



DEPARTMENT
OF ECONOMICS

The Context of Context: The Evolution of Hayek's Epistemic Turn in
Economics and Politics

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Paper No. 12-11

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Abstract: F.A. Hayek's contribution to economic science is broadly remembered as relating to the "Use of Knowledge in Society" but his contribution to economics of knowledge are often summarized differently. We emphasize the contextual nature of the knowledge Hayek says the market economy is able to elicit and utilizing in the process of coordinating economic activities. There is, however, a double meaning of context that we explore. Hayek developed his argument about the use of knowledge in the context of the socialist calculation debate, and the aspect of knowledge he came to focus on was the contextual nature of knowledge in human action in markets, politics, law, and society. This paper traces out the development of Hayek's focus on the epistemic foundations of the complex co-ordination in an advanced market economy and shows that his critique of classical and market socialism led to a refined, subtle approach to understanding spontaneous order. Furthermore, it is precisely Hayek's focus on the role of institutions in creating the conditions for the utilization and transference of knowledge through the price system that continues to shape the progressive research programs in economic science and public policy analysis that is his legacy.

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I Introduction

Possibly the most important contribution F.A. Hayek made to economics concerns his explanation of how the price mechanism captures the privately and dispersed knowledge in an economy and utilizes that knowledge in such a way that leads to an efficient allocation of resources in society. Hayek's work is among the most influential in the past century.¹ Myerson's (2007) discussion of the influences of his fellow Laureate Leo Hurwicz, for example, begins with the famous quote from "The Use of Knowledge in Society" (1945),

The economic problem of society is not merely a problem of how to allocate 'given' resources... It is rather a problem of how to secure the best use of resources known to any members of society, for ends whose relative importance only the individuals know... it is a problem of the utilization of knowledge not given to anyone in its totality. The character of the fundamental problem has, I am afraid, been rather obscured than illuminated by many of the recent refinements of economic theory, particularly by many of the uses made of mathematics (quoted in Myerson, 2007).

From the outset of the paper, Myerson (2007) suggests that the development of Hayek's ideas about the importance of local knowledge, while an outgrowth of the socialist calculation debates of the 1930s, led to the work on mechanism design.

Generally, mainstream economists cite F.A. Hayek's arguments concerning local knowledge and the mechanism of the price system as contributing to the development of "information economics". From Koopmans to Arrow, economists took up Hayek's theoretical

¹ A recent study by David Skarbek (2009) demonstrates that among the Nobel Prize winners, Hayek ranks second to Kenneth Arrow in citation count by other Nobel Prize winners.

challenge to market socialism.² The theory of mechanism design was one approach that explicitly tried to meet Hayek head on. Like Myerson's account, some seem to suggest that these contributions grew out of the context of a greater debate surrounding the limitations of socialism. Others like Samuelson (2009) seem to view Hayek's epistemic focus as a "new element" in the debate.³

While Hayek's focus on the price system as a mechanism for utilizing and communicating knowledge was an important contribution to economics, it was an idea that grew from the context in which Hayek was writing and developing his arguments: a context sharpened by the challenge put to traditional economics by market socialists. Hayek's focus on the epistemic properties of the market process led him to recognize the role of the division of knowledge in promoting social order just as Smith (1776) emphasized the division of labor to promote economic prosperity. Adam Smith taught us that the great increase in the productive capacity of a people resulted from expansions in the division of labor. Hayek, similarly, taught us that a division of labor also entailed a division of knowledge in society. Both emphasized the complexity that the division of labor and division of knowledge implied and the enormity of the coordinative task that must be accomplished by the market system to realize the great benefits of specialization and trade.

Economic coordination requires the dovetailing of the diverse plans of individuals dispersed throughout the economic system. The production plans of some, must mesh with consumption demands of others, and do so in a manner that tends to exploit the gains from trade,

² Mirowski 2002, 232-308.

³ See Paul A. Samuelson (2009; 2) "In the 1940s Friedrich Hayek in an invited Harvard lecture introduced a new dynamic element into the debate. Call it "information economics." The broad competitive markets, Hayek proclaimed, were the recipients of heterogeneous idiosyncratic bits of individuals' information."

and realize technological efficiency. Minds must meet and this is accomplished through the market process of relative price adjustments and profit and loss accounting. *Ex ante* expectations guide the decisions of individuals and are informed by the existing array of prices that decision-makers confront. *Ex post* improvements of plans are communicated via profit and loss, and serve to indicate the appropriateness of those plans in terms of the competing demands for the resources and the concurrent plans of everyone else in the economy.

