly from Hayek's contributions. My numerous references to and citations from Hayek, they clearly imply, are merely "spurious" attempts to win, for my Misesian ideas, the imprimatur of a more widely respected economist.[5] I can, however, assure the readers of K-B that my understanding of the dynamic market process does derive very largely from Hayek. (As I recall, it was in fact Mises who, when I was a graduate student, first directed me to read Hayek's (1949) classic, pioneering paper, "The Meaning of Competition.") In fact, it was only my appreciation for Hayek's work (on the role of markets in the dissemination of knowledge) that enabled me to grasp the significance of Mises's focus on the market as an *entrepreneurial* process. To recognize all this is to see the complete invalidity of elements in position listed as (5) above (as well as the invalidity of elements in position (4) above).

Modern Austrian economics finds its roots in Mises and Hayek not for any "praxeological" foundations, but for the insights and understandings to be found in their work concerning the nature of the market process.[6] Any economic defense of classical liberalism that fails to appreciate these Misesian-Hayekian insights must necessarily resort to the kinds of "modernistic" neoclassical arguments that K-B rightly reject. To reject modern Austrian economics on the grounds of imagined or real flaws in Mises's praxeological framework is, as explained, totally to misunderstand the

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[5] K-B imply this most distressingly in regard to my belief that Hayek (often) uses the term "coordination" to mean what I call, in this paper, "dovetail coordination." The truth is that my references to Hayek in this regard, besides having the purpose of exploring his thought, have also had the simple purpose of *acknowledging* an important intellectual source of my own understanding.

[6] It is for this reason that I have for many years strongly objected to the wedge that Rothbard and Salerno (and now K-B for entirely different reasons) have sought to drive between Mises and Hayek. (See my paper "Reflections on the Misesian Legacy in Economics," republished in Kirzner (2000).)

nature of the Mises-Hayek provenance of modern Austrian economics.

III. Mises, Hayek, and 100% Austrian Insights

In the following I discuss K-B's unhappiness with "100%" statements. However, I must insist on doing so strictly within a framework that sees economics (and especially Austrian economics) as, at least in its ideal conception, a search for objective truth, not as a series of arguments in support of particular ideological conclusions. Parts of K-B suggest (as noted above) that this is not the way they view economics. But, unless they recognize that Austrian economists do see their discipline as, in principle, not committed to any given conclusions, there is no scope for any disagreements, and no room for useful discussion of our differences. (It would be as if K-B were arguing against "100% statements" only in contexts *other* than those in which Austrian economists might possibly be making such statements.)

To modern Austrian economists, i.e., those who have drawn most of their economic understanding from Mises and Hayek, there clearly are statements that *can* be made "100%" and those that cannot. By and large it is in the area of *applied* theory that 100% statements cannot be made. The "pure" theory (that is being applied in making statements about the real world) may, however, certainly enunciate abstract truths that refer, in principle, to all conceivable situations. If, indeed, K-B wish to outlaw all such 100%, categorical statements of pure theory, they would be the continuators of a long (but not particularly glorious) tradition denying, in effect, any role for pure economic theory in attaining understanding of economic phenomena. K-B seek to drive a wedge between Hayek and Mises in regard to the latter's emphasis on 100%, categorically-certain statements in economics. They lead the reader to believe that Hayek would never agree with Mises on role of logical deduction and "apodictic certainty" in developing a "distinct science of economics" (K-B, p.3). But it should be noted that, in fact, Hayek – for all his very real differences with Misesian epistemology – certainly *agreed* with Mises on *this* issue. The following clear statement of Hayek's sounds, indeed, almost identical with precisely that Misesian understanding of the nature of the theory to which K-B object so vehemently. Referring to a certain proposition in rent theory, Hayek wrote that it, "*like all propositions of economic theory, is a statement about the* *implications of certain human attitudes towards things and as such necessarily true irrespective of time and place"* (1955, p.32, emphasis added).[7]

It is certainly true, of course, that in applying economic theory to real-world situations, the "necessary" truth of theory cannot be relied upon to generate what K-B call "100%" categorical statements. The complexity of the real world ensures that events result from the confluence and interactions of many disparate chains of cause and effect. Austrian economists, including both Mises and Hayek, have (along with all other economists) always recognized this fundamental feature of applied economic theory. This does not mean that economists can only make statements about the real world that are necessarily "loose, vague, and indeterminate." It simply means that, in order to offer usefully authoritative understanding of real world events, applied economists must fill their ("necessarily true") abstract theoretical propositions with concrete content expressing thorough and sapient empirical information.[8]

Before concluding the present section of this paper, it may be useful to comment briefly on the phrase (cited two paragraphs ago) by Hayek in which he refers to "the implications of certain human attitudes." Our comment will further cement the commonalities linking Hayek to Mises, and will at the same time throw further light on the sense in which Mises (and Hayek) see economic theory as being logically derived from initially accepted ("axiomatic") foundations. What we wish to highlight is the simplifying role of *economic insight* into the meaning of otherwise complicated economic concepts (or reality). Take, for example, Hayek's path-breaking interpretation of market equilibrium. Such equilibrium means that:

> …the foresight of the different members of the society is in a special sense correct. It must be correct in the sense that

[7] I have elsewhere (see Kirzner, 1979) carefully explored some of both the disagreements and the commonalities between the economics of Mises and that of Hayek. I urge the reader, before uncritically accepting K-B's sweeping statements asserting a *fundamental* schism between Mises and Hayek, to read that paper.

[8] It is here that the undoubted epistemological differences between Mises and Hayek have their scope. Although Mises would certainly agree with the *principle* (expressed in this sentence of our text), he would have disagreed with Hayek as to the *level* at which empirical information must be introduced. It is here that Hayek felt that Mises was claiming "a priori" foundations for statements that Hayek believed can be made only on the basis of empirical observation (such as on the nature of the learning process).

> every person's plan is based on the expectation of just those actions of other people which those other people intend to perform and that all these plans are based on the expectation of the same set of external facts so that under certain conditions nobody will have any reason to change his plans. *Correct foresight is then not, as it has sometimes been understood, a precondition which must exist in order that equilibrium may be arrived at. It is rather the defining characteristic of a state of equilibrium*." (Hayek, 1949, p.42, emphasis added)

To attain this *insight* into the meaning of equilibrium, Hayek had to engage in drawing out the implications of our understanding of how individual market participants will react to discoveries of hitherto unknown information concerning prices, goods availabilities, and production possibilities. The insight thus attained is neither loose, vague, nor indeterminate – it is illuminating (precisely for its *not* being loose or vague).

Take, as another example, Mises's brilliant insights into the nature of the entrepreneurial role, and, in particular, into the nature of pure, entrepreneurial profit. He writes (1962, p.109): "What makes profit emerge is the fact that the entrepreneur who judges the future prices of the products more correctly than other people do buys some or all of the factors at market prices which, seen from the point of view of the future state of the market, are too low." In this profoundly perceptive sentence Mises has simply pursued the logical implications of the foundational axiom that market participants pursue their goals purposefully based on their expectations concerning production possibilities, input prices and product prices. Yet he has, in this insight into the meaning of pure entrepreneurial profit, shed brilliant light on the theoretical category that has puzzled and confused the most eminent of economists for two centuries. These insights, once they are recognized, are seen as inescapably valid (yes, even "apodictically" so) – yet these insights do *not* depend, I would insist, on that epistemological framework within which Mises saw his work as being nested.

With this understanding of the character of Mises-Hayek theoretical insights, we are *almost* ready to consider the numerous criticisms that K-B have aimed at my work. But it will be helpful, I believe, to preface such a consideration with a fairly lengthy series of general observations (in Section IV) concerning my work that will show us (in Section V) how K-B occupy a conceptual universe, and have adopted certain semantic usages, which seem to have generated a host of misunderstandings, on their part, of features of my work. Once we have listed the central elements of their conceptual and semantic usage (and have pointed out how far these elements place them from the conceptual universe occupied by most economists in the history of the discipline – and certainly of this writer) – we will find that their criticisms will already have dissolved. This writer knows full well that there may be serious errors in portions of his work, and that, in a career spanning close to five decades, there is a significant chance that many inconsistencies and infelicities may be discovered. But the barrage of criticisms contained in K-B turn out, at best, we shall see, simply to reflect their idiosyncratic view of the role of the economist, the character of his discipline as they see it, and the terminology that they have chosen to adopt.

IV. Entrepreneurial Profit and the Coordination Concept: A Preliminary Observation

Even before we attempt to identify and deal with K-B's criticisms, certain general features of their discussion need to be examined with a critical eye. K-B object to certain statements concerning coordination found in my work. They make it seem (a) as if the central theme of my work as a whole has come to focus on these statements concerning coordination, and that (b) the arguments that emerged from my work and that tend to support the economic case for classical liberalism, stand or fall, in my view, with the validity of the mentioned statements of mine concerning coordination. (Accordingly, since K-B very sharply disagree with my statements concerning coordination, *and* at the same time very much wish to retain an economic case for classical liberalism, they are very much concerned to (have me?) repudiate those statements.) But the truth is that neither the above point (a), nor the above point (b), are in any way correct.

Pure entrepreneurial profit certainly does play a most central role in my work (and it is quite true that I do see the winning of pure entrepreneurial profit as a move toward coordination [in my sense of the term]). But it is *not* the case that I place heavy doctrinal weight on the normative coordination concept itself. The normative coordination concept is far from being at the center of gravity of my economic understanding. Nor is it at all the case that I believe the coordination concept to be a clear-cut analytical tool already able and ready to serve as an "Austrian" welfare criterion. I have more than once pointed out the practical and theoretical difficulties that must hobble any facile attempt to deploy the coordination criterion in the appraisal of specific economic policies. So that I write this paper under protest, so to speak. I will be responding to the K-B criticisms of my statements concerning coordination, but wish most definitively to declare that this defense should *not* be read as concurring in the exaggerated importance (in my view) attached by K-B to my discussions of coordination. Unintentionally (but nonetheless most regrettably) the undue emphasis reflected in the K-B critique distorts the role played by coordination in my understanding and appraisal of the market process.

1. The Coordination Norm: Some Clarifying Remarks

It is at the outset necessary to clarify a number of confusions which appear to underlie K-B's unhappiness with my work and their understanding of Hayek's references to coordination. K-B rests, I shall point out, on a number of failures on their part to recognize certain distinctions and terminological ambiguities. In the following I discuss (a) the relationship between (what K-B call) "concatenate" coordination, and the "decentralized" coordination concept that I (and, I believe, others) have suggested as possibly serving as a normative criterion (I myself believe that a more transparent term for K-B's "concatenate" coordination would be "central planner's coordination." However, in the following I retain K-B's "concatenate" terminology.) and (b) the two separate functions that the "decentralized" coordination concept can play, viz. (i) at the positive level, and (ii) at the normative level.

a. Coordination – "Concatenate" or "Dovetail"?

When the furniture, draperies, and pictures on the wall are chosen for a room and arranged to create a pleasing overall pattern, we refer to this act of arranging as "coordination." K-B wish to use the term "coordination" (when applying it to an economy, say a market economy) in this way. Of course, to use the term "coordination" in this way implies, first, that what is considered "pleasing" refers to the preferences of some central entity (some "mind" whose preferences are to count). In applying this concept to society, this "mind" may be seen as a "fictitious mind," or as society seen in some sense as an "organism" (K-B, p.7). Second, use of the term coordination (in this "concatenate" sense) *locks one in to the normative level*. There *is* no "positive" meaning to the notion of concatenate coordination, since its very essence is the "pleasing," "desirable" character of the chosen pattern of arrangement. At the outset of our discussion, let me make it absolutely clear that, *provided that all the above is borne in mind*, I have *nothing* whatever against social commentators' choosing to focus upon concatenate coordination in attempting to describe what markets achieve. At the same time, of course, it should be emphasized that if such a social commentator, with one set of values, lauds the market for achieving (what seems to him to be) concatenate coordination, members of his audience, who may be embracing a sharply different set of values, may justifiably remain unimpressed.

The alternative usage for the term "coordination" is that for which I propose the appellation "dovetail coordination."[9] This terminology is designed to emphasize that, in referring to coordination in my work, I have had in mind a criterion entirely different from K-B's "concatenate coordination." "Dovetail coordination" refers to the extent to which independently acting participants in a society are inspired to take those actions that correctly anticipate the actions of others in that society. For example, students in a dental school undertake their arduous course of training expecting that, during the years ahead, others will consume desserts that will generate cavities, so that there will be prospective dental

[9] K-B appear (p.18) to have failed to grasp Hayek's meaning in his use of the verb "dovetail." This verb has very little to do with the intermeshing of feathers "so as to produce the curves of the tail" (p.18). My dictionary (*Webster's New World Dictionary of the American Language,* 1951, p.437) illustrates the word "dovetail" by a diagram showing two pieces of wood, one with a wedge-shaped projection (called a *tenon*), the second with a corresponding indentation, called a *mortise* (into which the tenon fits). As a noun, the word "dovetail" means the joint formed by the insertion of the tenon into the mortise. As a transitive verb, the word means "to join or fasten together." The verb is also more generally used as meaning "to fit together closely or logically." When Hayek refers to the knowledge possessed by individuals to enable them "to dovetail their plans with those of others" (1948, p.79), he was referring purely to their making decisions which correctly anticipate and take advantage of the decisions made by those others. He was clearly *not* referring to the achievement of any overall *desirable pattern* of societal arrangement. If prospective dentists train to fill cavities, but consumers decide not to consume cavity-generating desserts, these decisions have failed to dovetail – quite apart from the overall desirability of a society with sound teeth but unemployed dentists.

patients prepared to pay for dental care. (Correspondingly, (i) confectioners are gearing up to produce delicious, cavity-inducing desserts, and (ii) consumers indeed consume these desserts, with the expectation that, if necessary, dental practitioners will be prepared to treat their dental problems for appropriate fees.) (It is the "dovetail" coordination to which, I believe, Hayek was, at least part of the time, referring in his use of the term "coordination.") Notice that *this* coordination concept has *positive meaning* quite apart from the overall desirability of such a coordinated state of affairs. In this respect, it is therefore quite different from K-B's concatenate coordination (which, as discussed, has meaning *only* in the context of the preferences of some central planner, or a fictitious mind, or society-viewed-as-an-organism). One may smile or groan at the thought of dental patients being treated by skilled dentists (who might, after all, have become life-saving physicians…). But, even one who frowns at a pattern of social resource allocation in which the efforts of confectioners entail the services of dentists (and who would, therefore, in the "concatenate coordination" usage of the term, pronounce such a society *dis*coordinated) – can recognize that these sets of independently-made decisions do smoothly fit into one another. These independent decisions *dovetail*. One may not necessarily attach moral significance to such dovetailing (in which case "dovetail coordination" will not serve well as a normative criterion). But, even where the notion of dovetail coordination carries no normative implications, dovetailed decisions are, at the positive level, coordinated.

To sum up the preceding paragraphs: "Concatenate coordination" (the type of coordination to which K-B wish to restrict all discussion) has meaning *only* at the normative level. "Dovetail coordination" (the notion which I, following other economists, have suggested as possibly able to serve as a normative economic criterion for the appraisal of alternative societal arrangements) has meaning *also* at the positive level.[10]

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[10] K-B cite me as referring to certain statements by Hayek that clearly refer to dovetail decisions, in the sense of the interlocking of decisions (made independently by different individuals). K-B (correctly) point out that in these statements Hayek was referring to the equilibrium concept, and does not mention coordination in these statements. Now, as noted earlier, one of Hayek's seminal insights was to "see" that the notion of market equilibrium is to be *defined* in terms of the correct mutual foresight (which enables independently-made decisions to

b. "Dovetail Coordination": Positive and Normative!

We have emphasized that "dovetail coordination" (unlike "concatenate coordination") has meaning at the positive level. We wish now to emphasize that the term dovetail coordination *may*, possibly, *also* refer to the normative level. (We feel it necessary to emphasize this because, as we shall see, K-B *seem* at crucial points in their discussion, to forget this.) Now, to say that the term (dovetail) coordination may be used normatively is, of course, to suggest that there is something about (the positive phenomenon of) (dovetail) coordination that is "desirable." Traditionally, economists have struggled to tease normative conclusions from their positive, strictly objective theories. Early economists used aggregate wealth as a normative measuring-rod. Later, welfare economics hoped that aggregate "economic" welfare, or "efficiency," could serve such a function. And so on. Economists who saw dovetail coordination as a possible normative criterion, recognized that (like "efficiency") such a criterion is restricted to the *economic* dimension of society. "Efficiency" may be in the service of horrifically immoral goals; the decisions that may be dovetailing with one another may be morally abhorrent decisions. But *qua* economist, the economist might, just possibly, be able to declare one societal arrangement *economically* "better" than a second arrangement, in terms of the extent to which they respectively promote or impede mutual dovetailing of decisions – while still pointing out that there are many more dimensions to the notion of "the best" than the purely economic.

Now, to pronounce one societal arrangement as "better" than a second (even along one dimension of goodness), is implicitly to have adopted a particular standard as a normative criterion *for society.* So that, in emphasizing that dovetail coordination *may*, possibly, serve as such a normative criterion for society, one *is transcending the individual level* and making pronouncements at the supra-individual level. This

interlock). In other words, one of the great contributions of Hayek was to recognize that equilibrium *is* what we have here in the text called the *positive* sense of the term "dovetail coordination." There was no *need*, in discussing the positive notion of market equilibrium, to use the term "coordination." The term "coordination," while it *does* have a positive sense, does certainly project the flavor of normative "goodness." But, having so clearly seen and emphasized the positive state of affairs, which *we* have labeled "dovetail coordination," it is rather obvious that when Hayek referred to "coordination" as a desirable achievement for society, he was referring precisely to that state of correct mutual foresight, upon which the dovetailing, the interlocking, of decisions depends.

certainly introduces those subtle dangers with which Hayek was grappling in the early 1930s (cited by K-B, p.7). One is making (an *economic* appraisal) of a societal arrangement from the level of a "fictitious mind," or of society seen as an "organism" – with all the dangers lurking behind these terms. The *positive* sense of the term "dovetail coordination" requires no such supra-individual perspective. But the *normative* sense of the term certainly does. I emphasize this rather obvious point because K-B's discussion seems to argue that Hayek's references to society-as-an-organism, to a fictitious mind, etc., are proof positive that he could not possibly have been referring to dovetail coordination, but *must* have been referring to concatenate coordination. But, as we have seen, such an argument would be quite mistaken.

2. Pure Entrepreneurial Profit as an Expression of Prior (Dovetail) Discoordination

It will be useful at this point briefly to review the basic ideas that I have emphasized, and with which K-B are so unhappy. This is necessary because K-B's report of the ideas they are criticizing fails to present them clearly (or even entirely accurately). It will be helpful to focus on the notion of pure entrepreneurial profit.

Pure entrepreneurial profit manifests itself when a specific item can be purchased in the market at a total price lower that the price at which that item can be sold ("elsewhere") in the same market. (A particular case of pure profit – but a case exemplified innumerable times! – is where *all* the necessary ingredients needed *to produce* a product and deliver it for sale can be obtained at a total cost lower than the price at which the product can be sold in the same market.) Now, the availability of this surplus (of selling price over buying price) seems, to the economist, (and, as my classroom experience revealed, to beginning students in economics), to defy explanation. Why should anyone sell at a price lower than the price obtainable elsewhere in the same market?! Why should anyone buy at a price higher than the price at which the item can be bought e1sewhere in that very same market?! (Our emphasis on this being in "the same market" is in order to point out that the surplus is not to be exp1ained as the cost of obtaining the relevant price information; such price information is, in a given market, costlessly available.) The usual economic explanations for apparent surpluses do not work here. Usually what *appears* to be a surplus is in fact attributable to a specific *cost* (such as where some time must elapse between the buying and selling transactions, calling for the need to borrow capital to finance the buying transaction, or where transportation is needed to bridge the distance between the buying location and the selling location). But *pure* entrepreneuria1 profit can, by its definition, not be "explained away" in such a manner. (*All* necessary costs have already been included in the [lower] total purchase price.) The only "explanation" for the phenomenon of pure profit is, "of course," simple ignorance – ignorance that (as noted above) is not "justified" by the cost of obtaining information. The ignorance referred to here is, while *the* explanation for pure profit, itself *un*explained. Some, at least, of the buyers are not aware of the decisions being made by some sellers. This ignorance, must, by its very nature as "unexplained and unexplainable" ignorance, be *unknown* ignorance, – that is, the ignorant market participants are wholly unaware of the fact that they are ignorant of easily available, highly useful, information. This "unexplained" ignorance is thus, in a sense, "inexcusable" ignorance; there is no justification for it. I have referred to such ignorance as "error" (to distinguish it from the kind of ignorance resulting, for example, from a deliberate decision not to learn the French language. Where one has *decided* not to learn French, because to do so costs too much to make it worthwhile, his ignorance is no error at all.)

Now the first discoverer of the gap between the above referred-to two prices for the same item is the entrepreneur able to win the available pure profit. The seller (who sold to the entrepreneur at the low price) and the buyer (who bought from the entrepreneur at the high price) will, when they realize what is happening, "regret" their earlier ignorance. They will be unable to "excuse" that ignorance by reference to any costs of learning – since no costs were needed in order to know what they did not know. (Obviously, they need feel no *moral remorse* for their earlier "error."[11] And, in fact, the entrepreneur-discoverer of the available surplus may [as K-B correctly point out] feel only elation and pride at his profitable discovery, rather than remorse at not having "seen" the surplus earlier.) Nonetheless, it *is* useful to use the terms "error" and "regret" (if preferred, in quotation marks) in order to underline the circumstance that, until the entrepreneur-discoverer sees the light, until the "light-bulb" *has*

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[11] See my discussion of all this in Kirzner 1992 (p.21f). See also below in this paper, (p.75f).

flashed in his mind…, *the situation was a discoordinated situation* (in the dovetail sense of this term.) The sellers, who were selling only at the unnecessarily lower price, were unaware of the existence of potential buyers, who were under the impression that they can obtain the item only at what-turns-out-to-be an unnecessarily high price. Every true case of pure entrepreneurial profit availability thus reflects an existing absence of full (dovetail) coordination. This existing state of discoordination may, of course, last a long time. It may be seen, by superficial observers of the state of society, as a benignly stable situation (such as may have been the case in the horse-and-buggy age, before the discovery of the profits available through innovating the automobile.) It follows, therefore, that the entrepreneur-discoverer who moves to exploit the "surplus" that he discovers, is generating a dovetailing among otherwise uncoordinated potential decision-makers. The changes in market conditions generated by such entrepreneurial activity may certainly be seen (and perhaps *deplored!)* as "disruptive" of the earlier surface placidity and stability of market conditions and relationships. But it cannot, surely, be denied that these "disruptive" changes express the new dovetail-joints being forged, now, between hitherto uncoordinated potential decision-makers. (Observers who feel that the "disruption" is too high a price for society to pay for the dovetail coordination thus achieved are entirely free to register their preferences…).

K-B dislike much of the terminology used in the above exposition. They *are* entitled to use words in the ways *they* wish to use them. But the circumstance that, *in their terminology*, the conclusions reached in the above exposition would require revision *in terminology employed*, does not render these conclusions mistaken in any way. As we shall see, much of the K-B criticism turns out to be an exercise in semantics which does not affect the validity (in my opinion) of the conclusions reached in the above exposition.

V. Goodness and Economic Goodness: A Tale of Two Worlds

At times in reading K-B, one glimpses that they are not merely talking a different language than most other economists (and certainly than this writer), but are operating in an entirely different conceptual universe. The following observations identify by letter a number of key features of this universe.

A. One respect in which their universe is a distinctive one appears to be responsible for much of K-B's displeasure with my work. This has to do with the distinction between what is "good for society," on the one hand, and what is "economically good for society," on the other hand. K-B *seem* unable to make any sense of such a distinction. (On this see K-B p.35f, and further in the present paper, p.81f.) And this inability *seems* to reflect a refusal to recognize the possibility of identifying purely *economic* chains of cause and effect in social affairs, that can be disentangled, at least at the level of theory, from extra-economic streams of causation. (If I have misread K-B in this regard, I readily apologize for such misreading; the following is based on my best effort at attributing coherence to K-B's positions.)

For K-B the term "coordination" implies *overall* "goodness" of social phenomena. The "fictitious mind" who smiles at "concatenate coordination" in society, does so from a perspective that takes *all* relevant values into account. This seems, in part, to explain K-B's intolerance towards the use of "dovetail" coordination as a norm, and their apparent inability to recognize that *my* use of this norm has a far more modest goal in mind. It is this apparent inability that is perhaps the explanation for what I have described as their exaggeration of the importance to be attached, in *my* system of normative analysis, to dovetail coordination.

But the truth is that intellectual honesty (not to speak of intellectual modesty) requires economists to recognize the limited (albeit crucially important!) reach of their science. There *are* purely economic chains of cause and effect[12] in society. And economists *have* always felt that their science can provide society with normative guidance – enabling them to warn, say, that protectionism, or monetary inflation, or price controls, are economically harmful. All of these policies *may* conceivably result in significant ("non-economic") benefits for society. But the professional responsibility of the economist requires him to point out how each of these policies must tend to generate outcomes that, from the purely *economic* perspective, are "undesirable." The problem faced by economists over the past two centuries and more has been to articulate the precise sense of the term "economically undesirable." Economists who have identified (what we have termed) "dovetail coordination" as a possible norm, have thus identified, not a criterion for "goodness,"

[12] My book *The Economic Point of View* (1960) demonstrates how this was recognized by economists since the very beginning of their discipline in the eighteenth century.

but a criterion for "purely economic goodness." There is nothing, in adopting dovetail coordination as an economic norm, preventing the economist from recognizing, in particular situations, how what is economically desirable for society may in fact be socially *un*desirable from a broader moral perspective. K-B appear unwilling or unable to accept this distinction.

B. One particular facet of this unwillingness or inability, is, as noted earlier in this paper, K-B's *apparent* assumption that "dovetail coordination" cannot be a social norm altogether (but rather merely a purportedly objective description of certain economic situations). Because they are unable to conceive of a purely economic notion of societal goodness, they are apparently forced to see dovetail coordination as a theoretical construct having meaning only at the positive level. Only this, one surmises, has enabled them to conclude, from Hayek's references to a fictitious social mind, or to society as an organism (and the like), that he was necessarily thinking of "concatenate coordination" (rather than, as I believe was often the case, of "dovetail coordination").

C. A further facet of K-B's unwillingness or inability to accept any notion of purely economic goodness for society is their apparent unconcern with the basic problem, which has, as noted above, preoccupied would-be normative economists for more than two centuries. This problem, of course, is how (if at all!) it may be possible to show *from the perspective of objective science* that a particular policy is bad for society. K-B have no compunctions, it seems, in using "concatenate coordination" as a useful norm with which to elicit "smiles" from a fictitious mind representing society as an organism – regardless of the frowns which many members of society may display at any particular pattern chosen for its concatenate coordinative properties. K-B brush aside any aspirations toward "objective" assessment of "scientific goodness" with the same disdain with which they seem to denigrate the very notion of an objective science of economics (see K-B, p.45-46); see in particular their dismissal of the economists' attempts "to separate grammar and aesthetics" (K-B, p.46).

D. We may note yet a further corollary of K-B's apparent refusal to recognize an objective science of pure economics. This is their unwillingness or inability to recognize the sense in which every case of pure entrepreneurial profit necessarily expresses the existence of a prior economic "tragedy" in which economically regrettable errors have been made. Wherever the same item can be purchased and sold at different prices (in the "same" market) – and this includes all cases in which a bundle of factor services can be purchased for a total cost lower than the price at which their product can be sold – those who have sold at the lower price have obviously "erred" in not selling at the available higher price, etc. etc. A society in which such opportunities for pure entrepreneurial profit have, thus far, escaped notice, is a society that is, from the purely economic perspective, one "waiting to explode." Admittedly, those who have "blindly" continued their activities in the horse-and-buggy industries (even though their resources *could* have been more profitably deployed in an automobile industry) – may not "blame" themselves for not having been more prescient or more alert. (And I would readily grant K-B a possible point were they to complain that in some of my work I may have used terms such as "error" or "regret" without making it sufficiently clear to the casual reader that I was using this terminology in a purely "economic" context.) But K-B's apparent inability to recognize the obvious truth of our observations in regard to dovetail coordination and pure entrepreneurial profit stems, it would seem, from their inability to divorce purely economic "error" from broader notions of "mistake" and "error." Such broader notions cause remorse and call for penitence. No such moral sentiments need be caused by the kinds of error we have identified with unexploited opportunities for pure profit.

E. One final feature of the worldview we have attributed to K-B has to do with their refusal (K-B pp.37-39) to understand why, for the pure economist, there must be a sharp analytical distinction between (a) questions of dovetail coordination *within* a given framework of property rights, and (b) questions of social choices *between* alternative rights frameworks. Questions regarding dovetail coordination *have no meaning* in the absence of some *already-given* rights framework. For K-B, who can see no distinctive realm for purely economic chains of analysis and causation (because they focus *only* on the *overall* relative goodness of alternative social scenarios), it must indeed seem frustrating to be told that the (dovetail) coordination criterion is irrelevant as between alternative moral/legal frameworks. But for the economist steeped in the mainstream economics tradition as distilled by Lionel Robbins and Ludwig von Mises, such a limitation (on the uses of dovetail coordination) appears altogether obvious (and important!).

The worldview that we have attributed to K-B is, of course, not a new one. There is a long list of writers on economics who have, for a century and a half, deplored mainstream convictions concerning the distinctiveness of the pure science of economics (as opposed to the integration of economics with other social disciplines). Some of these writers have also rebelled against mainstream attempts to distinguish sharply between positive economics and normative economics. A number of K-B pronouncements seem to be re-incarnations of such earlier rebellious positions. In particular one is reminded of a fairly prominent article of three-quarters of a century ago in which R. W. Souter (1933) bitterly attacked the first edition of Lionel Robbins' book, *The Nature and Significance of Economic Science* (1935).[13] Robbins had identified the scope of pure economic science in terms, not of the specific kinds of goals pursued in economic activity, but of the allocative problems that inevitably arise in the human condition (in which scarce [given] resources are to be deployed in order to satisfy unlimited [given] ends). This abstraction (from the concrete nature of the goals pursued) incurred Souter's wrath. He described this as Robbins' "positivism." It was for this "crime" that Souter apparently identified Robbins as a "juggler with a static verbal logic," and a "profane sunderer of 'form' from 'substance'" (p.384ff). Souter appears to accuse Robbins (and the Austrians?) of a display of instincts that are "corruptly sophisticated," involving the bartering of the Mecca of "economic biology" for the mess of pottage of an illusory "static precision."[14] Robbins referred to Souter's attacks in the "Preface to the Second Edition" of his book (1935). He wrote: "I have read Professor Souter's strictures with interest and respect… I am not convinced by anything that he says about what he calls the "positivism" of my attitude… I part company with him in [my] belief that it is possible to [transcend "the rather trite generalizations of elementary statics"] without sacrificing precision and without regarding the essential static foundations as useless" (1935, p.xi-xii) There appears to be much

[13] Robbins' book (1st edition, 1932) was written largely under the influence of the Austrian School of the late 1920s (and in particular shows the influence of Mises).