Learning occurs when discrepancies between *ex ante* expectations and *ex post* realizations are discovered. Individuals find better ways to accomplish their plans. The broader social order enjoys a form of learning process as good plans displace bad plans. Successful social co-ordination requires that the incentives individuals face in making choices align so that each has the ability to learn what opportunities exist for mutually beneficial exchange, and cost saving methods of production. As this process unfolds over time, the conditions must also be such as to allow for new discoveries of previously unthinkable possibilities for gains from exchange and innovation.

For Hayek, the utilization of an individual's dispersed and incomplete knowledge was the central property of the complex social order within the system of exchange. To Hayek, the extent to which the dispersed knowledge is mobilized and transmitted among distant and diverse individuals determines the extent to which individual actions dovetail and social prosperity occurs. Thus the market is not only a system which aligns the incentives of producers and consumers to achieve an efficient allocation of scarce resources, but also acts as a learning device that provides individuals with feedback for the relative efficiency of their plans. As mistakes are made, so are corrections, and frequently individuals discover previously unexploited opportunities for mutually beneficial exchange. Individuals are also inclined to discover

previously unrecognized opportunities for innovation. Overtime, general welfare in society increases.

Thus for Hayek, institutions that uphold private property rights and provide a stable legal framework of general laws of contract are an essential condition for the exchange and transmission of knowledge. Recognizing the role institutions played in creating the context for this process, Hayek later went on to focus on analyzing legal, political, and social theory in an effort to explicate the framework for how various institutions wrestle with the problems of local knowledge aggregation and transmission.

We explore how Hayek came to focus on the market as an information transmission device, bringing knowledge constraints and learning to the forefront of economic and social analysis. Our argument is that Hayek's epistemic turn occurs through his studies within the context of the socialist calculation debate. Prior to the debate, Hayek's work in technical economics focused on capital theory and the questions surrounding the imputation of value. All of this occurring within a broader study of monetary theory and the trade cycle. When Hayek arrived at the London School of Economics, he viewed himself as working within the established marginalist tradition of Carl Menger and Friedrich Wieser, and the monetary tradition of Ludwig von Mises and Knut Wicksell. In the 1930s and 1940s, the debates concerning market socialism took place against the backdrop of the shifting philosophical program in economics science. Formalism and positivism both gripped the imagination of economists. The combination of formalistic and positivistic philosophical justification is what Hayek termed "scientism" in his resistance to this intellectual trend. In 1920, Ludwig von Mises published his critique concerning the impossibility of economic calculation under socialism. At the time Mises wrote,

the main proponents of socialism were Marxists, and other social democratic reformers of a historicist or institutionalist perspective. Mises's article set off a German Language debate, which had little immediate effect on the English language scientific community of economists, though Taylor (1929) and Knight (1936) did take Mises challenge. When, however, Hayek published *Collectivist Economic Planning* in 1935, which included the first English translation of Mises' article, the English language debate over the feasibility of socialism captured the imagination of new generations of economists. Rather than the Marxists, historicists, and institutionalists, it was neoclassical economists who argued for market socialism and government intervention to correct market failures of monopoly, spillovers, instability, and inequality. Where as prior to the 1930s, marginalist economics entailed a presumption in favor of market forces over activist government, by the mid 1930s that consensus was gone.

During this period, the English-language debate coagulated primarily around economists at the London School of Economics. It was at the LSE where Hayek's student Abba Lerner developed his ideas of efficient socialist economic planning using the tools of neoclassical price theory, and where as student editor of *Review of Economic Studies* he published Oskar Lange's neoclassical model of market socialism. In just a few years, neoclassical economists moved from dispelling the utopian prognostications of the historicists and institutionalists to propagating arguments for neoclassical market socialism in the vein of Lange (1936-37a; 1936-37b; and 1936-37c) and Lerner (1934-35a; 1934-35b; 1936-37; 1937; and 1938), explaining how markets were prone to failure, and calling for Keynesian style management of consumer demand.

The experiences and writings within this period set Hayek on the path of refining Mises's argument about the impossibility of economic calculation under socialism and developing his ideas concerning the importance of the contextual environment within which individuals pursue

their plans. The growing focus that Hayek placed on the institutional prerequisites for learning stem from the various attempts to answer the neoclassical arguments put forth by economist in favor of market socialism. Hayek learned in the process of debate that responding to the market socialist arguments by reiterating the traditional economic arguments against socialism (incentives, role of prices, economic calculation, etc.) was not enough, and instead he had to delve deeper into the institutional context of the market process. This meant broadening the field of political economy and the methodology of the discipline of economics.