[14] On all this see Kirzner, *The Economic Point of View*, (1960) pp.121-122. These pronouncements by Souter seem to be echoed in K-B's apparent assertion that a separation between scientific economics and social-moral decisions "is false and unnatural" (K-B, p.46), or their apparent belief that in matters of economic policy it is impossible to "separate grammar and aesthetics."

(both in substance and in bitterness of tone) that is shared by Souter's scathing attack on Robbins, with K-B's criticisms of this writer.

VI. Addressing Specific Criticisms

In this section I address the *specific* criticisms that K-B have advanced against statements which I have made, or positions which I have taken, at various times in my work. I take these up in the order in which they appear in K-B.

A. K-B cite statements of mine which they claim "run together two perspectives that entail different sets of sentiments. One perspective [involves] fulfillment and…disappointment. The other perspective regards retrospectively the chosen path as opposed to some could-have-been alternate path [involving] affirmation of the choice one made and…regret…" (p.12). I can only point out that this important distinction was not merely *highlighted* in my "Knowledge Problems and their Solutions: Some Relevant Distinctions" (Kirzner 1992, ch.10), but was emphasized there in order to advance arguments and positions which K-B themselves cite (disapprovingly) elsewhere in their paper (K-B, p.30f). I should also point out that my sensitivity to the distinction here referred to makes me wary of using the language that K-B elsewhere use in describing the extent to which they do agree with my positions. They write: "it is appropriate to focus on successful entrepreneurial action…" (p.10). The term "successful" (which they use a number of times) fails to note that the entrepreneurial actions that I describe as "coordinative" are those that capture "pure profit" (i.e., they are not merely characterized by "fulfillment of plans," avoiding "disappointment"). By using the ambiguous adjective "successful," K-B prevent readers from appreciating the difference between routine actions, which are carried out as planned, and the imaginative, innovative actions of entrepreneurs who have discovered as-yet-unexploited opportunities for pure profit.

B. K-B (p.20) strongly disapprove of my use of the term "error" in regard to situations that have made possible the winning of pure entrepreneurial profit. When Crusoe realizes that spending time building a boat is more useful than simply spending that time catching fish, he has not, K-B argue, realized that he has, up until now, erred. He will not necessarily regret his earlier actions. Quite the contrary, K-B argue, Crusoe may look upon his new discovery (of the profitability of boat-building) with "gleeful pride" (not with regret at the past "errors").

I can only ask the reader to recall our discussions in this paper (p.69f) where I have explained the justification for using the term "error" in the sense disapproved of by K-B. (See there also for the reference to my very explicit discussion (Kirzner, 1992, p.21f) of the special sense in which "error" need *not* imply carelessness, negligence, or blameworthiness.) K-B may have semantic grounds for deploring this special use of the term "error," but an expression of disagreement on semantics does not constitute a substantive criticism – far less a demonstration by K-B of "error" on my part.

C. K-B point out that "entrepreneurial discovery often upsets people's plans" (p.21) (thus being discoordinative). As K-B note, I have dealt with this contention more than once. Our discussion earlier in this paper (p.69f) should have made clear the sense in which the entrepreneur who buys at a low price and sells at a higher price has brought into dovetail coordination those who had hitherto failed to sell (because they were not aware of being able to sell at the high price) and those who had hitherto failed to buy (because they were not aware of being able to buy at low prices). As a result of the entrepreneur's profit-winning moves, others in the market find their plans frustrated. Some had planned to sell only at prices that were "too high" – because they were not aware that mutually gainful (as yet unexploited) opportunities for trading were "waiting" to be taken advantage of. Their plans – made in ignorance of the true situation – are frustrated. The frustration and disruption of plans made over-optimistically is certainly a disappointment to those too-optimistic planners, but such disruption and frustration have *nothing* to do with dovetail coordination or dovetail discoordination. Someone who confidently expects to dovetail one piece of wood (which he possesses), with another piece of wood which he *thinks* he possesses (but really does not) – will be disappointed at the disruption of his plan. But he has not failed to create his planned dovetail joint – there was simply no dovetail joint to be made (since he possesses only the one piece of wood). Perhaps K-B's rather surprising inability to recognize this rather simple insight is attributable to two aspects of their "worldview" (outlined in the preceding section of this paper): (i) They insist on using terminology (such as "concatenate coordination") that takes into account the pain of disappointed participants of the market (even where this pain has resulted from their earlier unawareness of the true state of the market). They resolutely refuse to restrict attention to "purely economic" (i.e., dovetail) discoordination. But it is surely wrong to criticize one writer's analysis of the results of dovetail coordination (to which he explicitly confines his attention) on the basis of a quite different concept of coordination. (ii) They have failed to recognize that the use of "dovetail coordination" as a norm relies on the same supra-individual ("fictitious mind") evaluative construct for its appraisal of market decisions. Surely it must be recognized that a benign, omniscient "fictitious mind" observing sellers refusing to sell at lower prices (only because they were unaware of the true state of the market), while perhaps indeed not "smiling" at the pain of these frustrated sellers (who had confidently, but vainly, expected to be able to sell at much higher prices), may yet possibly be pleased by entrepreneurial actions that, as rapidly as possible, teach the true conditions of the market (thus enabling the achievement of more "dovetail" joints).

D. On the criticisms of K-B (p.23-25), see above this section, under *A*. I take K-B's statement (p.24) "So Kirzner's 'takes into account' can do the work necessary to get II to imply III" to be a kind of concession in this regard.

E. K-B's critical discussion (p.25-26) of a scenario used in an essay of mine (involving the coordination of traffic moving through an intersection of two roads) appears, once again, to be unaware that my use of "dovetail coordination" as a norm does imply a "fictitious mind" (i.e., a supra-individual perspective) looking down on the totality of the traffic pattern, and seeing how (even though individual drivers may not realize it) there *is* a way in which individual driving plans can be better (dovetail) coordinated.

F. In their paper (p.28) K-B cite a number of situations ("monopolistic… speculative… misleading advertising… exploitation of ignorance" etc.) that they believe demonstrate that profitable entrepreneurial activity may be "discoordinative." Several points should be made in regard to this part of their discussion. (i) Much of their discussion *seems* to be based on their use of the concatenate coordination norm. But it would surely be incoherent to deploy that norm to criticize statements of mine that are being made strictly in terms of a quite different evaluative norm! (ii) K-B themselves (p.35) cite a paper of mine (Kirzner, 2000, Ch.4) in which I very carefully explain how (in situations included in K-B's list of supposedly discoordinating entrepreneurial actions) the market *is* coordinative (in the dovetail sense). By "monopolistic situations," for example, I refer to a specific initial pattern of resource ownership that gives a particular seller freedom from certain avenues of competition.[15] One may have possibly valid moral qualms concerning that initial assignment of resource ownership rights. But (as shown in the above-cited Kirzner, 2000, Ch.4), *given* that pattern of ownership, the market does tend to (dovetail-) coordinate. K-B's inability to see this seems, once again, to stem from their refusal to distinguish a strictly economic perspective from a broader social evaluative perspective (which might be expected critically to scrutinize the property-rights system in any society under examination). See also above (p.73f).

G. In the above-quoted list of entrepreneurial profit situations that K-B believe to be discoordinative, they included "exploitation of ignorance." Now, given the framework of my "dovetail coordination" discussions, this situation, like the others in the list, offers no problem for my work. One may, from an ethical point of view, disapprove of one person gaining from ("exploiting") another's ignorance. One may indeed disapprove of a college professor making his living by "exploiting" his students' ignorance. Perhaps K-B have even more egregiously exploitative cases in mind. But the point we have been making is that the dovetail coordination criterion must perforce be deployed only within a *given, accepted* system of rights. So long as the accepted rights system recognizes the college professor's right *not* to have to freely present his knowledge to all who might seek such knowledge, his livelihood expresses one kind of "dovetailing." The entrepreneur who wins pure profit by taking advantage of his alertness, while it is true that he is, in a sense, "exploiting" the ignorance of others, is yet, within the accepted rights system, moving in a coordinative manner.

Let me recognize, however, that the economist, even the theorist of entrepreneurship, *must* grapple with the ethical questions surrounding pure profit. After all, *every* case of pure profit is a case where an entrepreneur takes advantage of his being the *first* to discover the possibility of buying at one price and selling at a higher price. We may, as explained, set aside K-B's assumption that exploitation of ignorance is discoordinative. (That is, we may set aside this assumption insofar as concerns dovetail coordination.) But

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[15] See also Chapter 12 in Kirzner (2000).

the pure ethics of pure profit, while in a sense outside the economic theorist's field of expertise, does pose questions that demand his attention. Is it really the case that the capitalist system, based as it is on freedom for entrepreneurs to win pure profits where they believe they have discovered them, depends for its heartbeat (and certainly for its dovetail coordinative properties) upon a questionable pattern of behavior? It is one thing to claim that pure entrepreneurial profit-making is coordinative; it is quite another to maintain that such profit-making is ethically defensible. I have indeed explored this issue extensively (Kirzner, 1989, Ch.5-7; Kirzner, 2000, Ch.6). As it turned out, I was, I believe, able to throw significant light on the ethical issues, precisely because I was able to deploy purely economic insights relevant to the ethical issue.

H. I trust that the above discussions dispel the confusions apparent in K-B's repeated references to *The Communist Manifesto* (K-B, p.29-30). Their treatment of this matter suggests that K-B believe that the case of this Marx-Engels work is a decisive proof of (or at least a decisive illustration of) the untenability of my thesis that profitable entrepreneurial action is necessarily coordinative in the dovetail sense. But this K-B contention is an amazing one. (Its fallacy has been indicated above in this section (under *F*), but because K-B single this case out for special attention and emphasis, it warrants some additional comment.)

K-B's contention that *The Communist Manifesto* is discoordinating (despite, precisely because of, its successful commercial publication) clearly depends on their use of the term "coordination" in the concatenate sense – and is therefore *entirely irrelevant* to the dovetail coordination norm. The doctrinal errors contained in the Manifesto, like the possibly pernicious effects of alcohol, tobacco, or other addictive substances, have *nothing to do* with the issue of where there is a dovetail coordination linking those who ("mistakenly") desire to consume these items, and their potential suppliers. It should not be necessary to reiterate the simple truth taught to beginning students of economics, that the efficient market surely does very often satisfy desires that many may consider harmful, or immoral, or otherwise disastrous.

I. K-B (p.30-32) question the meaningfulness of a distinction I depend on in one of my papers (Kirzner, 1992, Ch.10). This distinction is that between "markets" and voluntary "institutions." The distinction is a simple and obvious one. What emerges *in* a market is a pattern of activities and phenomena (*including* institutions) hammered out through the dynamic competition of market participants, each of whom may be motivated by the lure of pure profit, in the sense of buying and selling at different prices. Institutions (which are simply arrays of mutually reinforcing expectations – e.g., the use of a common language, or a common system of measurement, "because" everybody speaks this language or uses this system of measurement) typically do not arise as the result of arbitrage-like activity involving opportunities to buy and sell at different prices. It is true that all human action is "entrepreneurial" in the broader sense, but not all voluntary human action in society involves commercial interaction. It is true that where institutions emerge within a market setting, they are, in part, shaped by the profit-seeking activities of market participants. But the social process by which one particular set of mutually reinforcing expectations emerges is itself not the product of arbitrage-like activity. The institutional development discussed in the above-cited paper is non-commercial (and therefore, I argued in that paper, is not able to demonstrate the spontaneously coordinative properties we have learned to see in commercial activity).

J. K-B (p.32) offer the case of a "tourist trap" as an example of discoordinative "successful entrepreneurship." "Suppose a tourist trap sells tourist items at terms which, say, we know the consumer is very likely to quickly discover were bad terms. Suppose most such buyers will presently feel 'ripped off.'" I do not really know which precise case we are being asked to consider. There are two possibilities: Either the prevailing legal system accepts the legitimacy of such sales, or it does not. In the latter case, "ripped off" consumers are like the victims of highway robbery. (I am grateful that K-B did not cite highway robbery as an example of discoordinative successful entrepreneurship under capitalism.) If, on the other hand, the legal system accepts the legitimacy of what K-B call tourist traps, then one finds it difficult to understand why such cases are fundamentally different from cases in which a consumer buys a book to read (*not The Communist Manifesto*) or buys a ticket to a game or a play, or buys a meal in a restaurant – and afterward finds himself disappointed by his experience.

K. K-B (p.32) refer to cases of speculative bubbles, or of "low-quality first mover leading to lock-in." Now K-B appear, once again (see above this paper p.63f), to have exaggerated the significance of the insight that profitable entrepreneurship is always coordinative. They appear to read this insight as claiming that *all voluntary activity* in markets leads to improved outcomes. I do not believe that I have made this claim. I point this out, not because the cases cited by K-B cannot possibly be interpreted as consistent with dovetail coordination, but because it is clear that K-B cite these cases simply as examples of where a benign fictitious mind representing organic society, would not smile at outcomes resulting from voluntary entrepreneurial activity. But while all this may be relevant for concatenate coordination discussions, it has very little, if anything, to do with dovetail coordination. (Note that our observation here certainly does *not* support K-B's suspicion (p.34) that wherever K-B identify an event as discoordinated, I would engage in sophistry to turn that event "into an instance of some entrepreneur not having acted successfully"!)

L. K-B (p.35), after studying my works carefully, get the feeling that "'coordinative' is necessarily built into successful voluntary entrepreneurship…by Mises's dictum of human action." They suggest that I "twist coordination talk… as needed so as to maintain that successful voluntary action in the market is always coordinative."

One can only reiterate that the term "successful" is highly ambiguous. As K-B themselves elsewhere correctly insist (see above p.75), there is a difference between (a) successfully completing a given plan, and (b) completing a plan that exploits a profitable discovery. Much voluntary action in markets, even though such action may be "successful" in the narrow sense of having been carried out as planned, may consist in using resources in low value projects (when high value possible projects remain unexploited because they have as yet not been discovered).

M. K-B question (p.36) the usefulness of a distinction between "economic goodness" and "some larger goodness." They apparently concede that there "might be merit" in such a distinction, but suspect that I make this distinction only in order to be able to maintain "100% claims." I trust that the extensive discussion earlier in this paper (pp.70-74) will suffice as a response to this point in K-B's list of criticisms.

N. K-B criticize my statements to the effect that the (dovetail) coordination norm cannot help in evaluating alternative "policy regimes" (p.37). I have dealt (above, Section V, *E*) with this issue. Here I can only reiterate that the notion of dovetail coordination has meaning *only* against the background of a *given* rights framework. K-B cite (p.37-38) a discussion of mine referring to this rather obvious notion. I simply do not grasp what difficulty they have with it. At the same time I do readily recognize (see the next paragraph in this section) that there is a troublesome ambiguity surrounding the term "change in policy regime." But this brings me to the next "specific criticism."

O. K-B (p.39) write that while I *say* that dovetail coordination does not enable one to distinguish between policy regimes – in fact, I do precisely that (for example, when I cite the economic disadvantages of imposed price ceilings.) Now let me freely acknowledge that it is certainly not always obvious whether a specific piece of government intervention in the free market is to be interpreted (a) as obstructing freedom of commercial action *within* a *given* rights system, or (b) as a *change* in the rights framework itself.[16] I believe that price controls are usually treated as obstructing freedom of commercial action *within* a given property rights system. I have, I will grant, often worried about this issue. To the extent that *any* governmental action is to be interpreted as a change in the rights structure, we would, in all honesty, have to stop criticizing such actions as (dovetail) discoordinative intervention in the market system. It is because, I believe, most people would *not* endorse such an interpretation, that I believe the (dovetail) coordinative norm does have something to contribute. K-B's critical remarks do not reflect sensitivity to these issues.

P. In their paper (p.41), K-B argue that rent controls should not, in *my* terminology, be blamed for discoordination. The "disadvantages of rent control involve the deadweight loss from curtailed quantity transacted and the mal-allocation of the units that are transacted. In what way do these problems fit Kirzner's characterization of coordination?" Since the "law expunges opportunities that would exist in the absence of the law," the rent control cannot be blamed for Kirznerian dovetail discoordination.

I do not quite know what to make of this observation (other than what was freely acknowledged in the preceding subsection, *O*). To the

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[16] See a brief passage in a paper of mine (Kirzner, 2000, Ch.4, p.83-85) in which I note critically that the literature on the so-called "economic analysis of rights" has unfortunately seriously blurred the important difference between the social processes leading to the crystallization of a rights framework, and the market processes which are happening *within* such a framework.

extent that the outer trappings of property ownership are still, in principle, in place, rent controls certainly do block the discovery and exploitation of opportunities for mutual benefit. There *are* potential tenants who *would* be prepared, if necessary, to pay higher rents for apartments were they to be made available. And there *are* potential builders of housing who *are* able to discover building resources that might profitably be turned into rental housing. These potential sets of tenant and landlord decisions are *not* being permitted to discover one another. Simply to say that law has "expunged" all such opportunities is (unless in the sense discussed in the previous sub-section) to miss the entire meaning of dovetail coordination.

VII. Conclusion

K-B are fully entitled to live in their conceptual world. I do not doubt that they find that world intellectually and morally attractive and meaningful. This world has its own terminology and its own tools of persuasion. This writer, however, at least in regard to his training and work as an economist, came to see the world in a quite different intellectual framework. The terminology appropriate to *this* worldview is one shared not only by modern Austrian economists, but, to a very large extent, also by most economists of the past century or so. I have attempted to address the many criticisms that K-B have leveled at my work, *not* in order to establish the sole acceptability of the worldview which that work expresses and reflects, but as an attempt to show how, *from the perspective of this worldview*, the criticisms dissolve. I remain respectfully and completely tolerant to K-B's world of discourse;[17] I invite Dr. Klein and Mr. Briggeman to accord me similar courtesy.

References

Hayek, Friedrich A. 1949. “The Meaning of Competition.” In *Individualism and Economic Order*. London: Routledge and Kegan Paul. (Orig. pub. 1937.)

[17] As explained in the opening pages of this paper, however, I sharply disagree with K-B's reading of the place of modern Austrian economics in the twentieth century history of economic ideas.

Hayek, Friedrich A. 1955. *The Counter-Revolution of Science, Studies on the Abuse of Reason.* London: Free Press of Glencoe.

Hayek, Friedrich A. 1949. "The Use of Knowledge in Society." In *Individualism and Economic Order*. London: Routledge and Kegan Paul. (Orig. pub. 1937.)

Hayek, Friedrich A. 1949. "Economics and Knowledge." In *Individualism and Economic Order*. London: Routledge and Kegan Paul. (Orig. pub. 1937.)

Kirzner, Israel M. 1979. "Hayek, Knowledge, and Market Processes." Reprinted as Chapter 2 in *Perception, Opportunity and Profit.* Chicago: University of Chicago Press.

Kirzner, Israel M. 1989. *Discovery, Capitalism and Distributive Justice.* Oxford: Basil Blackwell.

Kirzner, Israel M. 1992. *The Meaning of Market Process*: *Essays in the Development of Modern Austrian Economics*. London and New York: Routledge.

Kirzner, Israel M. 1992. "Market Process Theory: In Defence of the Austrian Middle Ground." In *The Meaning of Market Process*: *Essays in the Development of Modern Austrian Economics*. London and New York: Routledge.

Kirzner, Israel M. 1992. "Knowledge Problems and Their Solutions." In *The Meaning of Market Process: Essays in the Development of Modern Austrian Economics*. London and New York: Routledge.

Kirzner, Israel M. 2000. *The Driving Force of the Market, Essays in Austrian Economics.* London and New York: Routledge.

Kirzner, Israel M. 2000. "The Nature of Profits: Some Economic Insights and Their Ethical Implications." In *The Driving Force of the Market, Essays in Austrian Economics.* London and New York: Routledge.

Kirzner, Israel M. 2000. "The Limits of the Market: the Real and the Imagined." Reprinted as Chapter 4 in *The Driving Force of the Market, Essays in Austrian Economics.* London and New York: Routledge.

Kirzner, Israel M. "The Driving Force of the Market: the Idea of 'Competition' in Contemporary Economic Theory and in the Austrian Theory of the Market Process." Chapter 12 in *The Driving Force of the Market, Essays in Austrian Economics.* London and New York: Routledge.

Kirzner, Israel M. 1960. *The Economic Point of View*. New York: Van Nostrand.

Klein, Daniel B. and Briggeman, Jason. 2010. "Israel Kirzner on Coordination and Discovery." *Journal of Private Enterprise*, 25(2): 1–53.

Klein, Daniel, and Aaron Orsborn. Forthcoming. "Concatenate Coordination and Mutual Coordination." *Journal of Economic Behavior and Organization*.

Mises, Ludwig von. 1962. "Profit and Loss." (1951), Reprinted in *Planning for Freedom and Other Essays*, 2nd edition. South Holland, Ill.

Robbins, Lionel. 1935. An Essay on the Nature and Significance of Economic Science. London: Macmillan. 2nd ed.

Souter, R.W. 1933. "'The Nature and Significance of Economic Science' in Recent Discussion." *Quarterly Journal of Economics* 47(3): 377–413.

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Corridors, Coordination, and the Entrepreneurial Theory of the Market Process

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Abstract
We respond to points made by Klein and Briggeman (2010), who criticize the use of definitive statements within the body of research by Israel Kirzner. We contend that Klein and Briggeman's critique fails to recognize the context of Kirzner's arguments within the broader tradition of neoclassical economics. We describe this context and explain its relevance to Kirzner's conclusions. In contrast to Klein and Briggeman, we see Kirzner as an embodiment of the tradition of political economy begun by Adam Smith. Properly understood, this tradition remains a positive social science. Klein and Briggeman's concerns regarding definitive statements are well intentioned but misplaced. Political economists should be wary of prediction with precision, but there are scientific truths of economic law – general tendencies and pattern prediction. Kirzner successfully threads these lines.

JEL Codes: B53, B3
Keywords: Israel Kirzner; Coordination; Austrian economics

We have been asked to contribute to an ongoing conversation between Daniel Klein (Klein, 1997; Klein and Orsborn, 2009; Klein and Briggeman, 2010) and Israel Kirzner (2010), who have been engaged in a debate concerning how economists should understand and use the terms "coordination" and "economic goodness." Klein and Briggeman (2010) contend that Kirzner suffers from excessive ambition scientifically. "[He] makes 'always'- or 'necessarily'- type claims – categorical claims – where the claims instead should be 'usually' or 'by and large'" (p. 2). To Klein and Briggeman, Kirzner's reliance on and identification with "the Misesian image of science" threatens to discredit his more sensible contributions – that market processes are (Klein and Briggeman hope to add the caveat "usually") driven toward progress by competitive entrepreneurial discovery.

There are more arguments in Klein and Briggeman's paper than we could hope to address in this short paper. Kirzner's (2010) response goes a long way toward sorting these issues out and demonstrating where Kirzner is being misread by Klein and Briggeman. He writes, "[their] criticisms are embedded in an idiosyncratic doctrinal-history framework (relating particularly to the Austrian tradition…" (p.55-56). Kirzner continues to clarify that even though an "objective understanding of economic processes… demonstrates distinct economic advantages for a classical liberal society does not, in principle, nullify the need to ensure that the public does not dismiss such demonstrations as motivated by ideologically based preconceptions" (p.58). Kirzner explains that "Modern Austrian economics finds its roots in Mises and Hayek not for any 'praxeological' foundations, but for the insights and understandings to be found in their work concerning the nature of the market process" (p.59).

We try to respond to Klein and Briggeman's claim that loose, vague, and indeterminate forms of economic reasoning make for a more robust political economy. In response, we explain the theoretical context surrounding Kirzner's theory of the entrepreneurial market process. Readers must understand the nature of the debates over market theory and the price system that Kirzner was engaged within in order to understand the reasons behind his methods and the theoretical insights they provide. Kirzner's research project aimed to fill theoretical gaps within the neoclassical research project, and we would argue he succeeds on this margin.

Klein and Briggeman support loose, vague, and indeterminate reasoning as opposed to axiomatic reasoning. Klein's (Klein, 1997; Klein, 2009; Klein and Lucas, 2009; Klein and Orsborn. 2009; Klein and Briggeman, 2010) research offers unique interpretations of concepts first introduced by Adam Smith. Klein (Klein, 2005) also holds unique positions regarding the roles of positive and normative science in economics. We agree with the critique of formalism and scientism, but we also argue that economists should not condemn performing economics as a positive social science altogether. There is, we contend, a way to do positive economics without committing the intellectual errors that Klein believes are necessary if one is to stress the scientific nature of economic reasoning.

Rather than the source of his failure, we view Kirzner's "excessive ambitions" (to provide a scientific foundation for the market process) as the source of his great success as an economic theorist. Kirzner is perhaps too humble of a scholar to take such credit, constantly giving credit to his teacher Mises, rather than emphasizing his own contributions. But the questions he tackled in his development of the entrepreneurial theory of the market process are at the core of the scientific legitimacy behind the entire neoclassical enterprise of market theory and the price system.

Kirzner's creative synthesis of Mises and Hayek was employed to address a theoretical *lacuna* in neoclassical theory. Kenneth Arrow (1959) exposed this gap when he explained that in a world where everyone is postulated to be a price taker, there is no explanation left for how prices would ever change to clear markets. A theory of disequilibrium adjustment was required to complete the neoclassical theory of the competitive market, but no such theory was possible that treated prices as parametric. Franklin Fisher (1983, p.3) explained that the neoclassical theory of the market faced a dilemma unless it had appropriate disequilibrium foundations. Without a theory to explain the process of adjustment from disequilibrium to equilibrium, the first and second welfare theorems and the corresponding notions of exchange efficiency, productive efficiency, and product-mix efficiency would be little more than a set of unjustified beliefs.

Kirzner provides us with the ability to cope with disequilibrium and how market participants learn through time and adjust (if the data of the market were frozen) to a point of equilibrium. Given the significance of the problem identified by Arrow and Fisher, Kirzner's theoretical contributions to *scientific* economics should not be undersold.[1] One must place Kirzner in his appropriate theoretical context in order to understand the way he synthesizes Mises and Hayek to make an original contribution to the neoclassical theory of markets and prices.

Kirzner basically defends the project of theoretical economics from Adam Smith to Ludwig von Mises, F. A. Hayek, and beyond. Too much of the Klein and Briggeman critique is tied to what they see as Kirzner's effort to create a unique Austrian identity –

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[1] The interested reader is directed to the two-volume reference work by Boettke and Prychitko, eds., *Market Process Theories* (1998) for a collection of the main papers on the market process from a mathematical, institutional, heterodox, and Austrian perspective.

axiomatic economics. We alternatively see Kirzner and modern Austrian economics as a crucial portion of the larger neoclassical project to understand the price system and the market economy (Boettke, 1994, 1996). There is an important distinction between mainline economic thinking and mainstream economic thinking. The mainline of economic science and policy is the consistent teaching throughout the history of the discipline that emphasizes the "interests" of individual decision-makers, the "invisible hand" of the market, and the way in which private property, free pricing, and profit and loss accounting steer economic activity so that social cooperation under the division of labor is made possible in a society of diverse and socially distant participants. The mainstream of economic science and policy, on the other hand, does not designate any substantive proposition. It is a sociological designation related to what is and what isn't scientifically fashionable at any given point. Sometimes the mainline and the mainstream are identical; other times they deviate from one another. We contend that whenever the mainstream significantly deviates from the mainline it becomes important to emphasize the unique contributions of particular schools of thought in the attempt to close that gap.

The classical political economy of Smith and Say contained elements of incentive analysis, a refined understanding about the role of local knowledge, and an appreciation of private property rights. Classical economists saw the market as a process of competitive rivalry and dynamic entrepreneurial discovery. They placed importance on the economics of organizations and examined the political process with the same behavioral assumptions that they used to examine the market process. Kirzner plays an important role in this history, rightly listed alongside Mises and Hayek.

Whereas the development of marginal utility analysis and the subjective theory of value revolutionized the way economists thought at the turn of the 20th century, the basic argumentative structure concerning broad brush political economy (including the concern with special interests and monopoly privileges) can be traced to the Scottish Enlightenment, the French Liberal tradition, the British Utilitarian Philosophers, and the Austrian School of Economics. Many of these same insights had to be rediscovered and reintroduced into the economic discourse in the post-WWII era by the Chicago School, the UCLA property rights school, the Virginia School of Political Economy, the New Institutionalist School, and the modern

Austrian school of economics. Without these "new developments" in the 1950s, 1960s, and 1970s, the mainstream deviation from the mainline teachings would have gone uncontested. And because the term neoclassical economics came increasingly in the 1940s and 1950s to represent a methodological position rather than a set of substantive propositions about the economy, the school labels played an extremely important role as an intellectual corrective to the hegemony of Keynesian macroeconomics and market-failure theory in microeconomics.

Kirzner's role in championing the Austrian school was no different from the role played by Friedman, Stigler, Becker, and Lucas in championing the Chicago School, or Alchian and Demsetz in championing the UCLA property rights school, or Buchanan and Tullock in championing the Virginia school, or Coase, North, and Williamson in championing the New Institutionalist school. The counter-revolution of these traditions pushed back against the scientifically and politically fashionable mainstream, and brought economic thinking back (at least to a considerable extent) to the mainline of thinking from Adam Smith to F. A. Hayek. Kirzner and others guided this counter-revolution without which the excessively aggregative macroeconomic and institutionally antiseptic microeconomic theory that Samuelson ushered in would still dominate economic thinking.

We believe Klein and Briggeman have failed to stress this intellectual context of Kirzner's contribution to economics. But they err in another way as well. Because they fail to understand the context of Kirzner's contribution, they also misread his substantive theoretical contribution. Klein and Briggeman's criticism of Kirzner fails to appreciate the distinction between the framework within which economic activity transpires and the activities themselves. To help in understanding Kirzner's contributions, we suggest that the concept of "the corridor of economic activity" and the coordinating role of entrepreneurship within a given "corridor" is very useful and may go a long way toward addressing Klein and Briggeman's criticisms.[2]

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[2] The notion of the corridor came from Axel Leijonhufvud (1981) in his essay "The Wicksell Connection: Variations on a Theme," in *Information and Coordination*. The basic idea is that inside of the corridor the self-correcting dynamics of the market are in operation, but economic crises occur when activity spills outside of the corridor and the forces of self-correction cannot be relied upon. For our purposes,

Kirzner treats the institutional framework of economic life as exogenously given and examines instead economic activity within that existing framework. The exogenously given framework consists of the legal system, its enforcement, the monetary system, and the underlying moral set of beliefs that sustain the system of property, contract, and consent. Inside this system, Kirzner examines how economic actors engage in open-ended choice. They discover the opportunities for mutually beneficial exchange, and they act on price discrepancies to realize pure profit. They recognize the gains from novelty and innovation, and they act upon those opportunities in pursuit of profit. To put the Kirznerian point in the context of the basic principles of economics, the entrepreneur not only ensures that the economic system tends to operate on the production possibilities frontier thanks to arbitrage, but the system also exhibits a ceaseless tendency to push the production possibilities frontier outward as entrepreneurs innovate in the delivery and production of existing products and new products to satisfy consumer demands. Ray Croc didn't invent the hamburger, French fries, or the milkshake. But Croc did discover a new way to deliver them, and McDonald's has become an international symbol of capitalism and globalization. Bill Baumol (2002) has in fact described the entrepreneurial market economy as a free market innovation machine. Within the "corridor" of given institutions and the values that support those institutions (and provide them with legitimacy), the entrepreneurial activity of individuals (in both its arbitrage and innovative capacity) will lead to price signals and profit opportunities that steer individuals along the path to coordinate their plans with one another. When the most willing suppliers and the most willing demanders settle on the terms of exchange, only then are the gains from trade and the gains from innovation realized.

There is nothing loose or vague or indeterminate about this; it instead follows directly from the logic of entrepreneurial discovery

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Kirzner's focus is on economic activity that is in a disequilibrium situation but inside the corridor. In this sense, entrepreneurial activity is not discoordinating but always bringing in line the plans of economic actors with the underlying realities of tastes, technology, and resource scarcity. Kirzner's distinction between the underlying (tastes, technology, and resource constraints) and induced (prices and profit and loss) variables of the market should never be forgotten in assessing his theory of the entrepreneurial market process. See Kirzner, *The Meaning of Market Process* (1990).

once all the subsidiary arguments are understood and accepted. To Kirzner, economic science is not a science of exact equilibrium states but a science of tendencies and directions of change – what Hayek (1974) called pattern prediction. In the process of change, some plans will obviously be upset and others will be surprisingly satisfied, but provided economic activity stays inside the boundaries set by the corridor, the ceaseless change in the marketplace will be directed toward the alignment of the induced variables with the underlying variables of the market (and the realization of the gains from trade and the gains from innovation). Kirzner's coordination point, his point about the dovetailing of plans, and his point on equilibration are all simply affirming the basic economic point that individuals will realize mutual gains from trade. To put it in more Kirznerian language, individuals will be alert to that which is in their interest to be alert to; they will discover that which is in their interest to discover.

Here again, Klein and Briggeman fail to recognize the broader context of debate surrounding Kirzner's position. Kirzner (1998) proposes that social coordination – defined as the harmonious coexisting plans of interacting human individuals – be considered as a proxy to represent social welfare. Again Klein and Briggeman dislike Kirzner's use of the term coordination in favor of alternatives laid out in Klein and Orsborn (2009). To them, Kirzner is too positivist, and they prefer a definition for coordination that implies reference to a "super-knowledgable" and normatively intuitive onlooker (see also Klein, forthcoming). We propose that this definition of concatenate coordination is not Smith's intention behind the impartial spectator as developed in *The Theory of Moral Sentiments* (1759) but is instead something quite different.[3] Kirzner's position – social coordination can proxy for social welfare – was a reaction to the arguments within mainstream welfare economics. Kirzner is attempting to provide an acceptable answer to his fellow economists on their terms that cultivates an appreciation for the entrepreneurial market process and

[3] Klein (2009) does provide an electronic database analysis of the history of the *use* of the term coordination. But we believe that his emphasis on specific use fails to capture the meaning of the concept, and that the idea of the coordination of economic activities has a much deeper meaning even if at times the terms used – cooperation and mutual cooperation – are meant to capture the ideas of coordination (concatenate, mutual, and the dovetailing of plans).

the knowledge generating and system learning properties of the market process.

Louis Pasteur is quoted as saying that "fortune favors the prepared mind." Kirzner's entrepreneurial theory of the market process translates this critical insight into economics. It is not an insight that was new to him. Adam Smith (1776) captured the basic idea in his famous butcher, baker, and brewer example, and even more in his example of the vast social cooperation under the division of labor evident in the exchange and production of the common woolen coat. Private property and freedom of contract, by steering individual interests in certain directions to realize the mutual gains from trade and capture the gains from innovation, lead to the "invisible hand" results of the market economy that Smith had identified. The entrepreneurial impulse to be alert to the opportunities to "truck, barter and exchange" produces a dovetailing of economic plans such that social cooperation among strangers is realized and the productivity gains Smith identified that follow from the division of labor (specialization and exchange) result in wealth creation and human betterment. To turn a blind eye to Kirzner's contributions, we contend, is to miss out on the essential Smithian ideas of specialization and exchange, complex coordination beyond computation, and cooperation without command. In short, Kirzner is the further elaboration of Smithian mainline economics in the context of mid- to late-20th century economics through a creative synthesis of the contributions of Mises (1949) and Hayek (1948) as embedded in *Human Action* and *Individualism and Economic Order*. Without this rendering of the Smithian position, the Samuelsonian sterility of economic teaching would have more of a grip on the intellectual imagination of economists than it already does. We believe that if Klein and Briggeman kept this context in mind, much of the criticism they level against Kirzner would disappear, and Klein's own Smithian project would be advanced through alliance with Kirzner and the Austrian school rather than splitting semantic hairs.

References

Arrow, Kenneth. 1959. "Toward a Theory of Price Adjustment." In *Allocation of Economic Resources: Essays in honor of Bernard Francis Haley*, ed. Moses Abramovitz, 41–51. Stanford: Stanford University Press.

Baumol, William. 2002. *The Free-Market Innovation Machine: Analyzing the Growth Miracle of Capitalism*. Princeton: Princeton University Press.

Boettke, Peter J. 1994. "Alternative Paths Forward for Austrian Economics." In *The Elgar Companion to Austrian Economics*, ed. Peter Boettke, pp. 601–16. Aldershot: Edward Elgar Publishing.

Boettke, Peter J. 1996. "What is Wrong with Neoclassical Economics (And What is Still Wrong with Austrian Economics)." In *Beyond Neoclassical Economics*, ed. Fred Foldvary, pp. 22–40. Aldershot: Edward Elgar Publishing.

Boettke, Peter J., and David Prychitko, eds. 1998. *Market Process Theories.* Aldershot: Edward Elgar Publishing.

Fisher, Franklin. 1983. *Disequilibrium Foundations of Equilibrium Economics*. Cambridge: Cambridge University Press.

Hayek, F.A. 1948. *Individualism and Economic Order*. Chicago: University of Chicago Press.

Hayek, F.A. 1974. "The Pretence of Knowledge." *American Economic Review,* 79(6): 3–7.

Kirzner, Israel M. 1973. *Competition and Entrepreneurship*. Chicago: University of Chicago Press.

Kirzner, Israel M. 1992. *The Meaning of Market Process: Essays in the Development of Modern Austrian Economics.* New York: Routledge.

Kirzner, Israel M. 1998. "Coordination as a Criterion for Economic 'Goodness.'" *Constitutional Political Economy*, 9: 289–301.

Kirzner, Israel. 2010. "The Meaning of 'Economic Goodness:' Critical Comments on Klein and Briggeman." *Journal of Private Enterprise*, 25(2): 55–85.

Klein, Daniel. Forthcoming. "Unfolding the Allegory behind Market Communication and Social Error and Correction." *The Adam Smith Review*.

Klein, Daniel. 2005. "A Plea to Economists Who Favour Liberty: Assist the Everyman." IEA Occasional Paper OP 118.

Klein, Daniel. 2009. "In Adam Smith's Invisible Hands: Comment on Gavin Kennedy." *Econ Journal Watch*, 6(2): 264–79.

Klein, Daniel B., and Jason Briggeman. 2010. "Israel Kirzner on Coordination and Discovery." *Journal of Private Enterprise,* 25(2): 1–53.

Klein, Daniel, and Brandon Lucas. 2009. "In a Word or Two, Placed in the Middle: The Invisible Hand Smith's Tomes," George Mason University Working Paper in Economics 09–02.

Klein, Daniel, and Aaron Orsborn. 2009. "Concatenate Coordination and Mutual Coordination." *Journal of Economic Behavior & Organization,* 72: 176–87.

Leijonhufvud, Axel. 1981. *Information and Coordination: Essays in Macroeconomic Theory*. Oxford: Oxford University Press.

Mises, Ludwig von. 1949. *Human Action: A Treatise on Economics.* San Francisco: Fox and Wilkes.

Smith, Adam. 1759. *The Theory of Moral Sentiments*. Repr., Indianapolis: Liberty Fund, 1990.

Smith, Adam. 1776. *An Inquiry into the Nature and Causes of the Wealth of Nations*. Repr., Indianapolis: Liberty Fund., 1990.

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Kirznerian Entrepreneurship as a Misesian Solution to a Hayekian Problem

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Abstract
This comment on papers by Klein and Briggeman (2010) and Kirzner (2010) argues that Kirzner's work on entrepreneurship and coordination is best understood as offering a "solution" to the problem of how knowledge is spread through markets as posed in Hayek's "Economics and Knowledge" essay (1937). It is the entrepreneur who facilitates this microeconomic coordination by bridging those knowledge gaps. This concept of coordination is distinct from Klein and Briggeman's "concatenate coordination," as Kirzner notes. The paper tries to clarify these issues and suggests that Klein and Briggeman are really talking about "order," not "coordination."

JEL Codes: B25, B53
Keywords: Coordination; Entrepreneurship; Equilibrium

I. Introduction

The exchange between Klein and Briggeman (2010) and Kirzner (2010) involves some of the most abstract and complex questions we face in trying to understand what it is that market economies do and how exactly they do it. They are also questions of great importance for our ability to defend the classical liberal argument for the beneficence of markets, as the back-and-forth over those issues in the exchange bear out. And, as Kirzner notes, the very nature of economics as a distinct science is also at stake given the argument that Klein and Briggeman (henceforth, following Kirzner, K-B) make.

Even as I understand the concerns that K-B have about the "100%" categorical claims they believe Kirzner to be making, concerns that I share in many ways, I do think that they are unfair to Kirzner along several dimensions. As Kirzner himself notes, they have misread his view of what precisely constitutes coordination *in a strictly economic context*. Kirzner's focus is more narrow than that of K-

B, and the result, from my perspective, is that K-B end up arguing for a position that contrasts itself with one that Kirzner does not himself hold. What K-B call "concatenate coordination" is a different animal from the "coordination" that is at the center of Kirzner's work. Despite their attempts at using the adjective to distinguish them, I want to suggest that a better word for what K-B are talking about is "order." In fact, Austrians covered this "coordination vs. order" ground many years back, and reviewing the issues raised there may help us to understand the core of the debate at hand.

II. Kirzner's Entrepreneur as the Misesian Solution to a Hayekian Problem

One element of K-B's argument is to try to "dehomogenize" Mises and Hayek, though around issues different from those raised by Salerno (1993) and others. K-B are troubled by what they see as Mises's categorical claims about markets and his a prioristic methodology and its "apodictic certainty." They argue that Kirzner's work is in this Misesian tradition, and one way of reading their paper is that it is a plea to Kirzner to become more "Hayekian" so that all the good things in Kirzner's work would be more persuasive to more people. Kirzner responds, rightly in my view, that this is a fundamental misunderstanding of his work in that Kirzner has never been committed to Mises's epistemology and that Kirzner has had a much more Hayekian vision of economics and the economy than K-B give him credit for. Saying that an author has a better understanding of his own work than do his critics seems a rather obvious point, but it is worth making anyway: I think Kirzner is correct here.

Perhaps one way to see the point is to offer yet another way of summarizing Kirzner's work on competition and entrepreneurship. What the entrepreneur does, for Kirzner, is to provide a Misesian solution to a Hayekian problem. The Hayekian problem is the one Hayek raises in "Economics and Knowledge" (1937, pp.50-51). There Hayek says:

> The problem we pretend to solve is how the spontaneous interaction of a number of people, each possessing only bits of knowledge, brings about a state of affairs in which prices correspond to costs, etc., and which could be brought about by deliberate direction only by somebody who possessed the

> combined knowledge of all of those individuals. And experience shows us that something of this sort does happen, since the empirical observation that prices do tend to correspond to costs was the beginning of our science.

Hayek goes on to say that traditional equilibrium theory assumes away the problem by assuming that everyone knows everything. He also rejects the idea that there could be "somebody" who sits god-like over the economy, directing the process. It is that metaphor that K-B want to invoke for the Hayekian understanding of concatenate coordination.

However, I think they overlook the central point of this passage, and of that whole essay, frankly. It is true that Hayek talks about the overall picture of the economic system, but here he is focused on the process by which prices correspond to costs, which is a very "micro" level consideration. The puzzle he poses is how that ever comes to be, the answer to which will require focusing on the individual actions of millions of people in millions of markets. Yes, the overall pattern, what K-B term "concatenate coordination," is the context for Hayek, but the *economic problem is the coordination among producers and consumers that drive prices to costs*. What Hayek argues needs further explanation is how the learning necessary to bring about that equilibrium, defined as the circumstance in which all plans are capable of being fulfilled because everyone knows enough about everyone else and the state of the world to enable them to do so, ever comes about. How, in the real world of the market, does the knowledge necessary for prices to be driven to costs get communicated and spread to those who need it? That, for Hayek, is the problem of *economic coordination*.

Kirzner's work offers a solution to that problem in the form of the Misesian entrepreneur. If knowledge is imperfect and individuals are stuck simply optimizing based on that knowledge, then no learning can take place and coordination can never be achieved. What can unstick us from this situation? The Misesian entrepreneur can, by seeing what has been previously overlooked and shifting the "given" means-ends framework, creating the knowledge necessary for people to make decisions that better align with the facts of the world and the expectations of other actors. Entrepreneurship, for Kirzner, is what "brings about the state of affairs" that expectations and actions are coordinated and that prices tend toward costs. Kirzner makes no grander claim for entrepreneurship than that. The entrepreneur does not induce the "smile" of aesthetic joy on the face of our god-like coordinator, nor does the entrepreneur assure with certainty a world that classical liberals would think is desirable. The entrepreneur simply spreads knowledge that leads people to make choices that they themselves would view as better, hence the "dovetail coordination" that Kirzner discusses.

K-B criticize Kirzner for overlooking questions that were never within the realm in which he was operating. The debate over *The Communist Manifesto* is a good example. Kirzner, qua economist, is only interested in the question of whether the production of that book allocated resources in a way such that the price obtained for the book better reflected the value of those resources to the buyers. Speaking as an economist, the overwhelming market success of the book strongly indicates that it did, thus producing it enhanced economic coordination. K-B are free to argue that from some broader social or political-economic perspective, perhaps that of our god-like smiler, the world would have been a better place had the book never been produced. That may well be true, but it is simply irrelevant to what Kirzner means by coordination and the coordinating role of the entrepreneur. As Kirzner points out in his reply, K-B seem to be castigating him for even drawing such lines in the first place. Kirzner, rightly, does not deny that economics plays an important role in service of the classical liberal vision, but he (2010, p.79) does maintain the "simple truth taught to beginning students of economics" that not everything that markets do efficiently is something that produces widespread social benefits.

III. Coordination vs. Order

It strikes me that this debate echoes an earlier distinction in the Austrian literature. In the mid-1980s there was much talk of junking the equilibrium concept from Austrian economics and replacing it with the concept of "order." The thinking at the time was that equilibrium was simply too narrow and too unrealistic to capture the "good thing" that markets did. Austrians argued that markets were everywhere plagued by disequilibria, by the technical definition, yet they nonetheless continued to generate all kinds of beneficial consequences. The notion of equilibrium seemed singularly unsuited to describe the real world benefits of markets.

Instead, the idea was that markets produced a broader and weaker concept of "order." Order, it was argued, could capture the creativity and complexity that seemed absent from equilibrium but could retain its concern with coordination. Hence, order was seen to be an intertwining of creativity, complexity, and coordination (Boettke, Horwitz, and Prychitko, 1986; High, 1986). Arguably the order concept has remained somewhat nebulous, but there was still some truth in what it was getting at. Perhaps that notion of order is more akin to what K-B are talking about with the term "concatenate coordination," especially by contrast to Kirzner's more narrowly economic use of "coordination." It is true, as K-B demonstrate textually, that economists have long used the word coordination in the sense of concatenate coordination, but it is also true that the more narrow Kirznerian use has its own history and partisans. I would suggest, at the very least, that the idea of "order" perhaps more nicely corresponds to the aesthetic component that K-B wish to attribute to concatenate coordination. We generally tend to think of orderly things as possessing a certain aesthetic value, more so than we generally associate with the word "coordination." If Kirzner is right, and I believe he is, that Hayek's notion of "dovetail coordination" is very different from K-B's concatenate coordination, then there is even a stronger argument for leaving the word "coordination" to Kirzner's meaning, derived as it is from Hayek, and using "order" for what K-B are concerned with.

Doing so has the additional advantage of linking up with that element of Hayek's work that *does* point toward the more god's-eye view of the marketplace, namely his development of the concept of "spontaneous order," particularly as applied to societies as a whole and the evolution of institutions. In the end, I think this is what K-B are after. I completely agree that the Hayekian concept of spontaneous order is best understood in rhetorical, metaphorical, and aesthetic ways. It has proven notoriously hard to rigorously define, but we do tend to know it when we see it. And some of the most powerful elucidations of the concept are those that capture it in literary or metaphorical form, such as Leonard Read's (1958) masterful "I, Pencil." An appreciation of the spontaneous order of the social world does require a certain aesthetic sense that develops from recognizing the existence of such orders and their beneficence.[1] Stepping away from the complex adjectival versions of coordination and talking of spontaneous order would not only clarify much confusion, it would also capture what I think the older economists were really talking about when they used the concatenate version of coordination.

IV. Conclusion

In the end, I am not sure that this exchange generated sufficient light to be worth the expenditure of heat by the authors. If one clear point comes out of it for me, it is that Kirzner is correct in trying to distinguish his narrowly economic explanation of coordination from K-B's broader, more political-economic, more rhetorical use of the term. What K-B do not seem to sufficiently recognize is the way Kirzner's concept of coordination is tied up with a vision of entrepreneurship that was intended to address a very specific "problem" in economic theory: the learning process by which prices tend to go to costs, as identified by Hayek. Kirzner's Misesian solution to a Hayekian problem constitutes his enduring contribution to economics, and not just Austrian economics. It was never intended to be anything more than it was, and that point is unfortunately lost in K-B's attempt to defend a broader view of coordination. I have a great deal of sympathy for what K-B are trying to do, but I think they have significantly misread Kirzner in their perhaps well-intentioned attempt to persuade him over to their side.

References

Boettke, Peter, Steven Horwitz, and David Prychitko. 1986. "Beyond Equilibrium Economics: Reflections on the Uniqueness of the Austrian Tradition." Reprinted in *The Market Process: Essays in Contemporary*

[1] In Horwitz (2005), I argued for the aesthetic appreciation of social spontaneous orders as being analogous to the beauty we find in the spontaneous orders we find in nature. I titled that little essay "Of Social Snowflakes." I also argued that it is a very difficult, yet important, task to get people to see such social spontaneous orders this way, which is why I share K-B's concern with the rhetoric of economists, even though I think they have misread Kirzner in a way that makes their criticisms of his rhetoric misplaced.

Austrian Economics, ed. Peter Boettke and David Prychitko, 62–79. Edward Elgar: Aldershot, UK, 1994.

Hayek, F. A. 1937. "Economics and Knowledge." In *Individualism and Economic Order,* 33–56. Chicago: The University of Chicago Press, 1948.

High, Jack. 1986. "Equilibration and Disequilibration in the Market Process." In *Subjectivism, Intelligibility, and Economic Understanding*, ed. Israel M. Kirzner, 111–21. New York: New York University Press.

Horwitz, Steven. 2005. "Of Social Snowflakes." *Liberty and Power* blog. http://hnn.us/blogs/entries/19793.html

Kirzner, Israel. 2010. "The Meaning of 'Economic Goodness:' Critical Comments on Klein and Briggeman." *Journal of Private Enterprise*, 25(2): 55–85.

Klein, Daniel B., and Jason Briggeman. 2010. "Israel Kirzner on Coordination and Discovery." *Journal of Private Enterprise,* 25(2): 1–53.

Read, Leonard. 2008. *I, Pencil: My Family Tree as Told to Leonard Read.* Irvington, NY: Foundation for Economic Education. (Orig. pub. 1958.)

Salerno, Joseph. 1993. "Mises and Hayek Dehomogenized." *Review of Austrian Economics*, 6: 113–146.

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A Comment on Klein/Briggeman and Kirzner

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Abstract
This paper is a comment on a debate between Israel Kirzner and Dan Klein and Jason Briggeman on the meaning of Kirzner's work on coordination and its implications for policy. It suggests that, although Klein and Briggeman have gotten some aspects of Kirzner incorrect, nevertheless they make an important point in indicating real limitations as to how much purely positive economics can say about policy.

JEL Codes: A10, B00, C7, D2
Keywords: Coordination; Concatenation; Discovery; Entrepreneurship; Collingwood

It is a privilege to be asked to comment on such an interesting debate as the present one, involving economists whom I respect greatly, concerning a question as important as how much the theory of purely positive economics can say about vital policy issues facing real-world political actors. As such, I want to thank Edward Stringham for granting me this opportunity. When I first was asked to contribute to this volume, I must admit to experiencing some "felt uneasiness": what would *I* have to say on this topic that wasn't already said better by one or the other of the main protagonists involved here? But after giving careful thought to the challenge of Klein and Briggeman (who, henceforth, following Kirzner, I will refer to as K-B) to Kirzner's position, as well as the response of the latter, I came to believe that I might be able, after all, to offer a perspective on this debate that at least provides more substance than would my remarking, "Wow, will you watch them go at it!" The cause of this (partial) alleviation of my uneasiness was that, the more I contemplated these two papers, the more I found myself occupying somewhat of a middle ground between the two opposing camps;

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specifically, while I was agreeing with Kirzner regarding many of the particulars under contention, nevertheless I continued to think that K-B were on target in their general critique of the usefulness of purely economic arguments in guiding policy choices.

Let me, then, first address the matter of how I see my own understanding of this debate more or less aligned with Kirzner's perspective. I do not wish to rehash every point about which Kirzner believes that K-B have misread him (or, sometimes, have misread other economists), as he is a fully capable defender of his own views, and I generally agree with his specific analyses of most of the topics he addresses. I will bring up just a few of these issues as examples because I hope to have something of interest to say about them, and because each of them struck me as problematic in K-B's paper even before I had read Kirzner's response.

My first example concerns K-B's contention that Kirzner's work has essentially tried to join the economics of Mises and Hayek with duct tape and chewing gum, writing, for example (p.1), "We argue that looseness is inherent in the economic discussion of the most important things, and associate that viewpoint with Adam Smith. We suggest that Hayek is much closer to Smith than to Mises, and that Kirzner's invocations of Hayek's discussions of coordination are spurious."

However, Kirzner disputes K-B's portrayal of a wide gulf separating the economics of Mises from that of Hayek:

> The next section of this paper includes my substantive observations concerning Mises's praxeological framework. Here the point is that *no* acceptance of that framework is required in order to appreciate Mises's deep insights into the nature of the market process. It is *this* conviction that has led me (and other modern Austrian economists) to appreciate that while Hayek certainly did *not* accept Mises's epistemological framework, it *is* emphatically the case that Hayek's understanding of the dynamically competitive market process is fundamentally identical with that of Mises. (pp.58-59)

Although here I agree with Kirzner that Mises and Hayek shared similar visions of the nature of the market process, I suggest that even Kirzner overstates the difference between their understanding of how economics is to proceed; consider the following quote from Hayek:

> What I see only now clearly is the problem of my relation to Mises, which began with my 1937 article on the economics of knowledge, which was an attempt to persuade Mises himself that when he asserted that the market theory was a priori, he was wrong; that what was a priori was only the logic of individual action, but the moment that you passed from this to the interaction of many people, you entered into the empirical field. (1994, p.72)

What I glean from Hayek's statement is that he saw himself as differing from Mises not over the nature of "the pure theory of choice" (which Mises called praxeology), but over its scope, which Hayek understood to be narrower than did Mises. (Oddly enough, K-B cite this passage, but do not seem to recognize that it represents a partial *acceptance*, rather than an outright rejection, of Mises' *a priori* approach on the part of Hayek.) Nevertheless, Kirzner's basic point stands: Hayek's understanding of the market process is basically Misesian, as he himself acknowledges, for instance, in the very next paragraph after the above quote, commenting that "I accept nearly everything of his criticism of socialism" (1994, p.73).

The next example of my "Kirznerian leanings" in this debate that I wish to take up is K-B's criticism of Kirzner's use of the terms "error" and "regret" to describe the recognition of one's failure to arrive at some possible entrepreneurial insight earlier than one, in fact, did. K-B write:

> Indeed, if Kirzner maintains that every entrepreneurial discovery implies preceding error and hence disappointment and/or regret, then humanity must be a lugubrious lot, for they often look back on their preceding actions with a better interpretation of the information they had had. By making his claims categorical, Kirzner boxes himself into identifying error (and hence disappointment and/or regret) in any previous action that one would revise based on one's *later* interpretation of the information. But such talk will often simply do violence to our language. (pp.20-21)

Here, I believe that K-B have failed to appreciate that, for Kirzner, "error" and "regret" are "terms of art," and are not being employed with their everyday (psychological) meanings in mind. Now, it may, in fact, have been a mistake on Kirzner's part to choose words that do ordinarily carry psychological baggage, and it would be fair to criticize that choice. Nevertheless, in my reading of Kirzner, it has been clear to me that he was *not* attempting to portray the psychological state of all or even any entrepreneurs at the moment they perceive a hitherto overlooked opportunity to better align the factors of production with consumer demand, but was merely noting that, given that the opportunity existed prior to the insight, it would have been preferable to have had it even earlier, and that the entrepreneur, should the question be put to him, "Would you, all other things being equal, rather have seen this opportunity yesterday rather than today?" will answer, "Of course." The entrepreneur in question may be a serene Buddhist monk who would regard extreme privation with complete equanimity, yet, in so far as he chose to engage in economic action at all, he would have preferred to seize the profit available to him sooner rather than later. The fact that he is still serene in the face of this "error" is irrelevant to Kirzner's point here.

Finally, on the Kirzner side of my ledger, I wish to discuss K-B's distrust of what they call the "100% claims" put forward by Mises, and, as they also see it, Kirzner, which I view as a misapprehension of "philosophical economics." Now, it is true that Mises, with his talk of "apodictic certainty" (a phrase that appears numerous times in *Human Action*), could sometimes give readers the impression that his conclusions were immune to all questioning and doubt. (I have not detected that tendency in Kirzner's work.) But I believe that the genuine truth contained in Mises' apriorism is not that his findings were irrefutable, but, given that "action" is a philosophical concept and in so far as there is a core of economic science that is inseparable from that concept, then the conclusions of analysis dealing with that core can only be refuted by philosophical, and not by empirical, means. Mises himself acknowledges the possible fallibility of praxeological reasoning when he writes, "With regard to the results thus obtained only two attitudes are possible; either one can unmask logical errors in the chain of the deductions which produced these results, or one must acknowledge their correctness and validity" (1996, p.25). Mises' declarations about "apodictic certainty," which have disturbed so many otherwise sympathetic readers, should all be qualified with the caveat, "these conclusions are certain in so far as every bit of praxeological reasoning involved in reaching them is flawless." R.G. Collingwood, quite independently of Mises, of whom he was probably unaware, presented a similar, and in some respects, I think, superior, argument for such "apriorism" in his 1925 essay, "Economics as a Philosophical Science," in which he writes, "a pure or philosophical economics would consist of the analysis of this special [economic] type of action and its implications; and, finally, that the ultimate or fundamental problems of economics are soluble only by abandoning any attempt to solve them empirically or inductively, and dealing with them according to their true nature, as philosophical problems to be approached by philosophical methods" (1925, pp.163-164). (Collingwood did not, by the way, try to deny a respectable place at the table to what he called "empirical economics.")

So why, despite my agreement with Kirzner on the details, am I inclined to side with K-B on the larger issue at stake? The answer is that I think they are correct in asserting that considerations of "dovetail coordination" can provide very little genuine guidance toward resolving most actual disputes about which of various proposed roads public policy ought to travel, and also on target in indicating "concatenate coordination" as a more reliable guide. Now, Kirzner certainly does not hold the position that positive economics can resolve all or even most issues of public policy; he cautions "that intellectual honesty (not to speak of intellectual modesty) requires economists to recognize the limited (albeit crucially important!) reach of their science."

However, he is inclined to allow that science significantly more reach than are K-B. For example, concerning the legal imposition of rent control, K-B write:

> Under rubric II, there is no way to see those problems as either a lack of fulfillment or compatibility of plans or expectations. People expect rent-controlled rates, they expect shortages, queues, and so on. Nor is there any regret on the part of market participants. As for rubric III, the well-recognized discoordination does not involve any missing of profit opportunities. The law expunges opportunities that would exist in the absence of the law. The standard analysis does not involve any unexploited opportunities. Kirzner has

> no basis in his characterizations for calling the well-recognized harms of rent control "discoordination." (p.41)

Kirzner responds:

> To the extent that the outer trappings of property ownership are still, in principle, in place, rent controls certainly do block the discovery and exploitation of opportunities for mutual benefit. There *are* potential tenants who; *would* be prepared, if necessary, to pay higher rents for apartments were they to be made available. And there *are* potential builders of housing who *are* able to discover building resources that might profitably be turned into rental housing. These potential sets of tenant and landlord decisions are *not* being permitted to discover one another. Simply to say that law has "expunged" all such opportunities is (unless in the sense discussed in the previous sub-section) to miss the entire meaning of dovetail coordination. (pp.83-84)

Kirzner is certainly correct in noting that neither the intention nor the effect of rent-control laws is to abolish private ownership of apartments by landlords. Nevertheless, I believe K-B's analysis is basically sound. For one thing, from the point of view of economic actors who would be inclined to bid higher than the legal rent for controlled apartments in order to obtain them, the situation is not essentially different than if an earthquake had wiped out the units in question; for their purposes, unless they are prepared to skirt the law, the opportunity to acquire those apartments has been "expunged" just as thoroughly as if they had been destroyed.

Secondly, ownership of some piece of property, as most people and all existing legal regimes of which I am aware see it, does *not* entail unlimited freedom on the part of the owner to do anything at all to anyone who enters onto or interacts with his possessions. For instance, while a restaurant owner enjoys great latitude over how to operate his dining establishment, that does not mean that he is entitled to, say, sleep on a table at which some of his patrons are enjoying a meal. Such a course of action would, quite rightly in my view, be seen as a gross violation of the implicit contract he has entered into with diners by opening a business and calling it "a restaurant." Similarly, the rights of a landowner to do as he pleases on his land do not extend so far as to permit him to peremptorily gun down an otherwise innocent hiker who wanders across his property line by accident. In other words, even under a fairly robust understanding of property rights, the owner of a piece of property is enjoined from exercising his general dominion over the use of that good in ways that are regarded as violating some other principle of justice, in so far as, say, the errant hiker's right to life is seen as trumping the shotgun-wielding landowner's (still valid) right to bar uninvited guests from using his land.