II Hayek, Economics and Public Policy

In 1933 Hayek delivered his inaugural lecture at the London School of Economics (LSE), “The Trend of Economic Thinking”; beginning with a seemingly paradoxical observation regarding the economist and public policy. Of all the practicing scientists, Hayek observes, the economist is asked more often to give advice on questions of public policy and yet his advice is usually ignored almost from the moment it is uttered. The reason Hayek (1933, 121-122) puts forth is that the ideas of the economist are powerful, albeit, take a long time to become absorbed into public life.

The concept that ideas influence public policy is a powerful one, and significant because Hayek is writing during the period immediately preceding the “Keynesian Revolution”. The process by which the Keynesian influence came to spread was not one that occurred overnight. It proceeded as Hayek had suggested, from the ideas of the leading economists, down toward policy analysts, journalists and politicians.

According to Hayek (1933), progress in economic science, on the other hand, is advancement in understanding the interdependence of economic phenomena. A deeper

understanding of the complex division of labor that must be coordinated to produce even the simplest products we enjoy as Adam Smith ([1776] 1976) demonstrated with his example of the common woolen coat in the opening chapters of the *Wealth of Nations*. The procurement of these products, Smith explained, is so much more “miraculous” by the fact that they result from a process that relies on the cooperation of a multitude of anonymous actors. For scarce is the time in our lives to make a few good friends, but we depend on the activity of hundreds, perhaps thousands for our daily survival. In understanding the composition of systematic forces, which lead to the emergence of spontaneous orders, we observe in the world. Hayek’s ideas were in sharp contrast to the Keynesian paradigm that would follow in the next few years. Keynes’ suggests not only that economics is the study of the relationship between aggregate economic variables, but that the coordinating properties of the market generally fail to allocate goods properly.

At the time, Hayek had one foot in two worlds. He viewed economics as a science capable of constraining utopian ideals. Hayek viewed our ability to engage in economic debates as turning on a general agreement of ends and the application of theory to illuminate the best means to achieve those ends. In other words, the ends of the liberal economist and the socialist revolutionary were in theory quite similar – advanced material prosperity and social harmony. Through the application of the laws of economics the power of the market propels economic growth, raising living standards, and exposing the harmful effects of interventionism and planning.

As Hayek’s technical work in economics evolved, he became increasingly aware of both the power of, and the limitations of equilibrium theorizing. At first it was the absence of time within the equilibrium construct that caused problems for Hayek’s theorizing on intertemporal

co-ordination of plans within a capital structure.⁴ In studying the derivation in value of the various inputs with relation to the value of the output produced, Hayek became aware of the dangers equilibrium theorizing poses by distorting the essential economic problem that the equilibrium propositions were supposed to enlighten. Hayek was acutely aware, on the other hand, of how the heterodox traditions, of the German historical school and the American institutional school, led to an atheoretical orientation of fact collection. Somewhere between arid formalism and descriptive fact collection was the appropriate domain of theoretical social science. Hayek's ideas posed challenges to economics, and more generally challenges to the accepted methodological techniques of the social sciences. Thus Hayek's insights came to hold profound implications for philosophy, public policy, and history.

Hayek (1933, 18) thought "it is not a change in ideals nor a change in reasoning, but a change of view with regard to the applicability of such reasoning" that causes an economist to change his view toward questions of economic policy. In effect, Hayek's arrival at the LSE, and his views expressed in "The Trend of Economic Thinking," mark the beginning of Hayek's shift towards an epistemic focus on social coordination and the market process. As he notes (1933, 132),

The recognition of the existence of this organism [Society] is the recognition that there is a subject-matter for economics. It is one of the causes of the unique position of economics that the existence of a definite object of its investigation can be realized only after a prolonged study, and it is, therefore, not surprising that people who have never really studied economic theory will be doubtful of the legitimacy of its

⁴ "Since equilibrium is a relationship between actions, and since the actions of one person must necessarily take place successively in time, it is obvious that the passage of time is essential to give the concept of equilibrium any meaning. This deserves mention, since many economists appear to have been unable to find a place for time in equilibrium analysis and consequently have suggested that equilibrium must be conceived as timeless" (Hayek 1937).

existence, as well as the appropriateness of its method. A real proof for all I have said and for all the economist contends can, therefore, be given only by means of a complete exposition of his science.”

III Hayek’s Students and the Transformation of Economics

Hayek’s critique of socialism began by following Ludwig von Mises’s (1920) argument that private property is a necessary precondition for efficient coordination of economic activity. Property rights provide incentives for individuals to internalize the costs of their actions and to economize in ways they otherwise would not. Mises (1920) directed his argument at the common premise held by various socialists - the elimination of private property rights could maintain an advanced system of exchange production. Without property rights in the means of production, monetary prices in these factors of production cannot emerge (Mises 1920). Monetary prices indicate the relative scarcities of the factors of production, without which there are no other means for determining the relative abundance or scarcity of capital resources. If monetary prices do not reflect these underlying relative scarcities, then individuals have no way of engaging in rational economic calculation. Economic calculation, which drives the efficient allocation of goods and services in a market economy, is impossible without private property in the means of production.