If one accepts that the rights of an owner of a piece of property to do with it and on it as he sees fit must be balanced against other aspects of just action, then the desirability of any proposed or existent measure restricting the freedom of action of a landlord with respect to her tenants may be viewed as a question of what constitutes just behavior in such situations. For instance, I may be in (legal and just) possession of a gun and feel I have a knack for pulling off assassinations, for which I would like to be paid, and there may be numerous potential consumers of such a service, were I to provide it. We can imagine circumstances in which a consortium of dozens of individuals ardently wish that some one person should cease to be amongst the living, and that no one at all would miss the potential victim if he were gone. My murdering him would most likely not fit in with *his* plans, but since there are so many more people whose desires would be met if my envisioned service were available to them, it does not seem unjustified to claim that the overall level of "dovetail coordination" would be raised by permitting (at least some) murder-for-hire. Nevertheless, I'm sure that Professor Kirzner, one of the most decent and moral human beings I have had the privilege to know, does not bemoan the fact that our legal system blocks "the discovery and exploitation" of such "opportunities for mutual benefit."

To be fair to Kirzner, he admits:

> I have, I will grant, often worried about this issue. To the extent that *any* governmental action is to be interpreted as a change in the rights structure, we would, in all honesty, have to stop criticizing such actions as (dovetail) discoordinative intervention in the market system. It is because, I believe, most people would *not* endorse such an interpretation, that I

> believe the (dovetail) coordinative norm does have something to contribute. (p.82)

Now, it is probably the case the average voter casting a ballot for rent control is not thinking about the issue beyond being struck by the notion, "Hey, it would be great if future increases in the rent *I* pay were minimized," or, perhaps, "Gee, I sure would like to support downtrodden tenants from the depredations of greedy landlords!" But such people are unlikely to be moved by our discussion of dovetail and concatenate coordination however it is resolved. However, when it comes to more thoughtful advocates of such policies, I suspect that Kirzner is incorrect, and that, if pushed to articulate their views on the matter, would indeed ground that support on the need for "a change in the rights structure," specifically, on what restrictions they understand the pursuit of justice to call for in regards to the freedom of landlords to do as they wish with their property. In other words, what they wish to do is precisely to redefine the property rights each party enjoys in housing rentals, rather than accepting the existing system of rights but tinkering with its outcomes. "Landlords," as I envision these thoughtful proponents of rent control arguing, "are entering into a very special relationship with their tenants, quite unlike, say, that of a video-store owner who rents a customer a movie, or a innkeeper who rents vacationers a room for the night – landlords are providing tenants with their *homes*, with a sheltered place to call their own, the possession of which is a necessary prerequisite for most people to lead a decent life in human society. As such," they might go on, "landlords, by their own free choice, have entered into a relationship requiring of them greater concessions to the welfare of their customers than is required of someone selling slices of pizza or a night at the movies. In particular, it is simply *not just* for a landlord to abruptly dislocate a family with young children, or an elderly couple, from the home they love and the neighborhood representing the heart of their social life, just because some wealthy investment bankers have recently decided that the apartment is in an area that is now a desirable or trendy place to live."

Such an argument does not strike me as being, prima facie, absurd. Nor does it represent a wholesale denigration of the importance of property rights, but instead, a claim that here is one more concern against which a respect for those rights ought to be balanced. And, I think, someone making a case for rent control along such lines is unlikely to be dissuaded by any demonstration that her proposal entails sacrificing certain opportunities to achieve "dovetail coordination." (Consider how few people would be moved to endorse allowing the above, hypothetical instance of contract killing even if they were persuaded that permitting it would increase the "total amount" of mutual plan fulfillment.)

Therefore, I believe that K-B are correct in asserting that, to defease such a proposal, it is necessary to appeal to something like what they term "concatenate coordination," or what thinkers in the classical tradition of political theory might have called "the well-ordered polity." For instance, a libertarian wishing to discourage the passage of rent control legislation, but recognizing that the strongest case for its adoption is based on an appeal to the enhanced concatenate, rather than dovetail, coordination it is thought to promote, might respond to our imaginary advocate described above by saying, "Your concern for the welfare of tenants and your desire to enhance their sense of security about having a home is admirable. However, the legislation you propose won't achieve your aims nearly to the extent you believe, but it will have other consequences that you neither intend nor desire. It will create an adversarial relationship between landlords who perceive the opportunity to earn higher rents and tenants who rely on the new law to thwart those possibilities. It will result in many people who would otherwise be happy to surrender an apartment and take advantage of otherwise preferable accommodations hanging on to a rental unit for years simply because it is rent controlled. It will result in leaseholders covertly subletting apartments and capturing the difference between the controlled and the uncontrolled rent that more justly should accrue to the landlord. And it will result in political lobbying and corruption as owners seek to adjust the rules for their own benefit and politicians fill their campaign coffers by accommodating them."

Now, it might be suggested that, in offering the above argument as an example of an apropos libertarian response to the rent control supporter, I am, in fact, adopting Kirzner's position. After all, isn't it precisely the fact that the proposed legislation thwarts otherwise available opportunities for achieving dovetail coordination that leads to the undesirable activities presented as countering the advocate's case? But I do not believe that contention penetrates to the heart of the matter, for it is similarly true that failing to legalize contract killing doubtlessly will result in efforts to realize those potential "gains from trade" despite their illegality, many of which will be undesirable, such as bribing law enforcement officials to ignore black market transactions taking place in this "industry," the blackmailing of "consumers" who have purchased this service, and so on. No, as I see it, it is not a question of how much dovetail coordination is foregone that is most persuasive in these cases, but one of whether or not the overall outcome contains more or less injustice – in K-B's terms, one of the effects that forbidding or permitting the contested activity will have on the degree of concatenate coordination in the relevant society. No one, to my knowledge, attempts to tally up the net amount of dovetail coordination foregone by outlawing murder-for-hire businesses as an important factor arguing for legalizing the industry.

Before I quit this topic, I wish to note that the above analysis does not imply that there is *never* a place in political debate for economic critiques that examine the likely consequences of a particular policy in terms of dovetail coordination: If, for instance, an advocate of a policy such as rent control asserts that it is merely promoting an economically more efficient arrangement within the current system of property rights, the economist can show that she is incorrect.

The essence of human political life, Aristotle proposed long ago, does not consist in wrangling over which persons or groups will have their personal preferences met by political action, although, too often, that is what it has come down to in our day and age. Instead, that essence is citizens' mutual commitment to engage in reasoned debate concerning how to bring the conduct of their polity more in line with the ideal of justice. If he was right, as my arguments above rely upon in their analysis, then, even though Kirzner is correct in noting that Klein and Briggeman misinterpret his work in several important respects, nevertheless, the latter pair make an important contribution to our appreciation of the limits of economic analysis.

References

Collingwood, R.G. 1925. "Economics as a Philosophical Science." *International Journal of Ethics*, 35: 162–85.

Hayek, Friedrich A. 1994. *Hayek on Hayek: An Autobiographical Dialogue*, ed. Stephen Kresge and Leif Wenar. Chicago: University of Chicago Press.

Kirzner, Israel M. 2010. "The Meaning of 'Economic Goodness': Critical Comments on Klein and Briggeman." *Journal of Private Enterprise,* 25(2): 55–85.

Klein, Daniel B. and Briggeman, Jason. 2010. "Israel Kirzner on Coordination and Discovery." *Journal of Private Enterprise*, 25(2): 1–53.

Mises, Ludwig von. 1996. *Human Action*, 4th ed. Ch. II, Pt. 10. Irvington: Foundation for Economic Education. http://mises.org/humanaction/chap2sec10.asp (accessed August 25, 2009).

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Coordination: A Critique of Daniel Klein

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Abstract
In several papers, Daniel Klein has documented the varied usage of the term *coordination* in the economics literature. Klein has proposed two meanings of the term, one of which corresponds to the Hayekian usage and the other to the work of Thomas Schelling. However, Klein's taxonomy is unhelpful because both of his two types of *coordination* apply to the work of both Hayek and Schelling. I propose a more appropriate distinction.

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Keywords: Hayek; Schelling; Coordination

Ever since Hayek's 1937 classic, "Economics and Knowledge," Austrians and other sympathetic writers have rightly emphasized study of the coordination properties of an economic system. However, in the wake of the pioneering work of Thomas Schelling (1960), the neoclassical mainstream has construed a "coordination game" in a very narrow sense. In several papers Daniel Klein (with co-authors) has attempted to categorize the different uses of the term *coordination* in the economics literature. Unfortunately, I disagree with his taxonomy. In this comment I will make the case that Klein has focused on a distinction that does not truly distinguish the Hayekian from the Schelling sense of the term. I will then suggest a distinction that more neatly separates the work of the two economists.

I. Klein's Taxonomy: The "Two Coordinations"

In an insightful paper (Klein, 1997) and its follow-up (Klein and Orsborn, 2009), Daniel Klein identifies two distinct (and often conflated) meanings of *coordination*. Unfortunately, his distinction—which is perfectly valid as far as it goes—cannot bear the weight that Klein puts on it. In particular, Klein is wrong to argue

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that one of his meanings of *coordination* corresponds to the Hayekian use of the term, whereas the other sense of *coordination* matches up with the modern (post-Schelling) game theoretic usage. To illustrate our position, we will first quote extensively from Klein and then demonstrate that his suggested taxonomy is ill-suited for the task he has in mind.

To understand the distinction Klein wishes to draw for the usage of the noun *coordination*, it is probably easiest to focus on the different meanings of the verb *coordinate*. As a transitive verb (which takes a direct object), *to coordinate* means to arrange or assemble things into a pleasing pattern: one *coordinates* the colors in a room. But as an intransitive verb (i.e. one that does not take a direct object), *to coordinate* means to adjust oneself to other, uncontrollable factors: one *coordinates* with a friend to meet at a certain time.

The same distinction carries over to the noun form. In the first sense, we can say that one achieves a pleasing color coordination. In the second, we can say that one achieves coordination with the friend.

In his earlier paper, Klein proposed "with some apprehension" that the first type (i.e., arranging things to form a pleasing pattern) be referred to as *metacoordination*, while the second type (i.e. adjusting actions to mesh with others') be referred to as simple *coordination*. However, Klein and Orsborn (2009) have since updated the nomenclature, which we will retain for the remainder of this paper. The first sense of *coordination* (such as coordinating the colors in a room) shall be termed "concatenate coordination," whereas the second sense (such as coordinating with a friend to go to a movie) shall be termed "mutual coordination." Here Klein and Orsborn explain the updated terminology:

> An interior designer coordinates colors, patterns, and textures to make a pleasing look. The businessperson coordinates factors [of production] to make profits. The verb is transitive and the result is an overall pleasure from the perspective of the coordinator or of anyone else like her. Components link one to another, forming a chain or concatenation. Call it *concatenate coordination*.
>
> Then there is the intransitive verb: the Japanese drive on the left, and one *coordinates* to that convention (no direct object there). Call that *mutual coordination*. Mutual coordination

> is usually more or less manifest, like waltzing together. Actors might not be thinking about it, but they are potentially made aware that they are taking part in mutually coordinated action. (Klein and Orsborn, 2009, p.177)

With the "two coordinations" in mind, we now examine Klein's deployment of this distinction in the economic literature.

II. Mutual Coordination: Klein on Schelling

As Klein points out, a "coordination problem" means something very particular to the modern neoclassical economist who has been exposed to even a rudimentary survey of game theory. A standard example of such a problem (adopted by Klein, 1997, and consistent with the example in Klein and Orsborn, 2009) is two motorists deciding on which side of the road to drive. The best outcome is for them both to drive on the right side (because of the placement of the steering wheels, say), the second best outcome is for both to drive on the left, and the worst outcome occurs when they fail to pick the same side (and end up colliding).

Table 1. A Schelling Coordination Game

	Drive on the Right	Drive on the Left
Drive on the Right	2,2	0,0
Drive on the Left	0,0	1,1

In modern game theory, the above payoff matrix is called a *coordination game* because (loosely) it is in each player's interest for the other to correctly predict his strategy; if one player chooses "Left," he hopes the other realizes this and chooses "Left" as well.

The important aspect of the above coordination game is that there are two equilibria, in the sense defined by John Nash, in which each player's strategy is a best-response, *given* the strategy of the other player. (Right, Right) is thus an equilibrium, but so is (Left, Left). The frustrating part of the game is that if for some reason, one player expected the other to choose Left, then it would be in the interest of the first player to choose Left as well, even though both players would strictly prefer to end up in the (Right, Right) outcome.

However, unlike the famous Prisoners' Dilemma, in a coordination game the incentives do not compel the players to suffer in an undesirable (specifically, Pareto suboptimal) equilibrium. If the players could just *coordinate* with each other on the (Right, Right) outcome, it would constitute a stable Nash equilibrium. It is because of these types of considerations that the strategic arrangement characterized by the above payoff matrix is called a "coordination game."

Klein believes that this Schelling coordination corresponds to his (Klein's) second type of coordination, i.e., mutual coordination. In one sense, this is undeniable: the motorists must choose their own actions and hope to coordinate with each other. However, while considering such a game, the typical neoclassical might recommend some intervention in order to *facilitate* this decentralized activity. For example, she might recommend that the government fine people who are caught driving on the left side of the road. In such a case, the government officials would not be attempting *mutual coordination*, but instead would be seeking *concatenate coordination*: they would be arranging motorists like chess pieces to achieve a pleasing (i.e., Pareto-efficient) outcome.

It would seem that Klein's two meanings of coordination are *both* used in the typical discussion of Schelling coordination. The "coordination game" from standard game theory is interesting for precisely this reason: It has the element of each player adjusting his behavior in light of the anticipated strategy of the other, but it *also* involves a higher-order strategizing in which the players (or a central planner, or private-sector road designer) attempts to nudge the outcome toward the equilibrium position in which both players are better off. If we are forced to think of *coordination* in the two senses created by Klein's taxonomy, then we will need both senses in any comprehensive discussion of a Schelling coordination game.

III. Concatenate Coordination? Klein on Hayek

If Klein's taxonomy does not neatly confine Schelling's usage of the term *coordination* into a single box, Klein's treatment of Hayek is even more dubious. At first blush, many Austrians probably would have assumed that surely Hayek's seminal work on intertemporal-equilibrium-as-plan-coordination (1937) corresponds to Klein's category of "mutual coordination" in which one coordinates with others. Yet Klein makes the opposite move, and casts Hayekian coordination into his (newly renamed) box of *concatenate coordination*:

> [W]e may say that, when Hayek, Polanyi, and Coase spoke of coordination in economic systems, the dedicated opponents [of] any conscious effort to arrange society as a whole meant, in fact, *pleasing arrangement*. The arrangement is abstract, and the pleasure is allegorical, but that is what they meant. In the Hayek meaning, the concatenation of affairs in cases like the catallaxy is not actually coordinated by a Great Arranger, but, as Smith's famous metaphor demonstrates, their idea of coordination is clarified by an allegory of the affairs being "led by an invisible hand."
>
> The allegory goes as follows: There is a superior being named Joy who is invisible and who beholds the vast economic order….Her pleasure increases when human society exhibits widespread prosperity, comfort, personal fulfillment, excellence, irony, and affection….In the road game…she prefers the (Right, Right) outcome, and *in that sense* the arrangement of activities at (Right, Right) is *better coordinated* than the arrangement of activities at (Left, Left). In the allegorical sense in which Joy exists within us and acts by mysteriously stirring our doings, Joy coordinates our doings in achieving (Right, Right), the way we coordinate colors in decorating our homes…
>
> Hayek's claim is that the decentralized activity of the free catallaxy generates a dynamic, complex "spontaneous order" which Joy finds more pleasing than the order generated by the centrally-planned economic system. (Klein, 1997)

I believe the above to be an oversimplification of Hayek's position. The allegorical Joy does *not* coordinate us in the same way that "we coordinate colors in decorating our homes" because the colors in our homes are not *acting, planning* agents. It is true, there is a sense in which the impersonal price mechanism—*not* some mystical being "Joy"—coordinates us, but only by providing information with which we form our own subjective plans and attempt to coordinate our actions with each other. If all Hayek meant was that the free market generates an order "more pleasing" than any other system could, he probably wouldn't have used the term *coordination* at all. We thus see that Klein's distinction between mutual coordination and concatenate coordination does not provide a sharp contrast between the Schelling and Hayekian viewpoints, as both writers implicitly rely on *both* concepts.[1]

Klein continues with this interpretation of Hayek by going on to say:

> When Hayek and Polanyi write of "coordination," they mean a pleasing arrangement of affairs – pleasing, that is, to Joy. Hayek and Polanyi would say that in the road game…the arrangement (Left, Left), though a coordination equilibrium, shows unsatisfactory coordination. (Klein, 1997)

I frankly do not believe Hayek had any such possibility in mind when he wrote his seminal papers on knowledge. The occasional normative statements[2] in these papers are all related to the 'desirability' of *equilibrium itself* (as explained below). To rate one equilibrium more pleasing than another (as Klein does in the above quote) would seem to commit the very error about which Hayek explicitly warned – that is, it supposes that one can construct a single set of ends from the diverse ends sought by the actors in the catallaxy.

Perhaps Hayek would agree with Klein; perhaps he wouldn't.[3] I merely want to reiterate my claim that Hayek had no such scenario (i.e., one with multiple Nash equilibria in which one equilibrium Pareto-dominates another) in mind.

To see this, let us take a quote from Hayek that at first glance seems to support the interpretation given by Klein:

> We may therefore very well have a position of equilibrium only because some people have no chance of learning about facts which, if they knew them, would induce them to alter their plans….
>
> While such a position represents in one sense a position of equilibrium, it is clear that it is not an equilibrium in the

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[1] Israel Kirzner too objects to Klein's (original 1997) taxonomy, on the grounds that Hayek at times meant both coordination and metacoordination (Kirzner, 1999, p.199 fn 7).

[2] E.g., after a scarcity of a raw material, people "move in the right direction" (Hayek, 1945, p.87).

[3] Clearly *Kirzner* (1998) would say that (Left, Left) was not fully coordinated, as he believes coordination implies Pareto optimality.

> special sense in which equilibrium is regarded as a sort of optimum position. In order that the results of the combination of individual bits of knowledge should be comparable to the results of direction by an omniscient dictator, further conditions must apparently be introduced [which Hayek describes in a footnote as absence of "frictions"]….One condition would probably be that each of the alternative uses of any sort of resources is known to the owner of some such resources actually used for another purpose and that in this way all the different uses of these resources are connected, either directly or indirectly [to ensure equalization of marginal productivity]. (Hayek, 1937, p.53)

By itself, this passage does *not* prove Klein's claim that Hayek would regard the (Right, Right) equilibrium as more coordinated than the (Left, Left) outcome. In the paper containing the above quote, Hayek first redefines (intertemporal) *equilibrium* as a situation in which all individual plans are compatible. Now, Hayek acknowledges (in the first paragraph from the block quotation above) that this compatibility of plans might be due to ignorance on the part of some people. Thus what Hayek calls "equilibrium" might *not* satisfy the conditions of (perfectly competitive) equilibrium as defined in the formal models of that time. These conditions – equality of marginal rates of substitution of consumer goods, equality of marginal productivity of resources, prices equal to marginal costs, etc. – are the ones that (Hayek claims) would hold if an omniscient dictator were to arrange affairs. As the economists of this time were well aware, market outcomes in the real world might fall short of this ideal because of frictions that were assumed away in the model.

However, this situation is not the same as the (Left, Left) outcome in the road game. This Pareto-inefficient Nash equilibrium is not due to ignorance on anyone's part; the features of the game are common knowledge to all players. Nor is the inefficient (Left, Left) supported by the "frictions" (such as finite divisibility of goods or distortionary taxes) that concerned the mathematical economists of Hayek's day. What hinders movement in the "right direction" is that any individual defection from the (Left, Left) outcome would be disastrous. Only if all players change their strategies *together* can (Right, Right) be achieved.

Another example will illustrate the distinction. Besides the road game, a typical example of a modern neoclassical coordination game is the choice between Beta and VHS standards for videocassettes. We shall omit a payoff matrix, but it is easy to see why this game has the same flavor as the road game: it doesn't matter so much which standard is chosen as long as everyone picks the same one. Furthermore, let us suppose (as many allege) that everyone would have been better off if Beta had been established, but unfortunately the market is "stuck" at the (Pareto inefficient) VHS equilibrium.

Such a case of "market failure" does *not* correspond to Hayek's first case of a suboptimal equilibrium. In the VHS case, there is no ignorance. Everyone knows perfectly well (we stipulate for the sake of argument) that it would have been better to settle on the Beta standard. Moreover, the marginal rates of substitution and factor productivity would all be equal (in a suitably designed model). On the *margin* there is no reason for any *individual* to adjust his behavior; that's why the market is (allegedly) "stuck." Only if *everybody* switched (at the same time) over to Beta would the Pareto optimal outcome be reached. Because we cannot hope for individuals to spontaneously make such a transition, many economists feel the government needs to take action.

Hypothetical situations like these – in which all plans mesh, everyone is fully informed, there are no external frictions, and yet the omniscient social planner could nonetheless improve on the outcome – simply did not occur to Hayek, at least in his papers on knowledge.[4] In these papers he is clearly concerned, not with whether the market will select the "best" equilibrium, but whether and how the market approaches equilibrium *at all*.

Let us be clear: Hayek certainly *does* have in mind the notion of an interlocking arrangement of individual plans such that a social optimum is achieved, however vague that sense of optimality may be defined, and regardless of whether Hayek would feel comfortable with Klein's notion of a "superior being named Joy who is invisible and who beholds the vast economic order." Armed with Klein's definition of *concatenate coordination*, one will certainly see the concept spilling out of Hayek's work.

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[4] Klein points out that Hayek considered "lock-in" in *The Road to Serfdom* (Klein, 1997, p.334 fn 5).

However, our main point is that surely Klein's definition of *mutual coordination* is also embedded in Hayek's work. For example, consider this passage from Hayek's 1937 paper:

> [T]he knowledge and intentions of the different members of society are supposed to come more and more into agreement….In this form the assertion of the existence of a tendency toward equilibrium is clearly an empirical proposition…which ought, at least in principle, to be capable of verification. (Hayek, 1937, p.45)

Note the similarity between Hayek's passage above and the quotation below that Klein (and co-author) selects from Schelling to motivate the discussion of mutual coordination. Schelling gives the example of a man and wife separated in a department store and comments:

> What is necessary is to coordinate predictions, to read the same message in the common situation, to identify the one course of action that their expectations of each other can converge on. They must "mutually recognize" some unique signal that coordinates their expectations of each other. (Schelling 1960, as quoted in Klein and Orsborn, 2009, p.181, italics removed)

Schelling's discussion seems quite complementary to Hayek's work on intertemporal equilibrium, especially if changing market prices are the "signal that coordinates their expectations of each other." Yet in their 2009 paper, Klein and Orsborn introduce the above Schelling quote to distinguish the *new* usage of the term *coordination* from the older meaning that economists such as Hayek (and others at the London School of Economics) had had in mind.

To repeat my earlier claim, I suggest that if a randomly selected Austrian (who was unfamiliar with Klein's treatment) were asked whether Hayek's knowledge papers had to do with *coordination* in the sense of an interior designer planning the color scheme of a living room versus the sense of friends synchronizing their plans to meet up for a movie, then it is very likely that the Austrian would say Hayek's usage lined up with the second sense (i.e., Klein's "mutual coordination"). Yet, this second sense Klein wishes to reserve for modern neoclassicals steeped in Schelling's work on coordination games, while the interior designer sense is reserved for Hayek.

IV. A Better Distinction Between Hayek and Schelling

Klein has undeniably put his finger on an important difference in the Hayekian versus the modern game theoretic understanding of a "coordination problem" in the social sciences. My argument is that Klein's taxonomy of the word *coordination*, unfortunately, does not overlap with the Hayekian/Schelling distinction. Rather than claim (as Klein does) that Hayek focused on concatenate coordination (in which individual actions must fit together in such a way to yield a pleasing outcome to a superindividual observer), whereas Schelling focused on mutual coordination (in which an individual must adjust his action in light of what others are expected to do), instead I would say the critical distinction between the two camps is this: Hayek focused on the tremendous difficulties *in achieving equilibrium at all*, whereas Schelling (and many modern neoclassicals) assume away this real-world problem and instead focus on choosing from *among possible equilibria* in stylized games that are much simpler than the actual economy.

To bolster my interpretation – namely that Hayek thought many economists were assuming away the problem of equilibration in the first place – we can again quote from Hayek's 1937 paper:

> [M]y main contention will be that the tautologies, of which formal equilibrium analysis in economics essentially consists, can be turned into propositions which tell us anything about causation in the real world only in so far as we are able to fill those formal propositions with definite statements about how knowledge is acquired and communicated. (Hayek, 1937, p.33)

V. Conclusion

The term *coordination* has had an extensive and varied history in economics, as Klein and Orsborn (2009) document. It is also true that there is an important distinction between the work of earlier economists, particularly Hayek, when they discussed coordination in an economic system, versus the modern game theoretic notion of a "coordination problem."

Unfortunately, after spending so much time outlining his suggested taxonomy (originally between *coordination* and *metacoordination* but now between *mutual coordination* and *concatenate coordination*), Klein fails to distinguish the essential differences between the Hayekian and Schelling uses of the term. *Both* of Klein's senses are involved in both economists' work.

Rather than focusing on the transitive versus the intransitive meaning of the verb *to coordinate*, I suggest that a much more useful distinction is the Hayekian focus on the equilibration process, versus the Schelling (and more generally, mainstream neoclassical) focus on the choice *among* potential equilibria.

References

Hayek, Friedrich A. 1937. "Economics and Knowledge." *Economica*, 4 (February): 33–54; page references are to the reprint in Hayek (1949).

Hayek, Friedrich A. 1945. "The Use of Knowledge in Society." *American Economic Review*, 35(4): 519–30; page references are to the reprint in Hayek (1949).

Hayek, Friedrich A. 1949. *Individualism and Economic Order*. London: Routledge and Kegan Paul.

Kirzner, Israel M. 1998. "Coordination as a Criterion for Economic 'Goodness.'" *Constitutional Political Economy*, 9: 289–301; page references are to the reprint in Kirzner (2000).

Kirzner, Israel M. 1999. "Hedgehog or Fox? Hayek and the Idea of Plan-Coordination." *Journal des Economistes et des Etudes Humaines*, 9(2/3): 217–37; page references are to the reprint in Kirzner (2000).

Kirzner, Israel M. 2000. *The Driving Force of the Market: Essays in Austrian Economics*. London: Routledge.

Klein, Daniel B. 1997. "Conventions, Social Order, and the Two Coordinations." *Constitutional Political Economy*, 8: 319–35.

Klein, Daniel B. and Aaron Orsborn. 2009. "Concatenate Coordination and Mutual Coordination." *Journal of Economic Behavior and Organization*, 72: 176–187.

Schelling, Thomas C. 1960. *The Strategy of Conflict*. Cambridge: Harvard University Press.

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Israel Kirzner on Coordination and Discovery: A Comment

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Abstract
Klein and Briggeman (K-B) criticize Israel Kirzner for advancing a concept of coordination (dovetail coordination) that implies over-strong claims about the results of entrepreneurial action. Instead, K-B propose the "looser" conception of "concatenate coordination" associated (they argue) with Smith and Hayek. This paper criticizes Kirzner's view that entrepreneurial activity is always and necessarily coordinative (in a dovetail sense) and to this extent supports the K-B critique. It also argues that the concept of "concatenate coordination" well describes the continual efforts by individual entrepreneurs to discover new opportunities and reallocate resources whether across markets or within firms. When applied to the "spontaneous order" observed in a market cosmos, however, it is not clear that this order should necessarily be aesthetically or otherwise satisfying to any mind imagined to behold it. The coordination of a market catallaxy might, in principle, be satisfying or unsatisfying to the beholder – and therefore is not well described as concatenate coordination. A catallaxy simply goes on, and (like the natural world) is, in principle, amenable to purely scientific investigation. This in no way prevents classical liberal philosophers and economists from explaining why such a catallaxy can be expected to produce an evolving order that is satisfying to an "imaginary benevolent being."

JEL Codes: A10, B25, P10
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I. The Focus of the Debate

The debate between Klein and Briggeman (2010) – henceforth K-B – and Israel Kirzner (2010) over the nature and history of the concept of "coordination" in economics presents such a thicket of intertwined issues that a commentator venturing inside naturally fears entanglement to the point where escape is impossible and further struggle simply makes things worse. To begin, therefore, it is prudent to snip away a few briars upon which the present contributor would prefer not to become hooked. Although this comment will certainly be concerned with some notable historical contributions to the discipline, the doctrinal history that to some extent runs through K-B's critique of Kirzner – and to which Kirzner takes strong exception – will not be discussed. Whether it is reasonable to interpret Kirzner's approach to entrepreneurship and coordination as flowing from Mises' methodology of science, or whether and in what particular respects Hayek's writing departed from this tradition and is incompatible with the work of Mises (and therefore Kirzner), are not issues upon which I am sufficiently knowledgeable to pronounce.

At the center of this exchange between K-B and Kirzner is a debate about whether the fact of economic change can be reconciled with some positive understanding of the coordinative properties of market processes. Both parties (in my interpretation) would assert that a dynamic and changing market system is in some sense coordinated. Both seem to agree that the agents of this coordination are entrepreneurs. So what is the problem? The issue seems to focus on the nature of this market coordination. K-B object to what they see as Kirzner's very strong conception of coordination in terms of "dovetailing" – a metaphor based upon the locking together of different pieces of wood by means of a dovetail joint – a dovetailing necessarily advanced (in Kirzner's system) by entrepreneurial action. The criticism of this conception is that it is too "rigid," precise, and "determinate." K-B propose instead a different conception of coordination that they call "concatenate coordination." The metaphor is more of "connection as of chain-links" (to use the definition given in the Pocket Oxford Dictionary) – presumably looser and more flexible than the dovetail joint. The result is a pattern "satisfying, pleasing, or even beautiful to a mind imagined to behold it" (Klein and Briggeman, 2010, p.5). They recommend a discipline that is more accepting of "the loose, vague and indeterminate."

Interpreting this division of opinion requires some assessment of its significance. Is it a purely aesthetic matter of differing imagery? Is it a semantic dispute over the meanings of certain words? Is it related to the persuasiveness of the case for the market system and classical liberalism more generally? Does it reflect a scientific disagreement about the nature of the economic system and implicitly contain a clash of competing theories, or does it reflect disagreement about how most accurately (not necessarily persuasively) to specify a theoretical model that is in fact held in common by the two parties? Kirzner, in his reply to K-B, argues that a considerable part of their critique is based either upon semantic misunderstanding or on a wish to advance a normative rather than positive scientific agenda. Indeed he claims that the K-B concept of concatenate coordination cannot be interpreted in anything but a normative sense and protests that he himself has never placed "heavy doctrinal weight on the normative coordination concept itself" (Kirzner, 2010, p.63).

In this comment I will argue that there are more than semantic and aesthetic issues at stake here and that the dispute is part of the long-running debate in economics on the problem of reconciling primarily static analytical tools with an inherently dynamic subject matter. I will argue that Kirzner's framework fits into a tradition that treats the concepts of full economic coordination, "equilibrium" or a "stationary state," as effectively synonymous. Kirzner's approach to economic theory is to compare actual economic circumstances with an idealised benchmark of full coordination (where resources are nicely dovetailed) and where the potential for further entrepreneurial profit has been exhausted. His highly distinctive contribution to this tradition is fully to explore the role of the entrepreneur in discovering and then, through the establishment of new trading patterns, realizing the gains to trade that would otherwise remain latent and undeveloped.[1] Kirzner's analysis is dynamic in the sense that he wishes to explain the processes of change and has advanced our understanding of the nature and rewards accruing to the agents of change, but his dynamic theory rests on the proposition that all entrepreneurial action has a systematic equilibrating and hence coordinating property as the gains to trade are uncovered and the conceptual benchmark of full coordination is approached.

The main objection leveled at this tradition by K-B is that in many situations the proposition that entrepreneurial action will be conducive to coordination in Kirzner's "dovetail" sense cannot be relied upon. Perhaps entrepreneurial action will sometimes be disruptive rather than coordinative – as in the case of a major technological change or even (they argue) the publication of an influential book full of erroneous ideas. A concept of concatenate coordination, however, would allow us to describe a market system as coordinated, even when in a state of flux, on the grounds that

[1] See, for example, Kirzner (1973, 1979, 1989), and as discussed in Ricketts (1992).

dynamic entrepreneurial forces are "usually" coordinative and will generally result in a pattern satisfying to some "imaginary benevolent being."

II. Entrepreneurship and Coordination

Kirzner's insistence on the coordinative properties of entrepreneurial action is certainly vulnerable to some significant objections. In my (Ricketts, 1992) critique of Kirzner I particularly emphasized the point that entrepreneurial intervention of the Schumpeterian variety – the introduction of massive and disruptive technological innovation – is very difficult to fit into Kirzner's framework. Using neoclassical terminology we might see Schumpeter's entrepreneur as shifting outward the production possibility frontier of the economy, thus creating new possibilities for Kirznerian entrepreneurs to discover. The full potential of the new technology is then gradually exploited. A large technological change renders old trading patterns inefficient. What had represented a state of dovetail coordination now is revealed to be "discoordinated" in Kirzner's sense and to embody Kirznerian "error."

In his reply to K-B, Kirzner addresses this issue of "disruptive" entrepreneurship but is resolute in his defense of his own system and argues that the dispute is about terminology rather than substance. "The changes in market conditions…may certainly be seen…as 'disruptive.'…But it cannot, surely, be denied that these 'disruptive' changes express the new dovetail-joints being forged, now, between hitherto uncoordinated potential decision makers." In other words, Kirzner is unwilling to distinguish between Schumpeter's conception of entrepreneurship and his own. Both are alert to new possibilities and both are, in his sense, in the business of forging new dovetail joints and thus coordinating economic activity.

To the present writer this defense has never seemed entirely persuasive. The point is simply that the forging of the new dovetail joints is at the cost of destroying the old ones. Kirzner did not add "and the dovetail joints being broken, now, between hitherto coordinated actual decision makers" to the end of the sentence quoted in the above paragraph describing the disruption to established patterns. At an earlier point in time these old dovetail joints did exist. They themselves were the result of entrepreneurial forging and the discovery of error and, for a time, we might presumably have described the situation as "coordinated." Suddenly, we are asked to accept that what we thought was a coordinated market was not actually so, and new entrepreneurial intervention has revealed the opportunities that we were still missing. Kirzner emphasizes the grasping of the new opportunities and describes that process as "coordination." He is not prepared to concede that this process must also simultaneously to some extent "undo" prior coordination. Kirzner's likely response, of course, is that the new profit opportunities being grasped *reveal* rather than *create* the complained-of discoordination. The situation turned out to be uncoordinated all along although the "error" was still awaiting discovery.

If this argument is accepted, however, it must imply that Kirzner's system will not permit us to state that any situation, even a local and provisional one, is fully coordinated unless a final general equilibrium has been achieved. As long as entrepreneurs are active, error is being discovered. The dilemma for Kirzner is that he wishes to characterize the entrepreneur as an agent of coordination even though continual change must imply the "absence of full dovetail coordination" at any given point in time, and even though the state of full dovetail coordination to which the entrepreneur is driving the system is unknown. From the point of view of the system, all we actually know is that entrepreneurs take us from one uncoordinated state to another uncoordinated state through a process that Kirzner would argue is one of progressively enhanced coordination relative to the unknown ideal. The *process* is "coordinating" even if the provisional and changing *results* cannot be described as fully coordinated, with the plans and expectations of all transactors fully dovetailed.

My interpretation of K-B's criticism is therefore that Kirzner's conceptual framework cannot be used to demonstrate the coordinating effect of entrepreneurial action in a market system except as a kind of tautology. In the appropriate institutional and property rights setting, entrepreneurial profits imply gains to trade; new gains to trade imply greater coordination; ergo entrepreneurs must forge trading links that can be described as coordinative. It is no good complaining that entrepreneurs might infringe property rights or undermine trust between long-term contractors because Kirzner can easily reply that his analysis only applies to situations in which property entitlements are clear and all agreements are enforceable at low cost. It is no good claiming that newly discovered gains to trade for a subgroup of transactors might involve huge dislocation to hitherto dovetailed plans elsewhere in the economy because evaluating this "disruption" is a normative matter and does not affect the claim that these disrupted plans were anyway not dovetailed at all (even if they looked "benignly stable" (Kirzner, 2010, p.70) and had lasted a long time) but were already discoordinated as a matter of definition.

III. Prices and Production

Given the comparisons made between Hayek and Kirzner in the K-B critique, it is worthwhile to consider Hayek's attempt in the 1930s at "bridging the gulf between 'statics' and 'dynamics'" (Hayek, 1939, p.137). The issues were very similar even if the context (explaining periodic economic "crises") was different. In Hayek (1931, lecture 2) the structure of Austrian capital theory is set out. In this theory, final consumers' goods are produced in a series of stages in which value is added by the application of labor and natural resources over time. The capital stock is effectively (in the simplest version of the theory) made up of circulating capital – uncompleted consumers' goods at all stages of the production process. The longer the period of production, the more the production process could be broken down into stages and the advantages of division of labor could be more effectively exploited. A longer, more "roundabout" production process implied a greater flow of output and a longer average period of production or ratio of capital to output.

The relevance of this theory for our present purposes is that it was central to Hayek's analysis of industrial fluctuations. If uncompleted goods were to be held to the next period, businesspeople would require their value to rise over time at the rate of interest. This interest rate would ideally represent the time preference of consumers and the reward required for "waiting." Lower interest rates reflecting a decline in time preference and more patient consumers would mean that the price margins established between production stages would be wider than required to reward the waiting involved. Net saving would be channelled into a greater capital stock, the production period would lengthen, and price margins would adjust downward to reflect the lower time preference rate. The higher capital stock would then support a greater long-term rate of consumption stretching into the future, net saving would cease, and a new stationary state would be established. "If entrepreneurs entertain correct views about the price changes that are to be expected as a result of the changes in the method of production, the new interest rate should correspond to the system of price margins which will ultimately be established" (Hayek, 1931, p.84).

This reasoning implied that the structure of production was a complex interrelated system requiring that intermediate goods prices and the interest rate were appropriately adjusted. Furthermore, entrepreneurs had correctly to anticipate the effects of changes in interest rates on production methods and goods prices. If their expectations were disappointed, a new equilibrium would not be established. "The assumptions of this kind which are implied in the concept of equilibrium are essentially that everyone foresees the future correctly and that this foresight includes not only the changes in the objective data but also the behavior of all the other people with whom he expects to perform economic transactions" (Hayek, 1939, pp.139-140).

From this brief description of Hayek's theory, it is clear that his notion of equilibrium and Kirzner's concept of dovetail coordination are completely at one. On the other hand, the context of Hayek's exposition is his analysis of industrial fluctuations and the danger of discoordination. Here the culprit was monetary disturbance. Monetary expansion leading to the depression of market interest rates below the true time preference of consumers would mislead entrepreneurs and induce false expectations. The lengthening of the production period and the greater capital stock would not in the end be warranted, and the "saving" used to expand the capital stock would be "forced saving" induced by unexpected inflation, leading to disappointed consumers. The "lengthening" of the production process, argued Hayek (1931, p.135) would be unsustainable. "These elongations…are likely to be partly or wholly reversed as soon as the cause of the forced saving disappears." The return to a shorter, less capital intensive, structure of production constitutes the economic crisis or depression.

The point at issue here is not the coherence of Austrian capital theory or Hayek's use of the theory as part of his explanation of business fluctuations but his approach to coordination and the price system. The model he presents has at its core a "stationary state" of dovetailed expectations. Entrepreneurs, however, cannot be relied upon to act in ways that always support coordination. They can be misled by false price signals deriving from monetary disturbances. Hayek clearly has no confidence that entrepreneurs will adjust their behavior to take account of the distorting effects of the monetary lenses through which they are viewing the world. He expects that they will be fooled and that their transactions will lead to discoordination and a crisis. On the other hand, with monetary authorities committed to avoiding these distortions, Hayek can be interpreted as taking the view that entrepreneurs will not make systematic errors. With stable monetary conditions (assuming such conditions can be contrived) there is little to separate Hayek's view and Kirzner's view of the coordination brought about by entrepreneurs.[2]

Seen in this light, therefore, it is possible to view the criticism leveled at Hayek from some sources in the late 1930s as relevant to the interpretation of the K-B critique of Kirzner. Hicks, (1939, p.117) for example, criticizes the method of the Austrian theorists whose "hall-mark is concentration on the case of a Stationary State." "Although it would always be recognized that the actual state of any real economy is never in fact stationary, nevertheless stationary-state theorists naturally regarded reality as 'tending' towards stationariness; though the existence of such a tendency is more than questionable" (p.119). Dynamic disequilibrium, all agree, is a divergence between expected and realized prices, between plans and outcomes. All agree that such divergence implies wasted resources and malinvestment. Yet Hicks does not accept that dynamic disequilibrium will necessarily be corrected by the spontaneous responses of entrepreneurs.[3] Kirzner would presumably argue that his approach to entrepreneurship permits him to assert that the lure of entrepreneurial profit is none other than the mechanism by which dynamic coordination of plans and outcomes is advanced, and certainly establishes the existence of the coordinating force that Hicks claims is open to question.

The position of K-B is not that of Hicks, but neither is it Kirznerian in its confidence that all entrepreneurial action "tends"

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[2] As, indeed, Kirzner (2010, fn 10, pp.66-67) points out in his reply to K-B.

[3] Another notable critic of Hayek's position was Shackle (1967). As Boehm (1992, p.9) states, "What Shackle finds so irritating about Hayek is that in the latter's most austere account, in Prices and Production (1931), market forces could always be relied upon, barring monetary disturbances, to tend towards an equilibrium position."

toward a dynamic equilibrium. They prefer the looser conception of a system changing over time in ways that can be described as "ordered" or coordinated (by some onlooker) but not necessarily always and at all times moving toward equilibrium. Kirzner claims that this conception is inherently normative: "Concatenate coordination…has meaning *only* at the normative level" (Kirzner, 2010, p.66) and reveals an "apparent refusal to recognise an objective science of pure economics" (p.72). The validity of Kirzner's position here depends upon how the K-B definition of concatenate coordination is interpreted. In the following section the question is explored of whether it is possible to present a version of concatenate coordination that is non-normative.

IV. Spontaneous Order

It is an interesting feature of the critical reception of Hayek's work that whereas his attempts to grapple with the structure of production and with the causes of instability and industrial fluctuations in the 1930s were seen as under the "baneful influence" (as Hicks expressed it) of the stationary state, his writings on the price system and the nature of the competitive process as well as his debates with Lange over socialist calculation were seen as lacking in general equilibrium rigour. By the late 1930s, general equilibrium analysis was "becoming the standard for theoretical sophistication in microeconomics, in terms of which Austrian price theory stood condemned as antediluvian" (Blaug, 1992, p.33). It is one of those quirks of fate that Hayek seems to have annoyed his critics for apparently diametrically opposed reasons even though he was exploring dynamic issues from a consistent intellectual position all along.

When discussing the operation of the price system, Hayek famously saw the competitive system as a means of spreading and using information that must initially be uncovered locally by some individual or group of individuals. Long before "The Use of Knowledge in Society" (Hayek, 1945), he describes (Hayek, 1935, p.25) market processes as disseminating adjustments to new knowledge through a whole connecting chain of market linkages. A person noticing a new use for tin, for example, will take actions that will create market gaps that will "in turn be filled from other sources." The effect will rapidly spread throughout the whole economic system. The whole acts as one market…because [its members' limited fields of vision sufficiently overlap so that through many intermediaries the relevant information is communicated to all." Kirzner would surely approve of this conception of a dynamic "trial and error" process converging toward equilibrium.

Hayek's market transactors do not all deal at the same price of tin (unlike Lange's socialist administrators) except when all adjustments have been completed and information has fully percolated through to all participants. At each stage entrepreneurial judgement is exercised and prices are negotiated rather than simply "taken." Of course, the closer equilibrium is approached, the more likely it is that widely spread knowledge will give transactors similar expectations of the "market price" that they become content to accept. But this "single price" simply signals arrival at full coordination and the establishment of "equilibrium." It is not a condition of a "competitive" market. For Hayek, as for all Austrian theorists, competition is about dynamic processes, and dynamic processes cannot be analysed under the "baneful influence" of general equilibrium theory.

This conception of a competitive system changing over time as entrepreneurs explore profitable opportunities and make increasing use of the information available to them is (presumably) not a controversial one for either Kirzner or K-B. However, as Hayek moved further into social philosophy in his later work, he interpreted his system in a way that does seem to have relevance to the present dispute about economic coordination. In particular, he characterized the competitive system as giving rise to a particular type of "order." Correctly interpreted, he argued, an economy proper is an organization that seeks defined ends. "It describes a complex of deliberately co-ordinated actions serving a single scale of ends" (Hayek, 1976, p.108). In contrast, "the cosmos of the market" is a "system of numerous interrelated economies." Hayek proposes to adopt the term *catallaxy* "to describe the order brought about by the mutual adjustment of many individual economies in a market. *A catallaxy is thus the special kind of spontaneous order produced by the market through people acting within the rules of the law of property, tort and contract.*"

The mere introduction of terminology is useful, of course, only in so far as it helps to clarify the ultimate sources of disagreement. Hayek's proposed definition of an "economy" is very liable to sow confusion because (whatever the etymological derivation of the word) our conventional view of an "economy" is probably closer to Hayek's definition of the overall "market cosmos" than the "deliberately coordinated actions" that tend to be associated more with the individual "organization" or "firm". The term catallaxy (apparently first proposed by Whately (1855) and later by Mises (1949)) is not used by either Kirzner or by K-B. It is possible, however, to consider the present dispute by comparing the alternative proposed definitions of market coordination with Hayek's catallaxy. I will argue that the term is neither fully Kirznerian nor fully in the spirit of K-B but preserves something of each – implicitly a "looser" concept of coordination than Kirzner's dovetail joints, but a more economically focused and potentially non-normative concept than that of K-B.

Hayek (1976, p. 107) describes the market order as "bringing about a certain correspondence between the expectations of the different persons." However, he goes on to write that "this manner of co-ordinating individual actions will secure a high degree of coincidence of expectations…only at the price of *a constant disappointment of some expectations"* (my emphasis). The language here is revealing because it is clear that the market produces an "order" and that it can be said to be a method of "co-ordinating individual actions." The "constant disappointment" associated with the catallaxy suggests that it is in a state of flux, but the existence of disappointed expectations does not mean that the system is "uncoordinated" – just still moving on.

Hayek's catallaxy and Kirzner's entrepreneurial competitive process are clearly closely related. Certainly it is difficult to see where Kirzner would take strong exception unless the "constant disappointment of some expectations" were read as implying (along with K-B) that entrepreneurs sometimes failed in their coordinating role and only "usually" succeeded. Actually, Hayek (1976, p.117) might be interpreted as advancing just such a position when he writes (of market remunerations) that they "are incentives which *as a rule* (my emphasis) guide people to success, but will produce a viable order only because they often disappoint the expectations they have caused when relevant circumstances have unexpectedly changed. It is one of the chief tasks of competition to show which plans are false." Hayek does seem to have been content with statements that are altogether less categorical than are Kirzner's concerning the necessity of the coordinating impact of entrepreneurship – at least in terms of dovetailing.[4]

If Hayek's exposition of the catallaxy is looser than Kirzner's, it is not entirely clear that it is necessarily normative. K-B (2010, p.7) argue that spontaneous order is a type of concatenate coordination seen as desirable by a "fictitious mind able to behold the extensive tapestry of social affairs…." Kirzner argues emphatically that this conception is incompatible with a positive science of economics. It is true that Hayek (1933, pp.26-27) postulated that "necessary functions" were discharged by "spontaneous institutions" that "at first we did not even understand when we saw them" and that we mistakenly "refuse to recognize that society is an organism and not an organization." The idea, however, that a spontaneous "organic" order can nevertheless "make sense" to an outside fictitious mind does not automatically imply that it must make only normative sense – that it is merely pleasing to the aesthetic or moral sensibilities of the observer. The important scientific question is simply whether it makes some sense – whether the observed "order" is explicable.

A scientist looking at the evolved and interdependent diversity of life on earth is investigating a complex "natural order." This natural order is not (except perhaps for people of very strong religious convictions) the product of a single mind. The dynamic processes of change are governed by natural forces that can be scientifically studied even though the complexity of the system can make predictions as difficult as those faced by economists in predicting the consequences of intervening in market processes. There is no doubt that the natural history of the planet is the subject of awe and is often considered beautiful and good – not least because the survival of the human race depends upon its place in the natural order. But such normative considerations are not usually advanced as reasons to doubt the possibility of a purely scientific understanding. Similarly, the fact that Hayek and most "classical liberals" regard a catallaxy as a type of order peculiarly well suited to advance the general well-being of all its participants should not, in principle, prevent the purely scientific investigation of its properties.

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[4] It should be noted, however, that Kirzner (1992, p.93) in spite of his insistence on the dovetailing brought about by entrepreneurs, seems to distinguish this from a more general concept of "social coordination." "No-one claims that all opportunities grasped entrepreneurially must be socially coordinative."

V. Concluding Comments

The use of the term concatenate coordination in the K-B critique of Kirzner is intended to widen and loosen what K-B see as a rather rigid concept of dovetail coordination. The latter implicitly invokes a meshing of plans and actions that relates to a final static equilibrium (even if this is never actually realized), whereas the former is compatible with any order that a fictitious outside mind finds suitable and pleasing. The ultimate purpose of both Kirzner and K-B is to expound a theory of market process, even if K-B are inclined to emphasize the normative side of the theory and Kirzner declares himself to be more concerned with positive economics.

I have argued that Hayek's use of the term "catallaxy" is perhaps the most suited to describing a dynamic and evolving order and that therefore "catallactic coordination" would be an apposite choice of terminology. K-B regard Hayek's spontaneous order as an example of "concatenate coordination," but this seems to involve them in somewhat abstract philosophical propositions about the judgments of a fictitious mind. The spontaneous order is proceeding *"as if"* it were actually coordinated by some conscious mind (presumably attached to an invisible hand). The transitive use of the verb "to coordinate" that K-B invoke (2010, p.8) clearly applies to the entrepreneurs who try to order whatever pieces of the overall system they influence. Looked at as the result of entirely local entrepreneurial decision-making, therefore, the overall catallaxy is the union of many attempts to achieve concatenate coordination within (to use Hayek's phrase) "limited but overlapping fields of vision." If the main purpose of K-B's proposed terminology is to distinguish clearly between coordination brought about through conscious entrepreneurial efforts to direct the future and the old neoclassical static conception of equilibrium prices that produced dovetail coordination without anyone apparently having to be aware of coordinating anything at all, the present writer would not find much cause to criticize. However, there are great difficulties with the application of the term concatenate coordination to an overall spontaneous order that K-B recognize and discuss but do not overcome. Kirzner's suspicions of the application of the term to a spontaneous order are therefore justified, although his description of concatenate coordination as "central planner's coordination" is tendentious; "planners' coordination" or (perhaps less liable to misunderstanding) "entrepreneurs' coordination" would be a fairer description. It was, after all, Hayek (1976, p.109) who described his catallaxy as being composed of "many individual economies."

References

Bartley III, W.W., and S. Kresge, eds. 1991. The Collected Works of F.A. Hayek, Vol. 3. London: Routledge.

Boehm, S. 1992. "Austrian Economics Between the Wars; Some Historiographical Problems." In *Austrian Economics: Tensions and New Directions*, ed. B.J. Caldwell and S. Boehm, 1–30. Boston: Kluwer Academic Publishers.

Blaug, M. 1992. "Commentary. " In *Austrian Economics: Tensions and New Directions*, ed. B.J. Caldwell and S. Boehm, 31–34. Boston: Kluwer Academic Publishers.

Hayek, Friedrich A. 1931. *Prices and Production,* Studies in Economic and Political Science, No.107, George Routledge, Revised Edition (1935).

Hayek, Friedrich A. 1933. "The Trend of Economic Thinking." Repr. in *The Collected Works of F.A. Hayek*, 1991, ed. W.W. Bartley III and S. Kresge, 17–34. London: Routledge.

Hayek, Friedrich A. 1935. "Price Expectations, Monetary Disturbances and Malinvestments." Repr. in Hayek 1939. 135–156.

Hayek, Friedrich A. 1939. *Profits, Interest and Investment and Other Essays on the Theory of Industrial Fluctuations. London:* George Routledge and Sons.

Hayek, Friedrich A. 1945. "The Use of Knowledge in Society." *American Economic Review,* 35: 519–30, Repr. in Harry Townsend, ed., 1971, 17–31.

Hayek, Friedrich A. 1948. "The Meaning of Competition." In *Individualism and Economic Order,* 92–106. Chicago: University of Chicago Press.

Hayek, Friedrich A. 1968. "Competition as a Discovery Procedure" Repr. in Friedrich Hayek, 1978. 179–190.

Hayek, Friedrich A. 1976. *Law Legislation and Liberty*. Vol.2. London: Routledge and Kegan Paul.

Hayek, Friedrich A. 1978. *New Studies in Philosophy, Politics, Economics and the History of Ideas.* London: Routledge and Kegan Paul.

Hicks, John. 1939. *Value and Capital: An Inquiry into Some Fundamental Principles of Economic Theory,* Second Edition 1946 Clarendon Press, Oxford.

Kirzner, Israel M. 1973. *Competition and Entrepreneurship*. Chicago: University of Chicago Press.

Kirzner, Israel M. 1979. *Perception, Opportunity and Profit: Studies in the Theory of Entrepreneurship*. Chicago: University of Chicago Press.

Kirzner, Israel M. 1989. *Discovery, Capitalism and Distributive Justice*. Oxford: Blackwell.

Kirzner, Israel M. 1992. "Commentary: Entrepreneurship, Uncertainty and Austrian Economics". In *Austrian Economics: Tensions and New Directions*, ed. B.J. Caldwell and S. Boehm, 85-102. Boston: Kluwer Academic Publishers.

Kirzner, Israel M. 2010. "The Meaning of 'Economic Goodness': Critical Comments on Klein and Briggeman." *Journal of Private Enterprise,* 25(2): 55–85.

Klein, Daniel B., and Jason Briggeman. 2010. "Israel Kirzner on Coordination and Discovery." *Journal of Private Enterprise,* 25(2): 1–53.

Lange, Oskar. 1938. "On the Economic Theory of Socialism." Repr. in Townsend, ed., 1971. pp. 32–56.

Mises, Ludwig von. 1949. *Human Action: A Treatise on Economics*. London: Hodge.

Ricketts, Martin. 1992. "Kirzner's Theory of Entrepreneurship – A Critique." In *Austrian Economics: Tensions and New Directions*, ed. B.J. Caldwell and S. Boehm, 67–84. Boston: Kluwer Academic Publishers.

Shackle, George .L.S. 1967. *The Years of High Theory: Invention and Tradition in Economic Thought 1926-1939*. Cambridge: Cambridge University Press.

Townsend, Harry, ed. 1971. *Price Theory*. Baltimore: Penguin Modern Economics Readings.

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Alertness, Action, and the Antecedents of Entrepreneurship

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Abstract
We review and critique Israel Kirzner's concept of the entrepreneur, offering three challenges to his basic analytical framework. First, we characterize Kirzner's emphasis on equilibration as a departure from the causal-realist price theory of Menger and his nineteenth- and twentieth-century followers. Second, we contrast Kirzner's idea of entrepreneurship as discovery with a more realistic, and operationally meaningful, notion of entrepreneurship as action, one that ties together the entrepreneurial and ownership functions. Finally, we discuss an inconsistency in Kirzner's treatment of the antecedents of entrepreneurial discovery.

JEL Codes: B53, D1, D83
Keywords: Austrian economics; Entrepreneurship; Action; Discovery; Judgment

I. Introduction

Israel Kirzner's concept of entrepreneurship as alertness to profit opportunities is a dominant strand of the contemporary entrepreneurship literature, along with Schumpeter's (1911) notion of entrepreneurship as innovation and Knight's idea of entrepreneurship as judgment. The distinction between "Schumpeterian" and "Kirznerian" entrepreneurs has become standard in the literature (although Kirzner (2009) himself contests the distinction). Among Austrian economists, Kirzner's understanding of the market as "an entrepreneurially driven process" (Ludwig von Mises Institute, 1997,

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p.67) of "mutual discovery" (p.71) is one of the leading perspectives on production, exchange, and market efficiency.[1]

More recently, Kirzner's concept of entrepreneurship has also become influential in applied management research on entrepreneurship (e.g., Shane and Venkataraman, 2000; Shane, 2003). The "opportunity identification" or "opportunity recognition" strand of this literature seeks to build a positive research program by operationalizing Kirzner's idea of alertness or discovery and pinpointing its cognitive, motivational, and environmental antecedents. The goal is to understand how and why particular individuals are alert and, in some cases, how to increase the degree of alertness in an organization or in society (Cooper et al., 1995; Gaglio and Katz, 2001). Although Kirzner himself doubts the connection between his alertness construct and the study of actual decision making – "my own work has nothing to say about the secrets of successful entrepreneurship" (Kirzner, 2009, p.145) – the applied literature sees "discovery entrepreneurship" as a fundamentally Kirznerian concept (Klein, 2008b).

Other papers in this issue address various aspects of Kirzner's research program, mainly from perspectives that accept the basic Kirznerian understanding of the nature of the entrepreneur and the market: namely that entrepreneurship is best conceived as the discovery of previously unknown profit opportunities and that entrepreneurial action tends to move market prices and quantities toward long-run equilibrium values. We offer here a different, perhaps more fundamental critique of Kirzner, one that questions the basic concept of entrepreneurship as alertness or discovery. First, we argue that Kirzner's emphasis on equilibration and the role of the "pure entrepreneur" in explaining equilibrating tendencies reflects a particular, idiosyncratic reading of the Austrian price-theoretic tradition, one in contrast to the "causal-realist" approach that runs from the Scholastics to Cantillon to Menger to Wicksteed, Fetter, Clark, and Davenport, to Mises and his students. The causal-realists aim to explain actual, real-world, short-term market prices and price changes, not hypothetical processes of equilibration moving those

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[1] Kirzner's work has given rise to much critical discussion since its original statement in Kirzner's *Competition and Entrepreneurship* (1973), mainly (but not exclusively, e.g., Demsetz, 1983) among Austrian economists (Rothbard, 1974; High, 1982; Salerno, 1993, 2008).

prices toward longer-run equilibrium values (Klein, 2008a). In this approach, we argue, Kirznerian discovery has little role to play.

Second, we contrast the discovery perspective with an alternative interpretation of entrepreneurship that we associate with Cantillon (1730), Knight (1921), and Mises (1949), in which entrepreneurship is interpreted not as alertness or discovery, but as action under uncertainty, or what Knight (1921) called *judgment.* Importantly, the Kirznerian notion of alertness abstracts from uncertainty, and it differs from the concept of action in having no opportunity cost. In this context, we criticize Kirzner's denial that the entrepreneur must own capital.

Third, we discuss an inconsistency in Kirzner's treatment of the *antecedents* of entrepreneurial discovery. While the capitalist-entrepreneur, who is not merely a "discoverer" but a buyer and seller, acts within and is affected by a particular institutional setting, Kirzner's discoverer-entrepreneur exists outside any particular institutional environment. Indeed, Kirzner treats discovery as an explanatory primary, holding that personal, psychological, demographic, and similar characteristics cannot be invoked to explain discovery. And yet, at the same time, he argues that public policies inhibit entrepreneurial discovery (e.g., Kirzner, 1984), based on the notion that public policies block profit opportunities. We suggest that the Kirznerian concept of discovery does not justify the welfare conclusions Kirzner tries to draw from it.

II. The Market versus the "Market Process"

In previous works we have distinguished Kirzner's understanding of entrepreneurship as discovery from the "judgment" approach that we associate with Mises and Frank Knight, and that we have developed in our own writings (Foss and Klein, 2005; Foss, Foss, Klein, and Klein, 2007; Foss, Foss, and Klein, 2007; Klein, 2008b). Judgment refers primarily to business decision making when the range of possible future outcomes, let alone the likelihood of individual outcomes, is generally unknown (what Knight (1921) terms uncertainty, rather than probabilistic risk). Knight introduces judgment to link profit and the firm to uncertainty. Entrepreneurship represents judgment that cannot be assessed in terms of its marginal product and which cannot, accordingly, be paid a wage.[2] This is because entrepreneurship is judgment in relation to the most uncertain events, such as starting a new firm, defining a new market, and the like. In other words, there is no market for the judgment that entrepreneurs rely on and, therefore, exercising judgment requires the person with judgment to purchase and organize factors of production – in other words, to start a firm. Judgment thus implies asset ownership, for judgmental decision making is ultimately decision making about the employment of resources.

The judgment approach fits, broadly, within the price-theoretic tradition of the Austrian school, what Klein (2008a) terms "mundane Austrian economics." This tradition, sometimes called "causal-realist" analysis following Menger's emphasis on causal explanation and a focus on real-world, day-to-day prices, emerged in the early twentieth century, but was largely supplanted by the Marshallian-Walrasian synthesis that dominated the economics profession after World War II (Salerno, 1993, 2002). Beginning with Hayek's work on tacit knowledge (Hayek, 1937, 1945) and the competitive process (Hayek, 1948, 1968), Austrians began challenging the neoclassical assumption that prices can be assumed to equal their "equilibrium" values (Machovec, 1995). One interpretation of Kirzner's theory of entrepreneurship is that it provides an equilibration process that justifies the welfare conclusions of "standard" economics (namely, that markets are efficient means of allocating scarce resources).[3]

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[2] Compare Knight (1921, p.311): "The receipt of profit in a particular case may be argued to be the result of superior judgment. But it is judgment of judgment, especially one's own judgment, and in an individual case there is no way of telling good judgment from good luck and a succession of cases sufficient to evaluate the judgment or determine its probable value transforms the profit into a wage….If…capacities were known, the compensation for exercising them can be competitively imputed and is a wage; only, in so far as they are unknown or known only to the possessor himself, do they give rise to a profit."

[3] Kirzner's approach, as Boettke and Prychitko (1994, p.3) describe it, "provided the disequilibrium foundations of equilibrium economics that were required to complete the neoclassical project of explicating the operating principles of the price system." Adds Boettke (2005): "Why is all this important? Well as Franklin Fischer pointed out in his very important book The Disequilibrium Foundations of Equilibrium Economics (1983) that unless we have good reasons to believe in the systemic tendency toward equilibrium we have no justification at all in upholding the welfare properties of equilibrium economics. In other words, without the sort of explanation that Kirzner provides the entire enterprise of neoclassical equilibrium is little more than a leap of faith."

However, as Klein (2008a) argues, causal-realist analysis is not concerned with long-run Marshallian or Walrasian equilibrium prices but with actual, empirical, market prices, those occurring in what Mises calls the "plain state of rest." In this understanding of the market, the existence or non-existence of equilibrating tendencies – the issue that divided "Kirznerians" and "Lachmannians" and dominated much of the Austrian discussion in the 1980s – is relatively unimportant. For Mises, the critical "market process" is not the convergence to equilibrium, but rather the selection mechanism in which unsuccessful entrepreneurs – those who systematically overbid for factors, relative to eventual consumer demands – are eliminated from the market (Mises, 1951). It is this process that ensures that real-world, day-to-day prices are as "efficient" as they can be – in other words, that consumer sovereignty (as Mises defines it) obtains at all times on the market.

In Mises's system, neither consumer goods nor factor prices "converge," in real time, to efficient, long-run equilibrium values, because the adjustment processes set in motion by profit-seeking entrepreneurs are frustrated, moment-by-moment, by exogenous changes in consumer preferences, technological knowledge, resource availabilities, and so on.[4] The efficiency of the market, for Mises, results simply from the fact that prices are determined by the voluntary interactions of buyers and sellers according to their preferences over marginal units of goods and services.[5]

[4] Nor do prices obtaining on real markets achieve a "coordination of plans," as final goods prices may exceed or fall short of entrepreneurs' expectations (leading to profits and losses).

[5] In his article "Mises and His Understanding of the Capitalist System," Kirzner (1999) simultaneously accepts and dismisses Mises's welfare analysis of plain-state-of-rest prices. "Once we have understood the central position of the doctrine of consumer sovereignty in Mises' overall system, we can surely sense and appreciate the deep respect Mises felt for the actual market prices of productive resources. Certainly these prices are likely to be 'false' prices, in that they necessarily imperfectly anticipate the true future valuations of consumers for the various possible potential products (at the times when these products might conceivably be made available to consumers). Nonetheless, these prices, and the transactions in which they emerge, are wholly governed . . . by the preferences of consumers" (p.225). And yet, Kirzner writes, "Mises is clearly entirely aware that the market prices at any given date are almost certainly not the 'correct' prices" (i.e., they are not long-run equilibrium prices). For Mises, in Kirzner's interpretation, "[i]t is the market process, driven by the competition of profit-seeking entrepreneurs, that modifies those false prices and tends to ensure that they are replaced by prices

As we interpret Mises, then, his entrepreneur plays a different role in the market system than that played by Kirzner's entrepreneur. Rather than an *equilibrator,* Mises's entrepreneur is a *resource allocator*. Mises begins with the marginal productivity theory of distribution developed by his Austrian predecessors. In the marginal productivity theory, laborers earn wages, landowners earn rents, and capitalists earn interest.[6] Any excess (deficit) of a firm's realized receipts over these factor payments constitutes profit (loss). Profit and loss, therefore, are returns to entrepreneurship. In a hypothetical equilibrium without uncertainty (what Mises calls the evenly rotating economy), capitalists would still earn interest as a reward for lending, but there would be no profit or loss. Outside the evenly rotating economy, however, factors may be priced above or below these equilibrium values, and shrewd entrepreneurs can acquire factors for less than their discounted marginal revenue products, leading to profit. Less capable entrepreneurs will overpay for factors, or choose inefficient factor combinations, or produce the wrong products, among other errors, and earn losses. This understanding of the market is central to Mises's argument about the impossibility of economic calculation under socialism (i.e., a world without factor markets).[7]

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more closely and 'truthfully' reflecting the underlying preferences of the consumers. What stimulates that process is the realization by entrepreneurs that the existing market-generated pattern of resource allocation is not the ideal one" (p.216). If plain-state-of-rest prices are "wholly governed" by the preferences of consumers, then they are efficient, whether the market process modifies them or not.

[6] Following Fetter (1905), Rothbard (1962, 1978) characterizes all factor payments as rents, and emphasizes that in long-run equilibrium, only the "originary" factors land and labor earn net rents, while the gross rents accruing to capital goods are imputed back to the originary factors used to produce them.

[7] Entrepreneurs, in Mises's explanation, make their production plans based on the current prices of factors of production and the anticipated future prices of consumer goods. What Mises calls economic calculation is the comparison of these anticipated future receipts with present outlays, all expressed in common monetary units. Under socialism, the absence of factor markets and the consequent lack of factor prices render economic calculation – and hence rational economic planning – impossible. Mises's point is that a socialist economy may assign individuals to be workers, managers, technicians, inventors, and the like, but it cannot, by definition, have entrepreneurs, because there are no money profits and losses. Entrepreneurship, and not labor, management or technological expertise, is the crucial element of the market economy. As Mises puts it, directors of socialist enterprises may be allowed to "play market" – to make capital investment decisions

For Kirzner, the main effect of entrepreneurship is to push real-world, disequilibrium prices toward their long-run, equilibrium values. He is not particularly interested in the determinants or welfare properties of day-to-day, plain-state-of-rest prices, but rather the presence or absence of equilibrating tendencies. But is entrepreneurship necessarily equilibrating markets within Kirzner's own analytical system? Several arguments have been advanced against Kirzner in the Austrian literature (Lachmann, 1986; Buchanan and Vanberg, 2008; Vaughn, 1992). First, if opportunities can be described as existing, objectively, then if entrepreneurs fail to discover all opportunities, equilibration does not take place (a possibility allowed for by Kirzner himself).[8] Second, if by equilibrium Kirzner has in mind Hayek's sense of multi-period plan coordination, then Kirzner has introduced an intertemporal dimension that may wreak havoc with the whole notion of entrepreneurship as equilibrating. In parts of Kirzner's early work (e.g., Kirzner, 1978), the exercise of entrepreneurship does not seem to presuppose uncertainty. If entrepreneurship means overcoming sheer ignorance by the exercise of alertness, this is a logically correct inference. However, uncertainty is clearly a fundamental aspect of action (Mises, 1949), and it seems difficult to argue that a theory of entrepreneurship can meaningfully abstract from it. However, introducing uncertainty may destroy the basis for the claim that entrepreneurship is equilibrating in the sense of achieving Hayekian plan coordination. This, of course, formed the core of Lachmann's "equilibration skepticism" (Lachmann, 1986): Because of pervasive uncertainty, there is very little rational basis for entrepreneurs to form expectations of future consumer demands and resource scarcities, and such expectations are therefore more likely to be divergent than convergent.

Selgin (1987) argues that these debates misunderstand the nature of the equilibration process. Correctly understood, "equilibration" does not refer to coordination of plans as in Hayek (1937), mainstream stability theory, convergence to rational expectations equilibrium, and the like; it refers to entrepreneurial profits and losses. These are strictly

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as if they were allocating scarce capital across activities in an economizing way. But entrepreneurs cannot be asked to "play speculation and investment" (Mises, 1949, p.705). Without entrepreneurship, a complex, dynamic economy cannot allocate resources to their highest-valued use.

[8] See Alvarez and Barney (2007) and Klein (2008a) on the objectivity or subjectivity or entrepreneurial opportunities.

subjective categories and have no objective basis outside the minds of entrepreneurs. Equilibration, in this sense, makes no reference to the state of knowledge of market participants and whether their plans are consistent. Indeed, Selgin (1987) dismisses the very notion of coordination in world in which profit opportunities cannot be thought of as "objectively existing," in which preferences have no existence apart from actions, etc. Mises, also, focused on action, not perception; in this sense, entrepreneurship is not about discovery in a hypothetical market construct, but the investment of resources under real-world conditions.

III. The Entrepreneur as Capital Owner

Kirzner's ideal type of the "pure entrepreneur" is used to explain the coordinating function of entrepreneurship. While Clark and Mises introduced similar devices to emphasize selected aspects of entrepreneurship (Salerno, 2008; Klein and Foss, 2010), Kirzner sees his construct as capturing its very *essence*. Kirzner does not deny that business people, resource owners, financiers, traders, and the like exercise judgment, or that they possess boldness, creativity, and imagination, only that they need not exercise these functions to be alert to previously unknown profit opportunities. "My entrepreneurs were engaged in *arbitrage*, acting entrepreneurially even when they might *not* be seen as Schumpeterian 'creators.'. . .In so emphasizing the difference between Schumpeter's theory of entrepreneurship and my own, I was motivated by my primary scientific objective. This was to understand the nature of the market process – even in its *simplest* conceivable contexts" (Kirzner, 2009, p.147).

In elucidating his conception of the entrepreneurial market process, Kirzner has consistently emphasized the highly abstract nature of his "metaphor" of the entrepreneur (Kirzner, 2009).[9] In contrast, most contributors to the entrepreneurship literatures in management and economics have given more detail to the entrepreneurial function. The amount of detail differs, however, depending on the explanatory purpose. For example, the

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[9] Kirzner's use of the notion of "metaphor" to characterize his entrepreneur construct seems puzzling: At least in usual parlance, a "metaphor" is a figure of speech in which a term or concept is used as a reference to something that it does not literally denote so that a potentially illuminating similarity is revealed. Isn't Kirzner talking about real-world entrepreneurs? We return to this issue later.

opportunity-discovery literature in management research is taken up with the antecedents of specific, individual entrepreneurs and as such takes a rather detailed view of the entrepreneur (e.g., Shane, 2003). The judgment approach described above is concerned with the more "functional" (Klein, 2008b) issue of understanding the market selection process in the context of the profit-and-loss mechanism, and of understanding profit as a reward to entrepreneurship. In elucidating these functions, the judgment approach provides a somewhat richer view of the entrepreneur than the ghost-like Kirznerian pure entrepreneurs. Specifically, the judgment approach treats entrepreneurship as decision-making under uncertainty, implying asset ownership (Foss and Klein, 2005). It seeks to explain not only discovery, but action, focusing on what Salerno (2008) calls the "integral entrepreneur," combining abstract processes of imagination and creativity with action on real markets. It may therefore be claimed to occupy a middle ground between the opportunity-discovery literature of recent management research and Kirzner's work on the pure entrepreneur.

Kirzner has consistently emphasized that his "contribution is simply an extension and deepening of insights articulated by my teacher, Ludwig von Mises" (Kirzner, 2009, p.146). Specifically, the key insight in Mises that Kirzner's work purportedly has sought to "expound and develop" (Kirzner, 2009, p.148) is the following: "What makes profit emerge is the fact that the entrepreneur who judges the future prices of the products more correctly than other people do buy some or all of the factors of production at prices which, seen from the point of view of the future state of the market, are too low" (Mises, 1951, p.190). Kirzner argues that his notion of alertness (to price discrepancies) captures the essence of the Misesian view of entrepreneurship as captured in this quotation, and that, therefore, the simple model of the pure entrepreneur undertaking nearly-instantaneous arbitrage can be applied even to those situations in which the discrepancies between the "future prices of the products" and the imputed prices of the "factors of production" involve very long time.

By contrast, the Knightian (and, we would argue, Misesian) entrepreneur who owns capital and bears uncertainty – acting in calendar time – may possess the characteristics of the Kirznerian entrepreneur (i.e., being alert to potential, imagined opportunities for gain) but in addition must also possess the special faculty of exercising judgment and must be a capital owner (Foss and Klein, 2005; Foss, Foss, Klein and Klein, 2007).[10] In contrast, Kirzner insists that the pure entrepreneur is a non-owner. "An important point," Kirzner argues (1978, p.47), "is that ownership and entrepreneurship are to be viewed as completely separate functions. Once we have adopted the convention of concentrating all elements of entrepreneurship into the hands of pure entrepreneurs, we have automatically excluded the asset owner from an entrepreneurial role. Purely entrepreneurial decisions are by definition reserved to decision-makers who own nothing at all." Thus, the entrepreneur is a pure decision maker, and nothing else. And yet, Kirzner's strict separation between the "discovery" and "ownership" functions of the entrepreneur raises some conceptual difficulties. For example, as Rothbard (1985) noted, unless buying and selling are instantaneous, even arbitrageurs bear uncertainty, in that selling prices may change after goods and services are acquired for arbitrage.[11]

Mises clearly associates entrepreneurship with uncertainty-bearing: "The term entrepreneur as used by [economic] theory means: acting man exclusively seen from the aspect of the uncertainty inherent in every action" (Mises, 1949, p.254). Of course, all human action involves uncertainty, as Mises emphasizes by quoting the English proverb: "There's many a slip 'twixt cup and lip" (Mises, 1949, p.254). Hence, capital owners, landowners, and even laborers (who own their own minds and bodies) act as entrepreneurs under

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[10] Klein (2008b) emphasizes that under uncertainty, profit opportunities never exist, objectively, that they are neither "discovered" nor "created," but rather *imagined*, in the mind of the actor.

[11] As Rothbard says: "Kirzner's entrepreneur is a curious formulation. He need not, apparently, risk anything. He is a free-floating wraith, disembodied from real objects. He does not, and need not, possess any assets. All he need have to earn profits is a faculty of alertness to profit opportunities. Since he need not risk any capital assets to meet the chancy fate of uncertainty, he cannot suffer any losses. But if the Kirznerian entrepreneur owns no assets, then how in the world does he earn profits? Profits, after all, are simply the other side of the coin of an increase in the value of one's capital; losses are the reflection of a loss in capital assets. The speculator who expects a stock to rise uses money to purchase that stock; a rise or fall in the price of stock will raise or lower the value of the stock assets. If the price rises, the profits are one and the same thing as the increase in capital assets. The process is more complex but similar in the purchase or hiring of factors of production, the creating of a product and then its sale on the market. In what sense can an entrepreneur ever make profits if he owns no capital to make profits on?" (Rothbard, 1985, p.282-83).

conditions of uncertainty. Mises goes on, in the passage noted above, to describe a "pure entrepreneur" who is neither capitalist, landowner, or laborer, but his discussion is confusing, describing a hypothetical agent who borrows funds from capitalists, invests them, reaps any subsequent profit, and passes losses on to the lenders. But, as he notes: "Such an entrepreneur would, in fact, be an employee of the capitalists who speculates on their account and takes a 100 percent share in the net profits without being concerned about the losses" (Mises, 1949, p.254). But clearly such an agent is an employee of the capitalists, paid with a contingency fee. The uncertainty-bearer – the entrepreneur, according to Mises's own definition – in this example is the capitalist, not the employee. Mises agrees, writing just two sentences later: "To the extent that the losses incurred cannot be borne out of the entrepreneur's own funds, they fall upon the lending capitalists, whatever the terms of the contract may be. A capitalist is always also virtually an entrepreneur and speculator. He always runs the chance of losing his funds" (Mises, 1949, p.254). What, then, is a "pure entrepreneur"? The concept makes little sense in Mises's own formulation.[12]

Mises certainly does describe economic agents who are "alert," in Kirzner's sense. As Mises notes, economists have not always used the term "entrepreneur" in his sense of uncertainty-bearing. Economics "also calls entrepreneurs those who are especially eager to profit from adjusting production to the expected changes in conditions, those who have more initiative, more venturesomeness, and a quicker eye than the crowd, the pushing and promoting pioneers of economic improvement" (Mises, 1949, p.255). Mises notes that this concept of the entrepreneur is narrower than the precise, functional concept of uncertainty-bearing, and regrets that the same word has been used in such different senses, suggesting the term "promoter" for particularly alert individuals.

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[12] Mises recognizes that people do not typically think of all resource owners as entrerpreneurs: "The economic concept 'entrepreneur' belongs to a stratum other than the ideal tvpe 'entrepreneur' as used by economic history and descriptive economics. . . . Nobody in using it thinks of shoeshine boys, cab drivers who own their cars, small businessmen, and small farmers. [Nonetheless,] [w]hat economics establishes with regard to entrepreneurs is rigidly valid for all members of the class without any regard to temporal and geographical conditions and to the various branches of business" (Mises, 1949, p.61). In other words, all owners, no matter how small, are entrepreneurs, in the functional sense.

The promoter, for Mises, is a more loosely defined, historically contingent idea (in his terminology, "the notion of the entrepreneur-promoter cannot be defined with praxeological rigor" (Mises, 1949, p.256)). But clearly some individuals are more alert than others:

> [E]conomics cannot do without the promoter concept. For it refers to a datum that is a general characteristic of human nature, that is present in all market transactions and marks them profoundly. This is the fact that various individuals do not react to a change in conditions with the same quickness and in the same way. The inequality of men, which is due to differences both in their inborn qualities and in the vicissitudes of their lives, manifests itself in this way too (Mises, 1949, p.256).

But this is hardly the abstract concept of Kirznerian alertness. Indeed, Mises describes creativity and leadership as similar attributes in the two sentences immediately following the previous quote: "There are in the market pacemakers and others who only imitate the procedures of their more agile fellow citizens. The phenomenon of leadership is no less real on the market than in any other branch of human activities" (Mises, 1949, p.256). It is the real-world, flesh-and-blood entrepreneur, who not only bears uncertainty in his judgments about deploying the resources he owns and controls but is also alert, creative, and a leader – and not some abstract, hypothetical discoverer – who is the "driving force of the market."

IV. Antecedents of Opportunity Discovery

Alertness to opportunities, the discovery of specific opportunities, and action based on those discovered opportunities are typically portrayed as discrete phases of market behavior. These phases could conceivably be separated by long stretches of time, and could have widely different antecedents or determinants. The applied entrepreneurship literature typically distinguishes between opportunity recognition (discovery) and opportunity exploitation (investment, firm formation, etc.), and has devoted considerable attention to cognitive and learning processes that might lead to discovery (Short, Ketchen, Shook, and Ireland, 2010, p.55-56).

Mises, by contrast, does not distinguish between "discovery" and "exploitation" phases of entrepreneurship. Rather, as noted above, he makes action the unit of analysis, with discovery and its antecedents implied by action. In our own approach, investment under uncertainty is both necessary and sufficient for entrepreneurship to take place. Investment, as human action, already implies purpose or objective, so that invoking opportunities and discovery is simply a relabeling.[13] Whereas Kirzner distinguishes sharply between "discovery" and "investment" or exploitation stages of the entrepreneurial process, he explicitly denies that the study of antecedents to discovery is part of the economic analysis of entrepreneurship. He maintains that his work "does not even aim to explore the roots and the determinants of individual entrepreneurial alertness" (Kirzner, 2009, p.148).

Kirzner's objective, of course, is not to characterize entrepreneurship per se, but to explain the tendency for markets to clear. In the Kirznerian system, opportunities are (exogenous) arbitrage opportunities and nothing more. Entrepreneurship itself serves a purely instrumental function; it is the means by which Kirzner explains market clearing. As Kirzner (2009, p.145) explains, reviewing his main contributions and critiquing his own critics: "my own work has *nothing* to say about the secrets of successful entrepreneurship. My work has explored, not the nature of the talents needed for entrepreneurial success, not any guidelines to be followed

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[13] Salerno (1993, p.119) describes Mises's position this way: "[F]or Mises, the moment of choice coincides with the emergence of a value scale that is the *raison d'être* and consummation of the actor's previous 'discovery' activities and that provides the framework for purposive behavior. Choice and action can only be conceived as occurring within such a 'given situation.' Contrary to Kirzner's later interpretation of Mises, discovery cannot serve as the core of the central axiom in a praxeological system, precisely because there is no possibility of inferring from it the 'given situation' prerequisite to the moment of choice. A being who is ever seeking to 'discover changes that have occurred' in his situation can never act on those discoveries because he is incapable of creating the framework for choosing. In the newer Kirznerian interpretation, therefore, the Misesian *homo agens* has been transformed into *homo quaerens*, a perpetual and aimless seeker of new knowledge who is forever unable to turn it to account in improving his welfare; a shade who has become unstuck in (praxeological) time.…[A]ccording to Mises, 'discovery' is logically implied in the very concept of choice and need not be posited as an independent facet of human purposiveness....Or, in other words, from the perspective of Misesian praxeology, entrepreneurial information gathering and forecasting are never autonomous and free-flowing activities directly expressing purposefulness, but are always rigidly governed by the exigencies of choosing under uncertainty."

by would-be successful entrepreneurs, but, instead, the *nature of the market process set in motion* by the entrepreneurial decisions (both successful and unsuccessful ones!)."

Of course, arbitrage opportunities cannot exist in a perfectly competitive general-equilibrium model, so Kirzner's framework assumes the presence of competitive imperfections. Beyond specifying general disequilibrium conditions, however, Kirzner offers no theory of how opportunities come to be identified, who identifies them, and so on; identification itself is a black box. The claim is simply that outside the Arrow–Debreu world in which all knowledge is effectively parameterized, opportunities for disequilibrium profit exist and tend to be discovered and exploited. In short, what Kirzner calls "entrepreneurial discovery" is simply that which causes markets to equilibrate. The focus is solely on the market process as being driven by alertness. Opportunity discovery is an analytical primitive, meaning that Kirzner does not address its antecedents/determinants.

In terms of levels of analysis, then, Kirzner's focus is entirely on abstract, aggregate effects of individual acts of alertness (i.e., a micro → macro relationship) It is conceivable that richer models of opportunity discovery, however – including those incorporating the cognitive and motivational antecedents that characterize the opportunity-discovery literature in management research – may yield additional insights in aggregate outcomes, relating for example to the speed of adjustment, possible path-dependencies and informational cascades in the adjustment process, the nature of coordinated states, etc. While such inquiries could be seen as natural extensions of some contributions to Austrian economics (particularly Hayek, 1937), they clearly go beyond the scope of Kirzner's interest and, perhaps, beyond his conception of what constitutes "pure theory."

However, Kirzner is ambiguous on these issues. First, he allows for error-correcting feedback effects from market interaction (i.e., a macro → micro relationship), not only from entrepreneurs who discover the profit opportunity introduced by other entrepreneurs' errors, but also from entrepreneurs recognizing their own earlier mistakes. It is not entirely clear whether such a learning capability is logically implied by the discovery notion. Moreover, Kirzner sometimes treats disequilibrium opportunities for profit as exogenous determinants of entrepreneurial activity. For example, he invokes an imagery of traffic lights (opportunities) that prompt behaviors (discovery) (Kirzner, 1992, p.151). On the other hand, he also treats opportunities metaphorically, noting that opportunities are "metaphorically waiting to be discovered," not literally waiting to be discovered (Ludwig von Mises Institute, 1997). Kirzner's continued emphasis on the metaphorical nature of his constructs is somewhat puzzling. Arguing that a construct is a metaphor drives a wedge between the reality that the construct is supposed to throw light over and the construct itself. The construct and the reality it mirrors remain very different things (although illuminating the difference using the metaphor may be enlightening). In particular, use of metaphorical reasoning is different from using models, constructs, or ideal types meant to capture essential qualities of real phenomena (which a metaphor need not do). Perhaps Kirzner really means the latter, in which case the metaphor terminology appears misleading. Kirzner also insists that "the way in which policymakers understand the market economy is likely to carry enormously significant implications for encouragement or discouragement of entrepreneurial creativity" (Kirzner, 2009, p.151), suggesting that the models or ideal-typical notions of entrepreneurship held by policy-makers affect entrepreneurial activity.

More generally, Kirzner clearly argues that government interference with the price mechanism, such as regulation, antitrust, and other government policies that affect business decision making, inhibits the entrepreneurial discovery process (e.g., Kirzner, 1979b, 1982) through their impact on the "presence" of profit opportunities:

> [D]irect controls by government on prices, quantities, or qualities of output production or input employment may unintentionally block activities which have, as yet, not been specifically envisaged by anyone. Where these blocked activities turn out to be entrepreneurially profitable activities (perhaps as a result of unforeseen changes in data), the likelihood of their being discovered is then sharply diminished. Without necessarily intending it, the spontaneous discovery process of the free market has thus been, to some extent, stifled or distorted (Kirzner, 1982, p.10).

Thus, government intervention seems to be capable of influencing the sheer amount of entrepreneurial activity through its impact on "discoverable" opportunities (in this case blocking certain opportunities). It is of course also possible that government intervention may create new opportunities à la the opportunities for destructive rent-seeking discussed by Baumol (1994). Moreover, various indications of a direct effect from government intervention to discovery can also be found in Kirzner's work. For example, he argues that while "[w]e know very little that is systematic about what 'switches on' alertness . . . it does seem intuitively obvious that alertness can be 'switched off' by the conviction that external intervention will confiscate (wholly or in part) whatever one might notice" (Kirzner, 2009, p.151). Taxation hampers discovery by converting "open-ended" situations into "closed-ended" ones (Kirzner, 1985, p.111), whereas regulatory constraints "are likely *to bar the discovery* of pure profit opportunities" (Kirzner, 1985, p.142, emphasis in original). The suggestion is that government intervention, while not eliminating discovery entirely, reduces its quantity and quality. The argument strikes us as ad hoc and inconsistent with the purely exogenous character of Kirznerian profit opportunities. Moreover, even if true, the welfare implications are ambiguous. When it comes to discovery, is "more" necessarily better?

V. Conclusion

Our goal here has been to point out some potential drawbacks of Kirzner's entrepreneurial discovery-process approach. Outside the Austrian literature – and sometimes within it – one often gets the sense that Kirzner's framework is *the* Austrian approach to the study of prices and markets. In fact, however, there is tremendous variety within the contemporary Austrian school on such fundamental issues. Indeed, we think Kirzner's approach not only does not represent the logical continuation or extension of the basic Mengerian causal-realist approach, but instead departs from it in important ways.

We have focused here on Kirzner's portrayal of "pure entrepreneurship" and its role in the competitive market system. We have suggested that Kirzner goes too far in stripping the entrepreneurial ideal type of concrete content; the "entrepreneur" in his work is simply a coordination device, and that is all. This raises several problems. First, it presumes a certain model of the market in which "coordination," in the sense of converging to some kind of long-run, perfect-knowledge equilibrium, is the central problem economic theory needs to explain. Second, it limits the application of economics to real-world entrepreneurial behaviors and actions. We are not arguing that economists should embrace the much more expansive work on entrepreneurs undertaken in management research, describing them in various psychological dimensions and so on. Rather, we suggest that an emphasis on entrepreneurial action under uncertainty, focusing on investment, real prices, and the resulting profits and losses, provides richer insights into the market.

References

Baumol, William J. 1994. *Entrepreneurship, Management, and the Structure of Payoffs*. Cambridge, MA: MIT Press.

Begley, Thomas M., and David P. Boyd. 1987. "Psychological Characteristics Associated with Performance in Entrepreneurial Firms and Smaller Businesses." *Journal of Business Venturing,* 2(1): 79–93.

Boettke, Peter J. 2005. "Kirzner." *The Austrian Economists*, September 10. http://austrianeconomists.typepad.com/weblog/2005/09/kirzner.html .Accessed September 16, 2008.

Boettke, Peter J., and David L. Prychitko. 1994. *The Market Process: Essays in Contemporary Austrian Economics*. Northampton: Edward Elgar.

Buchanan, James M., and Victor J. Vanberg. 2008. "The Market as a Creative Process." *Economics and Philosophy*, 7(2): 167–86.

Busenitz, Lowell W. 1996. "Research on Entrepreneurial Alertness: Sampling, Measurement, and Theoretical Issues." *Journal of Small Business Management*, 34(4): 35–44.

Cantillon, Richard. 1755. *Essai Sur La Nature De Commerce En Géneral*. Repr., London: Macmillan, 1931.

Casson, Mark 1982. *The Entrepreneur: An Economic Theory*. Lanham: Rowman & Littlefield.

Casson, Mark, and Nigel Wadeson. 2007. "The Discovery of Opportunities: Extending the Economic Theory of the Entrepreneur." *Small Business Economics,* 28(4): 285–300.

Companys, Yosem E., and Jeffery S. McMullen. 2007. "Strategic Entrepreneurs at Work: The Nature, Discovery, and Exploitation of Entrepreneurial Opportunities." *Small Business Economics*, 28(4): 301–22.

Cooper, Arnold C., Timothy B. Folta, and Carolyn Woo. 1995. "Entrepreneurial Information Search." *Journal of Business Venturing*, 10(2): 107–20.

Demsetz, Harold. 1983. "The Neglect of the Entrepreneur." In *Entrepreneurship*, ed. Joshua Ronen, pp. 271–280. Florence, MA: Free Press.

Fetter, Frank A. 1907. *Principles of Economics*. New York: Century.

Foss, Kirsten, Nicolai J. Foss, and Peter G. Klein. 2007. "Original and Derived Judgment: An Entrepreneurial Theory of Economic Organization." *Organization Studies*, 28(12): 1893–912.

Foss, Kirsten, Nicolai J. Foss, Peter G. Klein, and Sandra K. Klein. 2007. "The Entrepreneurial Organization of Heterogeneous Capital." *Journal of Management Studies*, 44(7): 1165–86.

Foss, Nicolai J., and Peter G. Klein. 2010. "Entrepreneurial Alertness and Opportunity Discovery: Origins, Attributes, Critique." In *The Historical Foundations of Entrepreneurship Research*, ed. Hans Landström and Franz Lohrke. Aldershot, U.K.: Edward Elgar. Forthcoming.

Gaglio, Connie M., and Jerome A. Katz. 2001. "The Psychological Basis of Opportunity Identification: Entrepreneurial Alertness." *Small Business Economics*, 16(2): 95–111.

Hayek, F. A. 1937. "Economics and Knowledge." In F. A. Hayek, *Individualism and Economic Order*. Chicago: University of Chicago Press, 1948.

High, Jack. 1982. "Alertness and Judgment: Comment on Kirzner." In *Method, Process, and Austrian Economics: Essays in Honor of Ludwig von Mises*, ed. Israel M. Kirzner, pp. 161–68. New York: Lexington Books.

Hood, Jacqueline N., and John E. Young. 1993. "Entrepreneurship's Requisite Areas of Development: A Survey of Top Executives in Successful Entrepreneurial Firms." *Journal of Business Venturing*, 8(2): 115–35.

Kaish, Stanley, and Benjamin Gilad. 1991. "Characteristics of Opportunities Search of Entrepreneurs versus Executives: Sources, Interests, General Alertness." *Journal of Business Venturing*, 6(1): 45–61.

Kirzner, Israel M. 1978. *Competition and Entrepreneurship*. Chicago: University of Chicago Press.

Kirzner, Israel M. 1979. *Perception, Opportunity, and Profit: Studies in the Theory of Entrepreneurship*. Chicago: University of Chicago Press.

Kirzner, Israel M. 1982. "Competition, Regulation, and the Market Process: An 'Austrian' Perspective." Cato Policy Analysis 18.

Kirzner, Israel M. 1985. *Discovery and the Capitalist Process*. Chicago: University of Chicago Press.

Kirzner, Israel M. 1992. *The Meaning of Market Process*. London: Routledge.

Kirzner, Israel M. 1999. "Mises and His Understanding of the Capitalist System." *Cato Journal*, 19(2): 215–32.

Kirzner, Israel M. 2009. "The Alert and Creative Entrepreneur: A Clarification." *Small Business Economics*, 32(2): 145–52.

Klein, Peter G. 2008a. "The Mundane Economics of the Austrian School." *Quarterly Journal of Austrian Economics*, 11(3): 165–87.

Klein, Peter G. 2008b. "Opportunity Discovery, Entrepreneurial Action, and Economic Organization." *Strategic Entrepreneurship Journal*, 2(3): 175–90.

Knight, Frank H. 1921. *Risk, Uncertainty and Profit*. New York: Hart, Schaffner, and Marx.

Lachmann, Ludwig M. 1986. *The Market as an Economic Process*. London: Basil Blackwell.

Ludwig von Mises Institute. 1997. "Interview with Israel M. Kirzner." *Austrian Economics Newsletter*, 17(1). http://mises.org/journals/aen/aen17_1_1.asp

Lumpkin, Gregory T., and Gregory G. Dess. 1996. "Clarifying the Entrepreneurial Orientation Construct and Linking it to Performance." *Academy of Management Review*, 21(1): 135–172.

Machovec, Frank M. 1995. *Perfect Competition and the Transformation of Economics*. New York: Routledge.

McMullen, Jeffery S., Lawrence A. Plummer, and Zoltan J. Acs. 2007. "What is an Entrepreneurial Opportunity?" *Small Business Economics*, 28(4): 273–83.

McMullen, Jeffery S., and Dean A. Shepherd. 2006. "Entrepreneurial Action and the Role of Uncertainty in the Theory of the Entrepreneur." *Academy of Management Review*, 31(1): 132–52.

Mises, Ludwig von. 1951. "Profit and Loss." In Ludwig von Mises, *Planning for Freedom*. South Holland, Ill.: Libertarian Press, 1952.

Mises, Ludwig von. 1949. *Human Action: A Treatise on Economics*. New Haven: Yale University Press.

Rothbard, Murray N. 1985. "Professor Hébert on Entrepreneurship." *Journal of Libertarian Studies*, 7(2): 281–86.

Salerno, Joseph T. 2008. "The Entrepreneur: Real and Imagined." *Quarterly Journal of Austrian Economics*, 11(3): 188–207.

Salerno, Joseph T. 1993. "Mises and Hayek Dehomogenized." *Review of Austrian Economics*, 6(2): 113–46.

Salerno, Joseph T. 2002. "The Rebirth of Austrian Economics—In Light of Austrian Economics." *Quarterly Journal of Austrian Economics*, 5(4): 111–28.

Schumpeter, Joseph A. 1911. *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest and the Business Cycle.* Cambridge, MA: Harvard University Press.

Schütz, Alfred. 1932. *The Phenomenology of the Social World.* Evanston, Ill.: Northwestern University Press.

Selgin, George A. 1987. "Praxeology and Understanding." *Review of Austrian Economics*, 2: 19–58.

Shane, Scott A. 2003. *A General Theory of Entrepreneurship: The Individual-Opportunity Nexus*. Cheltenham, U.K.: Edward Elgar.

Shane, Scott A., and S. Venkataraman. 2000. "The Promise of Entrepreneurship as a Field of Research." *Academy of Management Review*, 25: 217–26.

Short, Jeremy C., David J. Ketchen Jr, Christopher L. Shook, and R. Duane Ireland. 2010. "The Concept of 'Opportunity' in Entrepreneurship Research: Past Accomplishments and Future Challenges." *Journal of Management*, 36(1): 40–65.

Vaughn, Karen I. 1992. "The Problem of Order in Austrian Economics: Kirzner versus Lachmann." *Review of Political Economy*, 4(3): 251–74.

Venkataraman, S. 1997. "The Distinctive Domain of Entrepreneurship Research: An Editor's Perspective." *Advances in Entrepreneurship, Firm Emergence, and Growth*, 3: 119–38.

Williamson, Oliver E. 1996. *The Mechanisms of Governance*. Oxford: Oxford University Press.

Witt, Ulrich. 1998. "Imagination and Leadership: The Neglected Dimension of an Evolutionary Theory of the Firm." *Journal of Economic Behavior & Organization*, 35(2): 171–77.

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Including U.S. State Government Regulation in the Economic Freedom of North America Index

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Abstract
The paper examines the Economic Freedom Index of North America (EFNA) and its ability to predict income in U.S. states. We show that including state government regulatory spending, using U.S. Census Bureau data on "Protective Inspection and Regulation, NEC" as the measure of regulation, improves the predictive power of our models. We conduct a number of robustness checks and construct a factor analysis model to show that the regulation spending variable contributes information that is currently not included in the EFNA. We argue that since regulation adds to the predictive power of EFNA, and is a theoretically essential component of economic freedom, it should be considered alongside the EFNA.

JEL Codes: H11, H70
Keywords: Economic freedom; Regulation; State government; Factor analysis

I. Introduction

Economic freedom, as defined by the Economic Freedom of North America Index (EFNA) (Karabegovic et al., 2003), is a measure of governmental impedance to economic activity. A high degree of economic freedom is necessary to insure and to help prolong robust economic activity and development (Karabegovic et al., 2003). The EFNA includes variables that measure the degree of protection for the property rights and whether individuals are coerced regarding economic transactions. The EFNA also measures the ability of individuals to make personal decisions. A high value of the EFNA implies more economic freedom, which is to say, less governmental impedance to economic activity. The EFNA provides an index value for U.S. states and Canadian provinces that is comparable across time and location. Since its publication, the EFNA has sparked a small revolution in the academic literature and in public discussions of policy, similar to the larger revolution created by the indices measuring economic freedom across nations (e.g., Gwartney, Lawson and Block, 1996; Gwartney, Lawson and Norton, 2008). So long as a policy or academic institution continues to publish updated values of the EFNA, it will continue to have a substantial academic and public policy impact. We believe the EFNA to be the best established, most widely known, and most significant economic freedom index of U.S. states and Canadian provinces. Accordingly, in the remainder of this paper, we use the EFNA as our "straw man" to discuss economic freedom measures of the U.S. states in general. By doing so, we mean no particular criticism of the EFNA. Indeed, it was our appreciation of the significance and usefulness of the EFNA which motivated this paper.

Given the ongoing policy and academic significance of the EFNA, we believe the research community would benefit from periodic review of the components of any index measuring economic freedom. As researchers frequently use indices like the EFNA to explain various aspects of economies, such indices should include all *theoretically-justified* factors that influence the accuracy and robustness of the index. Any economic freedom index – international or sub-national – can always be improved by inclusion of pertinent variables that will expand its explanatory power (Gwartney, Lawson, and Park, 2001). Gwartney, Lawson and Clark (2002) suggest that as the usefulness of economic freedom indices expand, so does the necessity to improve them by incorporating other variables that may improve their functionality. The goal of this research is to investigate whether regulation, which is theoretically linked to economic freedom, could improve the predictive power of an economic freedom index for U.S. states. We argue that economic freedom indices could be improved by including an essential component of government intrusion into the economy, state regulation expenditure.

The impetus of both the EFNA and the international indices was Friedman's *Capitalism and Freedom* (1962), in which he argues that economic freedom is required for human development and serves as a channel to political freedom. Friedman goes on to discuss how differences in nations' monetary policies and international trading and financial arrangements affect economic freedom. He also discusses topics such as occupational licensure, employment rules, and control of monopoly tendencies – in short, government regulation of business life. As the EFNA focuses on sub-national units in two closely-related, Federal systems of government, issues of monetary policy and international economic arrangements are inappropriate, and the EFNA focuses on the size of government, taxation, and the labor market.

Thus, Friedman (1962) suggests that government regulation of businesses may be detrimental to economic freedom. Furthermore, Gwartney, Lawson and Block (1996), summarizing a long process of theoretical development, state, "The central elements of economic freedom are personal choice, protection of private property, and freedom of exchange.…Thus, an index of economic freedom should measure the extent to which rightly acquired property is protected and individuals are free to engage in voluntary transactions." Some level of government activity is necessary to protect the rights of market participants in order to ensure economic freedom; however, government regulation of economic activity – whether petty or grand – diminishes private property rights and restricts individuals' ability to engage in voluntary transactions: regulation reduces economic freedom, in short.

Regulatory activity is a policy choice that impacts personal choice, market exchange, and the inviolability of property rights and contracts, just as do the variables included in the EFNA. The type and extent of regulatory activity is an outcome of the political choice process just as surely as is minimum wage regulation and the top income tax rate, variables currently included in the EFNA. Just as regulation of the labor market impedes economic activity, other regulatory activity will also impede economic activity. A state regulation that mandates the maximum and minimum opening sizes in the wire mesh that covers the exhaust fans in commercial chicken sheds may not create much of an impact. However, if one imagines the cumulative impact of tens of thousands of such regulations, it becomes much easier to imagine that state regulatory activity is detrimental to economic freedom.

This fact is recognized by the architects of the EFNA. Their measures of minimum wage legislation and union density capture government regulation of labor markets. We expand coverage of regulation by including a variable that extends to regulatory activities outside of the labor market. As we explain below, we capture a broad swath of regulatory activity with a single variable collected by the U.S. Census Bureau. We measure state regulatory activity with state regulation expenditure, "Protective Inspection and Regulation, NEC" (U.S. Census). Using the Census Bureau's regulation expenditure series has the virtues of parsimony and ease of data collection and analysis.[1]

We conclude that regulation expenditure contains information not otherwise included in the EFNA, and the addition of regulatory spending to the EFNA adds to the explanatory power models describing income. Our results confirm the literature's general finding regarding income but also demonstrate that state and local regulatory activity help determine income levels and growth rates in the expected manner. To whit, states that engage in more regulatory activity experience slower income growth and lower income levels, *ceteris paribus*. Significantly, we also demonstrate that the EFNA and our regulation measure are statistically different variables. We conclude that including regulation would improve an index analogous to the EFNA. We construct an example of an improved economic freedom index for the U.S. states, and demonstrate how this logically-improved index performs similarly to the EFNA in statistical models of income determination. This research suggests that economic freedom indices of the U.S. states could be improved by including the regulation variable in the indices.

The most significant shortcoming of our work is fairly evident. Data incompatibility compels us to limit our attention to only U.S. states and sacrifice the Canadian provinces. Thus our work lacks the virtue of comparing individual states to individual Canadian

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[1] For comparison's sake, a well-known economic freedom index, the Pacific Research Institute's (PRI) U.S. Economic Freedom Index (USEF) (McQuillan et al., 2008) measures regulation by observing up to 53 regulation indicators. The USEF regulatory indicators are not observed annually and include potentially contentious regulation measures such as the percent of a state's land owned by the federal (not the state) government, the percentage of students in private schools, and the number of employees at public utilities commissions and insurance regulation organizations. The authors selected as the "best index" the one that maximizes the R-squared statistic in a regression model explaining interstate population migration. Though the authors vigorously defend their approach, it has been subject to criticism, which the authors explicitly recognize by devoting Appendix C to "Responses to Critics and Criticism."

provinces. Nevertheless, we believe this work may be of interest and use to economic freedom researchers.

II. Literature Review

Economic freedom indices of the world (of which the EFNA is an off-shoot) have been used in many papers to describe economic activity and development. Economic freedom indices have been shown to be related to many economic issues. For instance, Berggren and Jordahl (2003) show that economic freedom helps to explain foreign trade. Doucouliagos and Ulubasoglu (2006) and Cole (2003) demonstrate a relationship between economic freedom and economic growth.

Karabegovic et al. (2003) provide a similarly derived index featuring differences between U.S. states and Canadian provinces rather than the difference between nations. Karabegovic et al. choose to group ten variables – usually expressed as ratios of GDP – into three categories: size of government, takings and discriminatory taxation, and labor market freedom. Karabegovic et al. construct a scale from zero to 10 to represent the underlying distribution of the 10 variables in the index, with higher values indicating higher levels of economic freedom. Thus, the freedom index is a relative ranking of economic freedom across jurisdictions and across time. In the final construction each area was equally weighted and each variable within each area was equally weighted.

The EFNA has performed similarly to the world freedom indices, and has been similarly used by researchers: the freedom index is significantly, positively related to state levels of income and growth of economic activity. Others have expanded the use of the EFNA into other research topics. For instance, Kreft and Sobel (2005) demonstrate a relationship between the level of economic freedom and levels of entrepreneurship as measured by the flow of venture capital funds and patent originations. This research demonstrates the importance of continued examination of the freedom index and potential for its improvement by inclusion of other explanatory variables. Additionally, Campbell and Rogers (2007) demonstrate that there is a relationship between business formation and economic freedom; researchers find that states with greater degrees of economic freedom demonstrate higher rates of business formation.

III. Including Regulation in the EFNA

A cornerstone of states' public policy is the regulation of business enterprise and of economic activity in general. Therefore, government regulation is an important variable that helps to determine the level of economic freedom. Research has developed several inconsistent views of regulation, which can be generalized as: (a) regulation may be good for firms and economies, but it is incorrectly applied (e.g., Bork, 1993), (b) regulation is a conditionally efficient method of conflict resolution, and is (implicitly) good for firms (e.g., Mulligan and Shleifer, 2005), or (c) regulation is the outcome of a rent-seeking political process, whose primary aim is wealth redistribution (e.g., the public choice tradition of scholarship). Any way one looks at it, some measure of regulation should be included in any measure of economic freedom constructed along the lines of the EFNA. In this paper we include a direct measure of regulation, along with the EFNA, in estimates that re-test the primary result of the literature: that more economic freedom is associated with better economic outcomes. As a secondary aim, we test whether regulation positively or negatively impacts income. We hypothesize that the correct view of regulation is that it is wealth redistributing and has a negative impact on incomes.

Our measure of state and local regulatory expenditure is the U.S. Census Bureau's expenditure category, "Protective Inspection and Regulation, NEC," Census' function code 66. Protective Inspection and Regulation expenditure is a very broad and intuitively appealing measure of regulatory activity. Quoting extensively from the Census' *Classification Manual*:

> "DEFINITION: Regulation and inspection of private establishments for the protection of the public or to prevent hazardous conditions NOT classified under another major function.
> "EXAMPLES: Inspection of plans, permits, construction, or installations related to buildings, housing, plumbing, electrical systems, gas, air conditioning, boilers, elevators, electric power plant sites, nuclear facilities, weights and measures, etc.; regulation of financial institutions, taxicabs, public service corporations, insurance companies, private utilities (telephone, electric, etc.), and other corporations; licensing, examination, and regulation of professional occupations,

> including health-related ones like doctors, nurses, barbers, beauticians, etc.; inspection and regulation or working conditions and occupational hazards; motor vehicle inspection and weighing unless handled by a police agency; regulation and enforcement of liquor laws and sale of alcoholic beverages unless handled by a police department."
> "EXCLUSIONS: Distinctive license revenue collection activities…; regulatory or inspection activities related to food establishments or to environmental health…; motor vehicle inspection, liquor law enforcement, and other regulatory type activities of police agencies…; regulatory and inspection activities related to other major functions, such as fire inspections, health permits, water permits, and the like…." (http://www.census.gov/govs/www/classfunc66.html)

We assume that state and local regulations are directly and monotonically related to regulatory spending. We further assume that state and local regulatory expenditure, in general, is positively correlated with the Census' Protective Inspection and Regulation expenditure. This assumption allows us to proxy all state and local regulatory activity with the Census' Protective Inspection and Regulation data.

By using direct expenditure amounts to proxy for regulatory activity, we depart from a research tradition of measuring state regulation by the total word "volume" of a state's statutes, as exemplified by Mulligan and Shleifer (2005). Mulligan and Shleifer use the number of kilobytes of a state's unannotated statutes as their proxy for regulation activity.[2] The literature has argued that regulatory activity will be positively correlated with the word volume of a state's statutes. Despite the use of "kilobytes of law" in the literature, we believe our direct expenditure measure is superior. Regulatory expenditure is directly, demonstrably related to regulatory activity, and we believe the Census' "Protective Inspection and Regulation" to be sufficiently broad to capture much of what most people intuitively understand "regulation" to mean. In addition to regulatory activity, the language of statutes may reflect the relative verbosity of

[2] There also exists a tradition of proxying the Federal regulatory burden by counting the number of pages in the Federal Register. In this work, however, we are concerned with state-level regulatory activity.

lawmakers across states and across time, as well as implicit or explicit state-varying linguistic requirements for acceptable state law. Thus, using the Census Bureau's regulation expenditure series has the virtues of parsimony and ease of data collection and analysis.

IV. Data and Method

Table 1 presents the definitions for all the variables utilized in this research. The descriptive statistics for the data used in the study are in Table 2. For the sake of convenience, we have inverted and rescaled the EFNA so that the range is [0, 100] and smaller numbers indicate more economic freedom.

Table 1. Variable Definitions

Variable Name	Variable Definition
Agriculture:	Real (y2k) percentage of agriculture in state gross domestic product
Manufacturing:	Real (y2k) percentage of manufacturing in state gross domestic product
Population:	State population, in thousands
Pop Density:	State population density; persons per square mile
Pct Minority:	Percent of state population that is not Caucasian
Over 65:	Percent of state population that is aged 65 or older
Education:	Percent of state population with a Bachelor's degree
Loans:	Real C&I loans per capita
Unemployment:	State annual unemployment rate
Taxes:	Real taxes collected per capita as a percent of real income per capita
EFNA:	Economic Freedom of North America Index
GovSize:	The "Government size" sub-index of the EFNA
TaxIndx:	"Tax Index" sub-index of the EFNA
LbrMrkt:	"Labor Market Freedom" sub-index of the EFNA
Income:	Real personal income per capita

The goal of this paper is to evaluate a regulatory spending variable as it predicts real personal income per capita. We evaluate four two-way (state and year) fixed effects models predicting the independent variable. In the first model, we do not include EFNA or regulatory spending as independent variables. In the second, we include EFNA as an independent variable. In the third, we include our regulatory spending variable, and in the fourth model both EFNA and our regulatory spending variables are included. The goal is to ascertain whether the regulatory spending variable contributes to the predictive power of the models and thus contributes information that is not included in the EFNA.

In order to measure the robustness of the results, we conduct three robustness checks. We lag all independent variables one year, allowing last year's conditions to determine this year's income level. Additionally, we average our data over every three consecutive years in our panel and transform the series into growth rates.[3] Finally, we construct a factor analysis model to once again measure whether EFNA and our measure of regulatory spending are indeed two separate variables.

Table 2. Full Data Set Descriptive Statistics

Variable	Mean	S.D.	Min	Max
Income	26533	4152	17907	41633
Agriculture	1.57	1.44	0.12	8.15
Manufacturing	14.58	6.26	1.88	30.16
Population	549.56	596.53	46.35	3545
Pop Density	179.53	242.58	1.03	1164
Pct Minority	15.86	11.97	1.32	74.34
Over 65	13.43	11.44	2.33	150.18
Education	23.74	4.67	11.4	38.7
Loans	2.64	4.6	0.07	54.53
Unemplymnt	5.05	1.34	2.2	11.1
Taxes	5.84	1.13	2.58	9.28
EFNA	30.87	7.2	16	50
Regulation	20.98	11.08	6.35	78.07
UnionPct	14.3	5.57	3.8	30.8
Gov Size	28.86	9.65	10	62
Tax Indx	31.14	7.96	9	52
Labr Mrkt	32.53	8.09	12	51

V. Results

A. Regression Analysis

Table 3 presents several sets of correlation coefficients. In the first panel, note that regulation appears to be rather differentiated from the EFNA and its constituent sub-indices, all of which are

[3] After each data transformation, we calculate the summary statistics and construct a correlation matrix, to check for multicollinearity problems. These tables are available upon request.

strongly correlated with each other. In the second panel, note that various "policy variables" which we expect might be related to income determination – tax burden, regulation, and the EFNA and its sub-indices – appear to be differentiated variables. The third panel

Table 3. Sets of Correlation Coefficients

	Regulation	EFNA	Gov Size	Tax Indx	Labr Mrkt
Regulation	1				
EFNA	0.02	1			
Gov Size	-0.01	0.88	1		
Tax Indx	-0.01	0.83	0.64	1	
Labr Mrkt	0.08	0.79	0.52	0.4739	1

	Income	Taxes
Income	1	
Taxes	0	1
Regulation	0	0.2
EFNA	-0.02	0.01
Gov Size	-0.03	-0.02
Tax Indx	-0.12	0.01
Labr Mrkt	0.11	0.05

	Ag	Mfg	Pop	Pop Den	Pct Min	Ovr 65	Ed	Loans	Unemp	Taxes
Ag	1									
Mfg	-0.06	1								
Pop	-0.27	0.06	1							
Pop Den	-0.43	-0.06	0.18	1						
Pct Min	-0.26	-0.16	0.15	0.12	1					
Ovr 65	0.12	-0.09	-0.01	0.02	-0.06	1				
Ed	-0.16	-0.08	0.16	-0.03	-0.01	-0.01	1			
Loans	-0.13	0.02	0.05	0.35	0.05	0.03	-0.1	1		
Unemp	-0.02	-0.01	0.01	-0.01	0.05	0	0.02	-0.06	1	
Taxes	-0.02	0	-0.02	0.02	-0.02	0.01	0.01	-0.07	0.13	1

consists of the correlation coefficients of the control variables we use in our income estimates.

Table 4 presents our first set of regression estimates. As the literature predicts, the less economically free is a state, the lower is its level of income. As we predict, states engaging in more regulatory activity also experience lower income levels. Furthermore, as

Table 4. Fixed-Effects Regression Estimates

Dep. Var.:	Real Personal Income per Capita			
	Model1	*Model 2*	*Model 3*	*Model 4*
Agriculture	167.96	266.37 ***	173.91	272.12 ***
	1.23	*3.11*	*1.28*	*3.18*
Manufacturing	57.95	45.84	59.46	47.34
	1.58	*1.24*	*1.63*	*1.3*
Population	-0.77	-1.28	-0.67	-1.19
	-0.46	-0.73	-0.41	-0.69
Pop Density	31.13 ***	23.86 ***	31.41 ***	24.15 ***
	3.58	*2.97*	*3.68*	*3.07*
Pct Minority	-173.78	-277.91 **	-170.49	-274.55 **
	-1.15	*-2.03*	*-1.16*	*-2.06*
Over 65	0.28	-4.3822 **	0.08	-4.57 **
	0.21	*-2.28*	*0.06*	*-2.4*
Education	41.06	14.47	43.47 *	16.88
	1.57	*0.64*	*1.66*	*0.74*
Loans	-24.16 **	-29.46 **	-24.69 **	-29.98 ***
	-2.14	*-2.6*	*-2.21*	*-2.68*
Unemplymnt	2.22	3.72	8.35	9.77
	0.07	*0.13*	*0.26*	*0.34*
Taxes	5.1	6.75	23.11	24.51
	0.17	*0.25*	*0.7*	*0.82*
EFNA		-161.64 ***		-161.44 ***
		-4.36		*-4.33*
Regulation			-7.38 ***	-7.27 ***
			-3.29	*-3.09*
Constant	20073.1 ***	29030.8 ***	19877.6 ***	28827.1 ***
	8.89	*9.26*	*8.88*	*9.24*
R-squared	0.88	0.9	0.8821	0.9
F Stat	691.79	345.84	640.01	354.48

Significant at 90 percent (*), 95 percent (**), and 99 percent (***).

suggested by the summary statistics, the EFNA and the regulation measure are independently significant in explaining income, e.g., we fail to find evidence of multicollinearity. Both the EFNA and regulation are significantly, negatively related to income per capita in a well-specified model.

Table 5. Lagged Data Set Regression Estimates

Dep. Var.:	Real Personal Income per Capita			
	Model 1	*Model 2*	*Model 3*	*Model 4*
Agriculture	-207.36	-107.7	-198.06	-97.87
	-1.58	*-0.96*	*-1.52*	*-0.87*
Manufacturing	42.54	32.29	44.87	34.69
	1.12	*0.83*	*1.18*	*0.89*
Population	-1.23	-1.89	-1.27	-1.94
	-0.64	*-0.96*	*-0.67*	*-0.99*
Pop Density	29.66 ***	22.92 ***	29.87 ***	23.13 ***
	3.7	*3.06*	*3.8*	*3.16*
Pct Minority	-80.08	-169.31	-80.46	-169.88
	-0.58	*-1.31*	*-0.59*	*-1.34*
Over 65	3.47 **	-0.37	3.43 **	-0.43
	2.24	*-0.17*	*2.28*	*-0.19*
Education	58.28 **	37.05	60.22 **	39.02
	2.17	*1.5*	*2.25*	*1.57*
Loans	-21.73 **	-25.63 **	-21.93 **	-25.84 **
	-2.05	*-2.43*	*-2.09*	*-2.48*
Unemplymnt	16.25	15.42	21.48	20.85
	0.53	*0.56*	*0.69*	*0.74*
Taxes	10.26	12.74	25.26	28.31
	0.32	*0.43*	*0.69*	*0.83*
EFNA		-143.38 ***		-143.65 ***
		-3.52		*-3.5*
Regulation			-5 *	-5.19 *
			-1.81	*-1.98*
Constant	19493.4 ***	27470 ***	19390 ***	27377 ***
	8.91	*8.41*	*8.85*	*8.35*
R-squared	0.88	0.89	0.88	0.89
F Stat	156.68	127.46	172.43	132.6

Significant at 90 percent (*), 95 percent (**), and 99 percent (***).

To test the robustness of our result, we reprocess our empirical program under different assumptions regarding the data. We transform the data set so that all independent variables have been lagged one year, allowing last year's conditions to determine this year's income level. Our regression estimates are in Table 5. The most significant conclusion from the second set of results is that they

Table 6. "Average Three" Data Set Regression Estimates

Dep. Var.:	**Real Personal Income per Capita**			
	Model 1	*Model 2*	*Model 3*	*Model 4*
Agriculture	-191.5	174.36	-140.07	236.78
	-0.72	*0.72*	*-0.54*	*1.1*
Manufacturing	45.24	41.18	56.59	53.36
	0.91	*0.79*	*1.16*	*1.08*
Population	-0.88	-1.53	-0.77	-1.43
	-0.5	*-0.83*	*-0.46*	*-0.83*
Pop Density	33.83 ***	25.47 ***	34.95 ***	26.52 ***
	3.47	*2.82*	*3.75*	*3.08*
Pct Minority	-218.1	-346.21 *	-206.37	-335.9 *
	-1.15	*-1.88*	*-1.15*	*-1.95*
Over 65	1.31	-5.63 *	0.71	-6.41 **
	0.74	*-1.86*	*0.42*	*-2.15*
Education	71.96	24.04	82.74 *	34.78
	1.54	*0.57*	*1.79*	*0.84*
Loans	-28.85 **	-33.22 **	-33.2 **	-38 ***
	-2.22	*-2.56*	*-2.62*	*-3*
Unemplymnt	3.46	18.4	8.08	23.66
	0.06	*0.34*	*0.14*	*0.45*
Taxes	25.85	32.29	41.41	49.22
	0.33	*0.48*	*0.52*	*0.73*
EFNA		-175.52 ***		-178.8 ***
		-3.49		*-3.59*
Regulation			-22.82 **	-24.64 ***
			-2.45	*-2.82*
Constant	20387	30199.1 ***	19937 ***	29897 ***
	7.22	*7.14*	*7.12*	*7.14*
R-Squared	0.9	0.91	0.9	0.92
F Stat	359.94	249.46	375.21	234.59

Significant at 90 percent (*), 95 percent (**), and 99 percent (***).

support the first set of results in all particulars. The second conclusion is that regulation and economic freedom have both contemporaneous and ongoing impacts on income levels. Therefore, researchers should allow for both these contemporaneous and persistent effects in their estimates.

To allow for the persistent impact of political institutions on economic outcomes, we transform our data set again. We average the data over every three consecutive years in our panel, reducing our observations to four time series observations of U.S. states. Table 6 presents the latest set of regression estimates. As expected, changes in regulation and economic freedom, as institutional or quasi-institutional changes, have a persistent impact on income levels. The important results for our present purpose are that regulation and the EFNA continue to be separate variables, both continue to be significant in explaining income levels, and there continues to be no evidence of multicollinearity when both variables are used in the same regression.

As a final check of our results, we transform our data set into the growth rates (difference in logged values) of all variables. Table 7 presents the growth rate data set regression estimates. Again, we confirm the major finding of the literature. In this case, the growth of economic freedom is associated with the growth of real income per capita. We find similar results for income growth as we found for income levels, although with generally larger standard errors and weaker models. However, we obtain the same basic results. The EFNA and regulatory spending are rather different variables. As states become less free or as their regulatory burden rises, income growth decreases. However, the evidence against multicollinearity between the EFNA and regulation is slightly weaker than in our previous estimates, and regulation is not as strong a predictive variable as previously.

To summarize, regulatory expenditure and the EFNA are separate variables, at least for U.S. states. The EFNA index does not capture all of the significant information found in a state's pattern of regulatory spending. Furthermore, higher levels or faster growth rates of regulatory spending are associated with lower levels of and slower growth in real income per capita. Theoretically, regulation is a governmental choice and activity that impinges on and impedes economic freedom. Therefore, a state's regulatory activity should be included in any economic freedom index. A convenient measure of regulatory activity is available from U.S. Census data. Our evidence indicates that the EFNA and regulatory spending per capita are statistically differentiated series. Thus, the evidence supports the hypothesis that regulation is not part of the EFNA, but should be part of a complementary index.

Table 7. Growth Rates Data Set Regression Estimates

Dep. Var.:	**Income Growth**			
	Model 1	***Model 2***	***Model 3***	***Model 4***
Agriculture	0.017 ***	0.017 ***	0.017 ***	0.017 ***
	2.88	*3.09*	*2.85*	*3.06*
Manufacturing	-0.01	-0.012	-0.01	-0.012
	-0.64	*-0.78*	*-0.64*	*-0.78*
PopDen	0.186	0.149	0.204	0.161
	1.41	*1.06*	*1.53*	*1.14*
MinPct	0.027	0.028	0.026	0.027
	1.27	*1.4*	*1.23*	*1.37*
Ovr65	0	0.0003	-0.001	0.0002
	-0.17	*0.15*	*-0.24*	*0.07*
Educ	0	-0.001	0.001	-0.0002
	-0.04	*-0.1*	*0.07*	*-0.02*
Loans	0.005 *	0.005 *	0.005 *	0.005 *
	1.92	*1.99*	*1.93*	*1.99*
Unemp	-0.001	-0.001	-0.001	-0.0005
	-0.35	*-0.26*	*-0.26*	*-0.21*
TaxPct	-0.002	-0.002	-0.0001	-0.001
	-0.97	*-0.86*	*-0.04*	*-0.26*
EFNA		-0.08 ***		-0.078 ***
		-3.09		*-3.02*
Reglation			-0.002 *	-0.001
			-1.7	*-1.1*
Constant	-0.006 ***	-0.005 **	-0.006 **	-0.004 *
	-2.9	*-2.24*	*-2.52*	*-2*
R-Squared	0.581	0.6002	0.5822	0.6009
F Stat	102.73	102.75	118.52	113.37

Significant at 90 percent (*), 95 percent (**), and 99 percent (***).

B. Factor Analysis

We now turn to a second line of evidence, factor analysis. Factor analysis will provide us with a statistically determined basis for reconstructing a freedom index for the U.S. states, rather than relying on *a priori* reasoning. Incidentally, factor analysis will also reinforce the separateness of regulation spending from the other component data of the EFNA. To perform our factor analysis, we use not the constructed EFNA index but rather the underlying component data, as provided by the Fraser Institute (www.freetheworld.com). Factor analysis is similar conceptually and empirically to the principal components analysis Huang, McCormick, and McQuillan (2004) use in constructing the U.S. Economic Freedom Index. We stress that reconstructing an economic freedom index from its components using factor analysis is neither data mining nor "cooking the books." With the exception of the regulatory expenditure data, we rely on the same indicators as Karabegovic et al. (2003).

In all of our factor analyses, independent of rotation, the ordering of variables, or the exclusion of variables, regulatory expenditure has a markedly high uniqueness value, ranging from 0.97 to 0.98. Researchers conventionally consider such high uniqueness values as indicative of a separate factor. Therefore, in addition to the regression analysis presented earlier, factor analysis also supports the hypothesis that regulatory expenditure is separate from the components of the EFNA. However, uniqueness values also indicate that the Fraser Institute's data series for "minimum wage" and "transfers" are also separate factors, despite their inclusion by Karabegovic et al. (2003) in the Labor Market Freedom and the Government Size sub-indices (respectively) of the EFNA.

Including or excluding union density makes little difference in the factor loadings. After excluding regulation, minimum wage, transfers, and union density, the remaining components of the EFNA load on

Table 8. Factor Loadings (Orthogonal Rotation)

Variable	Factor1	Factor2	Factor3	Factor4	Factor5
GovConsExp	0.480	0.700	0.121	-0.078	0.026
SocSec	0.625	0.248	0.166	-0.079	0.081
TaxRev	0.885	0.102	0.305	0.050	-0.001
TaxRate	0.191	0.011	0.758	-0.004	0.005
IndirectTax	0.732	0.146	-0.230	-0.464	-0.013
SalesTax	-0.066	0.090	-0.048	0.752	-0.006
GovEmp	0.003	0.752	-0.070	0.129	-0.014

five factors. The factor analyses strongly reject the hypothesis of complete independence, with chi-squared statistic of 2203.14. Table 8 presents the factor loadings after orthogonal rotation.

Note that Factor Five is generally insignificant, leaving four factors remaining. At this stage, factor analysis always requires a subjective judgment. Rather than refer to the first factor as simply Factor 1, researchers typically ascribe to the factor a descriptive name. Social Security payments as a percentage of GSP, total government revenue from own source as a percentage of GSP, and indirect tax revenue as a percentage of GSP all load onto the first factor. We choose to refer to this factor as "Government Misallocating Income." General consumption expenditures by government as a percentage of GSP and government employment as a percentage of total state employment load onto the second factor. We refer to this factor as "Government Misallocating Resources and Products." The top marginal income tax rate and the income threshold at which it applies load onto the third factor, which we refer to as "Labor Market Tax Distortion." Sales taxes collected as a percentage of GSP loads onto the fourth factor, which we refer to as "Product Market Tax Distortion."

These four factors form part of the basis for a reconstructed economic freedom index for U.S. states. The remaining factors are regulation expenditure per capita, the minimum wage data series, and transfers and subsidies as a percentage of GSP. Using these seven factors, we construct an economic freedom index of the U.S. states analogous to the three-factor EFNA. Each raw-value datum is converted into a score. The rating for this component is equal to:

$$(V_{max} - V_i) \; / \; (V_{max} - V_{min})$$

multiplied by 10. In the two elements of our index that have multiple components, we weight the components equally. The final index is constructed by weighting each of the seven components equally. We refer to the resulting index as the "New Index" to distinguish it from the EFNA.

Table 9. Comparing the Descriptive Statistics of Both Indices

Variable	Mean	S.D.	Min	Max
New Index	6.22	0.95	3.72	8.28
EFNA	6.91	0.72	5	8.4

Table 10. Shapiro-Wilkes Test for Normality

Variable	W	V	z	Prob>z
New Index	0.99	3.94	3.32	0.00045
EFNA	0.99	4.59	3.69	0.00011

Table 11. Correlation Coefficients for the New Index

	New Index	EFNA	Regulation
New Index	1		
EFNA	0.88	1	
Regulation	0.25	0.02	1

Table 9 compares the descriptive statistics of the New Index and the EFNA. The descriptive statistics reveal significant differences between the variables' means and standard deviations. Including regulatory spending and reformulating the economic freedom index as we have done reduces the measured value of average economic freedom in U.S. states. Further testing reveals that the New Index is slightly more skewed and more kurtotic. Figures 1 and 2 show the frequency distributions of the two indices. A Shapiro-Wilkes test (Table 10) verifies the normality of both indices. The correlation coefficients (Table 11) reveal strong relationships between the new index and the EFNA, and with the regulation spending series.

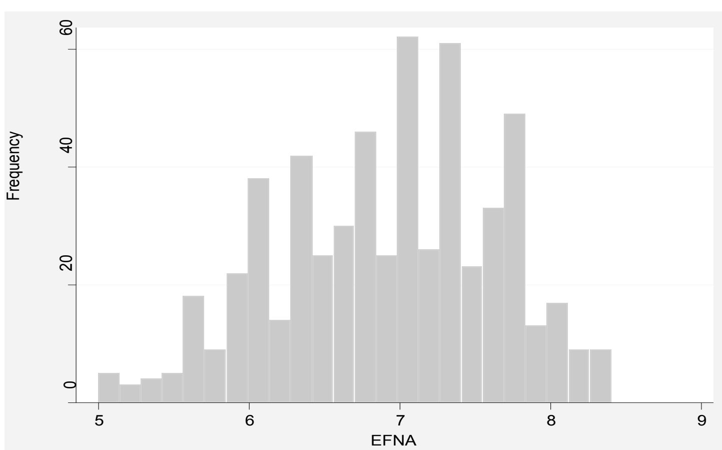

Figure 1. Frequency Distribution of the EFNA

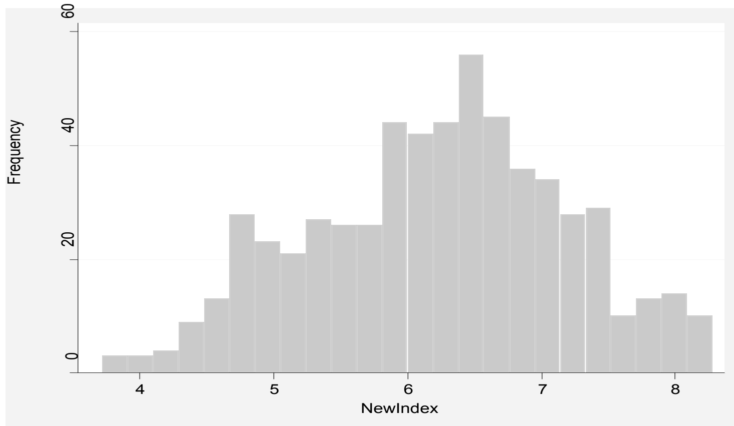

Figure 2. Frequency Distribution of the New Index

In Table 12 we present our regression estimates using the EFNA, regulation spending, and the New Index. Qualitatively, the new index performs similarly to both the EFNA and to regulatory spending per capita. However, when the EFNA, regulatory spending, and the new index are all included as regressors in the same model, we find evidence of multicollinearity, as we hoped. The insignificance of all three variables indicates that the new index "overlaps" the EFNA and regulation expenditure. The re-formulated index captures the information in the EFNA as well as the information in the regulation spending variable.

VI. Conclusion

Economic freedom indices are popular tools for researchers in explaining the variability of economic activity in a given state or country. Over time, the indices have been augmented to better describe economic freedom and to be more accurate and complete tools. They are works in progress and are never complete unless all factors that describe economic freedom are included in the indices. This research demonstrates that states' regulatory activity, as measured by regulatory spending, is a unique variable and that it could be included in an economic freedom index of U.S. states. Inclusion of the regulatory spending variable into the EFNA is theoretically justified and adds to the descriptive power of the index; it is a convenient measure that is readily available from U.S. Census data. Our evidence indicates that the EFNA and regulatory spending per capita are statistically differentiated series. In regressions that include the economic freedom variable, our measure of regulation is a highly significant variable in predicting income per capita. Thus, the evidence supports the hypothesis that regulation is not part of the EFNA but could be part of a complementary index.

Table 12. Regression Estimates with EFNA and New Index

Dep. Var.:	**Real Personal Income per Capita**									
	Model1		*Model 2*		*Model 3*		*Model 4*		*Model 5*	
Agriculture	266.37	***	173.9		272.12	***	258.65	**	289.17	***
	3.11		*1.28*		*3.18*		*2.47*		*3.39*	
Manufac	45.84		59.46		47.34		52.87		46.24	
	1.24		*1.63*		*1.3*		*1.55*		*1.28*	
Population	-1.28		-0.67		-1.19		-1.28		-1.52	
	-0.73		*-0.41*		*-0.69*		*-0.83*		*-0.91*	
Pop Density	23.86	***	31.41	***	24.15	***	27.94	***	24.45	**
	2.97		*3.68*		*3.07*		*3.71*		*3.21*	
Pct Minority	-277.9	**	-170		-274.6	**	-237.2	*	-283.1	**
	-2.03		*-1.16*		*-2.06*		*-1.77*		*-2.08*	
Over 65	-4.38	**	0.08		-4.57	**	-2.86	**	-4.61	**
	-2.28		*0.06*		*-2.4*		*-2.03*		*-2.46*	
Education	14.47		43.47	*	16.88		29.18		15.45	
	0.64		*1.66*		*0.74*		*1.21*		*0.66*	
Loans	-29.46	**	-24.7	**	-29.98	***	-26.16	**	-28.24	**
	-2.6		*-2.21*		*-2.68*		*-2.5*		*-2.51*	
Unemp	3.72		8.35		9.77		18.08		11.21	
	0.13		*0.26*		*0.34*		*0.6*		*0.39*	
Taxes	6.75		23.11		24.51		40.08		20.8	
	0.25		*0.7*		*0.82*		*1.36*		*0.75*	
EFNA	-161.6	***			-161.4	***			-87.77	
	-4.36				*-4.33*				*-1.33*	
Regulation			-7.38	***	-7.27	***			5.31	
			-3.29		*-3.09*				*0.55*	
NewIndex							-78.31	***	-62.2	
							-5.13		*-1.24*	
Constant	29030	***	19877	***	28827	***	24891	***	28904	***
	9.26		*8.88*		*9.24*		*11.27*		*9.23*	
R-squared	0.9		0.88		0.9		0.9		0.9	
F Stat	345.84		640		354.48		423.62		250.3	

Significant at 90 percent (*), 95 percent (**), and 99 percent (***).

The importance of the economic freedom index is reflected by the multitude of research articles that employ the index to explain various economic variables. For North America, the economic freedom index of researcher's choice is – and should continue to be – the EFNA. In this paper, we argue that regulatory activity could be more explicitly included in an economic freedom index of U.S. states. Government regulation is an important component of economic freedom, with freedom retreating as regulation increases. This argument gathers significance and urgency in times of economic crisis, such as today. Traditionally, governments' responses to poor economic conditions have been to increase regulation. However, as regulatory demands on business increase, the effect of the regulatory burden will impose a greater drag on states' economies at precisely the most inauspicious time. Therefore, it is important to increase the "presence" of regulation in indices of economic freedom in order to quantify its impact on economic outcomes.

References

Berggren, Niclas, and Henrik Jordahl. 2005. "Does Free Trade Really Reduce Growth? Further Testing Using the Economic Freedom Index." *Public Choice*, 122: 99–114.

Bork, R. H. 1993. *The Anti-Trust Paradox: A Policy at War with Itself.* New York: Free Press.

Campbell, Noel D., and Tammy M. Rogers. 2007. "Economic Freedom and Net Business Formation." *Cato Journal*, 27(1): 23–36.

Cole, Julio H. 2003. "The Contribution of Economic Freedom to World Economic Growth, 1980–99." *Cato Journal*, 23(2): 189–98.

Doucouliagos, Chris, and Mehmet A. Ulubasoglu. 2008. "Democracy and Economic Growth: a Meta-Analysis," *American Journal of Political Science*, 52(1): 61–83.

Doucouliagos, Chris, and Mehmet A. Ulubasoglu. 2006."Economic Freedom and Economic Growth: Does Specification Make a Difference?" *European Journal of Political Economy*, 22(1): 60–81.

Gwartney, James, Randall G. Holcombe, and Robert Lawson. 2004. "Economic Freedom, Institutional Quality, and Cross Country Differences in Income and Growth." *Cato Journal*, 24(3): 205–33.

Gwartney, James, Robert Lawson, and Walter Block. 1996. *Economic Freedom of the World 1975–1995.* Vancouver, BC: The Fraser Institute.

Gwartney, James, Robert Lawson, and J. R. Clark. 2002. *Economic Freedom of the World, 2002*. Vancouver, BC: The Fraser Institute.

Gwartney, James, and Robert Lawson, and Seth Norton. 2008. *Economic Freedom of the World, 2008*. Vancouver, BC: The Fraser Institute.

Gwartney, James, and Robert Lawson, and Walter Park. 2001. *Economic Freedom of the World, 2001*. Vancouver, BC: The Fraser Institute.

Huang, Ying, Robert E. McCormick, and Lawrence J. McQuillan. 2004. U.S. Economic Freedom Index: 2004 Report. San Francisco: Pacific Research Institute.

Mulligan, Casey B., and Andrei Shleifer. 2005. "The Extent of the Market and the Supply of Regulation." *Quarterly Journal of Economics*, 120(4): 1445–73.

Karabegovic, Amela, Dexter Samida, Chris M. Schlegel, and Fred McMahon. 2003. "North American Economic Freedom: An Index of 10 Canadian Provinces and 50 U.S. States." *European Journal of Political Economy,* 19(3): 431–52.

Karabegovic, Amela, Fred McMahon, and Glenn Mitchell. 2005. *Economic Freedom of North America 2005 Annual Report.* Vancouver, BC: The Fraser Institute.

Kreft, Steven F., and Russell S. Sobel. 2005. "Public Policy, Entrepreneurship, and Economic Freedom." *Cato Journal*, 25(3): 595–616.

Powell, Benjamin. 2003. "Economic Freedom and Growth: The Case of the Celtic Tiger." *Cato Journal*, 22(3): 431–48.

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Teaching the Ethical Foundations of Economics: Assessing a Curriculum for Middle and High School Students

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Abstract
This paper describes a pre- and post-test design, with control group, used to evaluate the educational effectiveness of Teaching the Ethical Foundations of Economics, a ten-lesson set of curricular materials published in 2007 by the National Council on Economic Education (NCEE). Using a sample of 875 students from diverse U.S. states, the report finds positive and statistically significant effects on a 25-question test of student learning about economics and ethics. It also finds generally positive results on an attitude survey about ethics given before and after exposure to Ethical Foundations. A regression analysis shows positive effects on student achievement related to the number of lessons taught and the students' educational aspirations.

JEL Codes: A11, A13, A21
Keywords: Economics education; Teaching of economics; Pedagogy

I. Introduction

Does ethics – the consideration of right and wrong – matter to the study of economics? The answer is "yes," according to the authors of *Teaching the Ethical Foundations of Economics*, a set of curricular materials published for middle and high school use by the National Council on Economic Education in 2007. Even if it matters, though, it may be difficult to get students to learn ethics. This paper uses a pre- and post-test design to evaluate the effectiveness of the

Ethical Foundations materials in changing students' levels of knowledge and attitudes on ethical issues in economics.

The materials confront students with important ethical issues in economics, including: the morality of markets, the moral limitations of markets, the sale of human organs, sweatshop labor, social responsibility, and justice. Their production was funded by a grant from the John Templeton Foundation to the NCEE, since renamed the Council for Economic Education (CEE).

There is significant debate among scholars and educators about the teaching of ethics in K-12 classrooms. Educators differ on techniques and responsibility for teaching character development or ethics to school-age children (Halverson, 2004). Nonetheless, nearly everyone agrees that teachers are in a key position to deliver this information directly to students (Halverson, 2004). Furthermore, research demonstrates that waiting for college is likely to be too late. A 2006 study by Barbara Ritter suggests that a person's understanding of ethics and character development have already been solidified by the time students enter college.

As many studies have demonstrated, the economic literacy of many American students is lacking. Addressing this problem is the primary mission of the CEE. Studies also confirm that high school students today are also lacking in their knowledge of ethics. One study suggested that the declining influence of families and churches in teaching ethical standards has had a negative impact (Vincent and Meche, 2001). More than 25% of the high school students that participated in this study could not accurately identify unethical behaviors and activities. Like many studies in the area of economic and financial education, Vincent and Meche did find that when students were exposed to ethics instruction their knowledge and understanding of such issues improved significantly. This suggests that a curriculum like *Teaching the Ethical Foundations of Economics*, if infused into economics and social studies courses, has the potential to have a positive effect on both economic and ethics education.

For all of the reasons above, this current study should be of importance to economic educators at both the college and pre college levels. If *Teaching the Ethical Foundations of Economics* can improve students' knowledge of economics or ethics or both, these materials will be of great value to teachers as they attempt to help their students learn these important subjects.

II. Method

This project evaluated student knowledge on ethics and economics before and after classroom use of the *Ethical Foundations* materials. This pre- and post-test design with an attitude survey employed a treatment group (those who used E*thical Foundations*) and a control group (other students who did not participate). The research method used in this project was similar to processes used in like assessment projects of economic education materials and whose results have been published in peer-reviewed economics journals (Niederjohn and Schug, 2008; Schug, Niederjohn, and Wood, 2006; Schug and Niederjohn, 2006). In total, 17 teachers from different schools were recruited for participation in this project.

Teachers were chosen to participate in the project via a random process. Initially, 390 teachers from across the country that had attended an NCEE-sponsored teacher workshop on the *Ethical Foundations* materials were invited to participate. From this group, 53 teachers volunteered to participate. Then, from this list of 53, a random number process was implemented to select 18 teachers for the project (one teacher dropped out midway through the project, leaving the final sample with 17 teachers). Each teacher received further training in the winter of 2008 in the use of the materials and a briefing on the test instruments and processes via email and phone conversations. They returned to their classrooms in the spring of 2008 and administered pre-tests and attitude surveys before teaching the materials. The participating teachers also completed and returned questionnaires about their background and their teaching of *Ethical Foundations*. Finally, after completing the lessons with their students, participating teachers mailed back the post-tests, attitude surveys, and related materials.

By the end of the assessment project, there were 875 complete and useable matched-tests received. The final sample included 789 students exposed to the *Ethical Foundations* materials and 86 students in control groups. Although the study did not measure the possible exposure of control group students to other materials on ethics and economics, the dearth of other such materials makes it unlikely. The publisher refers to the *Ethical Foundations* materials as a reintroduction after a long absence, "in the tradition of Adam Smith, who believed ethical considerations were central to life" (NCEE 2007, p.v).

The ethics knowledge test instrument – a mix of ethics and economics questions – was developed from assessment questions in the lessons, suggestions from the original curriculum authors' conference, and staff work at two centers for economic education. Examples of questions from the knowledge test included:

Which of the following is a normative economic statement (and not a positive economic statement)?
a. The rate of unemployment in the U.S. for 2006 was 4.2 percent."
b. More highly educated people tend to receive higher incomes than those with less education."
c. The tax laws should be reformed to make the wealthy pay a greater share."
d. "Higher fuel efficiency in cars reduces the amount of gasoline consumed."

Which of the following behaviors would not be rewarded by competitive markets?
a. providing quality at relatively low cost.
b. serving other people.
c. using force to achieve economic progress.
d. tolerating the values and opinions of customers.

Which of the following positions about the desirability of a legal market in kidneys would be consistent with outcome-based ethics?
a. Such a market would be morally objectionable because it would interfere with the development of sacrifice and virtue.
b. Such a market would be morally justified because it is consistent with the teachings of major world religions.
c. Such a market would be morally objectionable because it would erode people's sense of duty to others.
d. Such a market would be morally justified because more kidney transplants would occur.

A first draft instrument with 50 questions was developed and was used by a cooperating high school teacher as a class activity in the summer session of 2007. This class activity, in addition to formal reliability testing, helped identify suitable questions to drop in order to bring the final test to 25 questions. Minor improvements in wording were also made as a result of this pilot test process. Included at the end of the knowledge test was a set of four questions to gather information on grade level, gender, background in economics, and educational plans.

III. Test Results on Knowledge of Ethics and Economics

Table 1 shows the results of the 25-item test on knowledge of ethics and economics, including the results of statistical t-tests designed to show whether the change in knowledge went beyond what could be attributed to chance. For the overall test, students who were exposed to the *Ethical Foundations* curriculum saw a statistically significant increase in knowledge of ethics and economics. That is, their increase was beyond what could be attributed to chance. In contrast, the control group (as expected) showed no statistically significant increase in knowledge.

The 789 students who took the pre-test scored an average of 10.24 out of 25 questions correct, or approximately 41 percent. After exposure to the *Ethical Foundations* curriculum, the students scored an average of 11.68 out of 25 questions correct, or approximately 47 percent. This amounted to an improvement of just over six percentage points. As Table 1 indicates, a change in knowledge this large could be expected to occur by chance less than one ten-thousandth of the time. That is, the change was statistically significant with a p-value of 0.000. Standard deviations are included in parentheses in Table 1.

Table 1: Descriptive Statistics for Pre- and Post-Test

Group	**Mean Score Before *Ethical Foundations***	**Mean Score After *Ethical Foundations***	**Change in Predicted Direction?**	**t-statistic on Difference of Means**	**p-Value (2-Tailed Test)**
Control Group	10.38 (3.69) n=86	9.69 (4.27) n=86	Yes (no statistically significant improvement)	-1.75	p=0.084
Group that Used *Ethical Foundations*	10.24 (3.85) n=789	11.68 (4.52) n=789	Yes	9.820	p=0.000

Granted that the improvement in knowledge was statistically significant, was it also economically significant (McCloskey and Ziliak, 1996)? While a larger change in knowledge would have been more satisfying, the noted improvement came from teachers using only 4.8 lessons on average – and these from a lesson book that included simulations and activities but had no supporting computer games or audiovisual materials. Additional improvements could be expected from teaching a larger number of lessons, as noted below. And although each teacher must make a decision about the opportunity cost of instruction forgone when new ethical material is introduced, the emphasis of the new materials on critical thinking suggests that instructional gains may extend beyond economics proper to other subjects and skills.

IV. Attitude Survey Results

Table 2 shows the results of the ethics attitude surveys that students completed before and after their exposure to the *Ethical Foundations* curriculum. Statement responses were provided on a Likert scale with "1" representing "Strong Disagreement" and 5 representing "Strong Agreement." Three of the fifteen items on the attitude survey showed a statistically significant change after exposure to the *Ethical Foundations* materials.

- On the statement, "Competitive markets promote morally positive values," a statistically significant and positive change was found. That is, after exposure to the materials, students more strongly agreed with this statement.
- On the statement, "The best strategy for improving labor conditions in countries characterized by abusive workplaces (sweatshops) is to boycott products of sweatshops," a statistically significant and negative change was found. That is, after exposure to the materials, students more strongly disagreed with this statement.
- On the statement, "People should be allowed to buy and sell organs such as kidneys for transplantation," a statistically significant and positive change was found. That is, after exposure to the materials, students more strongly agreed with this statement.

Compared with changes in knowledge, the changes in attitudes are smaller statistically and less important to the stated goals of *Ethical Foundations*. The *Ethical Foundations* exercises are not intended to sway students but instead to "encourage people to exercise their moral imaginations and develop an analytical perspective" (NCEE, 2007, p.vii). Even so, the limited evidence of pro-market attitude change on three statements may well be evidence of greater critical thinking. It is easy for students to continue in a prevailing anti-market bias (Caplan, 2007) but they must "exercise their moral imaginations" even to understand the arguments for markets on controversial issues such as sweatshops.

V. Regression Results

In order to incorporate teacher performance and student characteristics into a comprehensive model of final (post-test) achievement in *Ethical Foundations*, a regression model was estimated. This model helps to control for the differences in time and effort the teachers put forth in teaching the lessons (For example, teachers were asked to teach as many lessons as possible; however, the maximum taught was eight whereas the minimum taught was four) as well as the student's differences in ability and background. The dependent variable of the equation was the post-test score. Explanatory variables were the pre-test score, number of economics courses students had taken (1=none at all; 4=complete course in economics), student grade level (1=9th or below; 4=12th), a measure of the student's educational plans (1=no education planned beyond high school; 5=complete college degree plus professional or graduate school), teacher-reported number of lessons taught from the curriculum, teacher-reported hours spent on *Ethical Foundations* per week, and student's gender. These results of this regression model are displayed in Table 3.

The results indicate positive and statistically significant effects for the number of lessons taught from the *Ethical Foundations* materials. Each additional lesson of instruction was associated with a gain of 0.773 correctly answered questions, holding other variables constant. There were also, as expected, statistically significant differentials for students with higher educational aspirations. Interestingly, students in higher grades did worse on the tests, holding other variables constant, perhaps suggesting this curriculum is most effective with

Table 2: Results of Testing of Attitude Survey Statements

Attitude Statement	Pre-test mean	Post-test mean	Statistically significant?

Table 2: Results of Testing of Attitude Survey Statements, cont.

	Attitude Statement	Pre-test mean	Post-test mean	Statistically significant?
1.	Scientific and economic research is unaffected by the researchers' moral values	2.68 (1.01)	2.59 (1.03)	No p=0.059
2.	People's perception of facts can be altered by what they are told before they go searching for facts	3.75 (1.07)	3.73 (0.96)	No p=0.633
3.	There is no difference between self-interest and greed.	2.17 (1.04)	2.10 (1.07)	No p=0.171
4.	If there is an unusually high demand for heating oil because of a cold winter, heating oil dealers are justified in raising prices.	3.08 (1.13)	3.07 (1.05)	No P=0.734
5.	Professionals such as doctors and attorneys are morally obligated to put the interests of those they serve ahead of their own interests in making money.	3.52 (1.14)	3.59 (1.07)	No p=0.147
6.	Competitive markets promote morally positive values.	2.79 (0.93)	3.02 (0.94)	Yes p<0.0001
7.	The profit motive generally leads to more, rather than less, racial discrimination.	2.88 (0.96)	2.86 (0.94)	No P=0.647
8.	A market economy is unjust in the way that it rewards people.	2.90 (0.88)	2.84 (0.91)	No p=0.148
9.	The best strategy for improving labor conditions in countries characterized by abusive workplaces (sweatshops) is to boycott products of sweatshops.	3.13 (1.15)	2.96 (1.13)	Yes p<0.0001
10.	People should be allowed to buy and sell organs such as kidneys for transplantation.	2.86 (1.18)	2.96 (1.13)	Yes p=0.041

11.	In a disaster at sea with insufficient life rafts to go around, I would favor giving the rafts to women and children first, rather than men.	3.48 (1.12)	3.42 (1.07)	No p=0.218
12.	Businesses can promote social responsibility better by concentrating on improving their products rather than by donating money to charity.	2.92 (0.97)	2.95 (0.92)	No p=0.612
13.	Businesses have responsibilities to society at large that go well beyond their responsibility to make profits for the owner.	3.29 (0.95)	3.30 (0.94)	No p=0.877
14.	The more people know about their own personal interests, the better equipped they are to say what is fair for society as a whole.	3.29 (1.27)	3.37 (1.19)	No p=0.195
15.	The disparities between the rich and the poor in the United States today are morally unacceptable.	3.15 (1.10)	3.16 (1.02)	No P=0.909

students in the earlier high school grades. The authors have no further explanation for this result, which differs from findings on other assessments of economic education curricular materials. There was no statistically significant gender difference or effect of students having taken more economics course work; however, all else constant, the females did significantly better on the assessment. The overall equation was statistically significant with a reasonable fit for a model of this type (adjusted $R^2 = .390$).

VI. Conclusion

This assessment suggests that Ethical Foundations is effective in promoting student learning about ethics and economics when it is used by trained teachers – the usual model of the National Council on Economic Education. A pre- and post-test design with a control group suggests that statistically significant learning took place among the 789 students who participated fully in this activity. Positive attitude change also appears to take place, although here the results are not as strong as are the results for change in knowledge. Equally importantly, a regression model indicates that, as expected, students learn more about these topics as they are exposed to more of its lessons.

Table 3: Regression Results with Dependent Variable = Post-Test Achievement

Explanatory variables	**Coefficients (standard errors in parentheses)**
Constant term	4.69***
	(1.18)
Economics Courses	0.019
	(0.317)
Grade level	-0.614***
	(0.123)
Educational plans	0.303*
	(0.155)
Lessons taught	0.773***
	(0.132)
Hours per week	0.064
	(0.048)
Male student	-1.13***
	(0.316)
*=$p<0.05$	F=44.56 (p=0.000)
**=$p<0.01$	R^2 = 0.389
***=$p<0.001$	Adjusted R^2 = 0.390
	n = 627

References

Caplan, Bryan. 2007. *The Myth of the Rational Voter: Why Democracies Choose Bad Policies*. Princeton: Princeton University Press.

Halverson, Susan. 2004. "Teaching Ethics: The Role of the Classroom Teacher." *Childhood Education*, 80: 157–58.

McCloskey, Deirdre N., and Stephen T. Ziliak. 1996. "The Standard Error of Regressions." *Journal of Economic Literature*, 34(1): 97–114

National Council on Economic Education (NCEE). 2007. *Teaching the Ethical Foundations of Economics*. New York: NCEE.

Niederjohn, M.S., and M.C. Schug. 2008. "Can Students Learn Economics in the Social Studies?" *Journal of Private Enterprise*, 23(2): 167–76.

Ritter, Barbara A. 2006. "Can Business Ethics be Trained? A Study of the Ethical Decision-Making Process in Business Students." *Journal of Business Ethics*, 68: 153–64.

Schug, M.C., M.S. Niederjohn, and W.C. Wood. 2006. "Your Credit Counts Challenge: A Model Program for Financial Education for Low and Moderate Income Adults." *Journal of Private Enterprise*, 21(2): 196–208.

Schug, M.C., and M.S. Niederjohn. 2006. An Evaluation of Learning, Earning and Investing: A Model Program for Financial Education. *Journal of Private Enterprise*, 22 (1): 196–208.

Vincent, Annette, and Melanie Meche. 2001. "Use of Ethical Dilemmas to Contribute to the Knowledge and Behavior of High School Students." *The High School Journal*, 84: 50–57.

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