Mises (1920) provided the strongest argument against the early socialists - who argued that with the abolition of private property, there would no longer be a need for any economic analysis. Economic analysis, they asserted, is only relevant to the study of capitalist societies and would be no use under socialism. Neoclassical economists such as Pareto and Wieser had established that there was a formal similarity in the economic problem that society faced whether the system was organized as capitalistic or socialistic. Scarce resources needed to be allocated in

an efficient manner and waste was to be avoided in order to realize the goals of social harmony and material abundance. Mises's challenge to socialism was his demonstration that socialist means were incoherent with respect to socialist ends.

In his treatment of these issues, Hayek (1935a) shows the problem which markets solve involve both technical efficiency and economic efficiency. The advocates of central planning who denied the application of economic analysis to socialism failed to see the problem of resource allocation was *an economic problem*. Instead, central control of production was viewed only as a problem of technological efficiency. Hayek argues the true problem was one of economic efficiency (allocating resources that have competing uses). His arguments stress the complexity of knowing the value scales for each individual within the economy. "The problem which the director of all economic activities of a community would have to face would be similar to those solved by an engineer only if the order of importance of the different needs of the community were fixed in such a definite and absolute way that provision of one could always be made irrespective of cost" (Hayek [1935a] 1980, 122). Characterizing rational central planning, however, as a technological efficiency problem only solves one part of the more complicated economic problem.

Decisions made on the basis of given prices still have to adjust to all other prices in the market in order to approximate efficiency. Solving the problem of economic production confronts the challenges imposed by complexity. This leads Hayek to argue: "the fact that one central authority has to solve the economic problem of distributing a limited amount of resources between *a practically infinite number of competing purposes*, that constitutes the problem of socialism as a method" (Hayek [1935a] 1980, 131, italics added).

Mises' (1920) contribution established the foundation on which Hayek places these arguments, of technical and economic efficiency, by arguing that if a socialist system were to succeed, it would need to accomplish what capitalism achieves. It must allocate goods and services efficiently. Neoclassical economists of all types (Schumpeter, Walras, Pareto, Barone, Wieser, and Knight) criticized the socialists' theory during this period for not grasping the basic point concerning optimality and efficiency. If centralization of production were to achieve the most efficient use of resources, then socialist production would need to satisfy the optimality conditions described by marginalist principles. The economic arguments against the socialist ideas in the first two decades of the twentieth century established the properties of an equilibrium system as the standard by which centralized production must meet if it were to claim superiority over the capitalist system.⁵

Mises's (1920) calculation critique of socialism is the starting point of Hayek's critique. In addition to Mises's insights on calculation, Hayek emphasized the incentive problems of socialism caused by the absence of private property. Additionally, Hayek's (1935a; 1935b; and 1940) language points to the insight about the market as a mechanism for gathering and transmitting knowledge through the emphasis on the complexity of economic coordination of infinite competing orderings of ends. The knowledge inputs to economic calculation are absent when market exchange based on private property is suspended by assumption. Hayek made note that socialists of the day did not typically address the more "practical problems" rational

⁵ As Hayek states it: "The fundamental question is whether it is possible under the complex conditions of a large modern society for such a central authority to carry out the implications of any such scale of values with a reasonable degree of accuracy, with a degree of success equaling or approaching the results of competitive capitalism, not whether any particular set of values of this sort is in any way superior to another" (Hayek [1935a] 1980, 131). See Boettke, ed. (2000) for a detailed collection of the arguments.

calculation under common ownership entails because of the arbitrary grounds on which choices must be made in the absence of free pricing.⁶

But the context of the times must not be forgotten. The Great Depression resulted in wide-spread anti-market rhetoric and a demand among policy makers and intellectuals for government intervention in the unhampered market. The market economy was no longer seen as a source of wealth creation for all, and a system of self-correction, but a system of failure where the weak are exploited by the privileged and powerful few.

Academic developments in American and British universities began emphasizing market failure by introducing micro level theories of market structure imperfections. Robinson (1933) and Chamberlin ([1933] 1962) were pioneers in this area, establishing neoclassical approaches to imperfect markets. Casual empiricism, or what Hayek viewed as a new historicism, was coming back into the fold (see Berle and Means 1932). Both theory and empirics were undermining the efficiency properties of unregulated markets. For politicians and academics alike, by the mid-1930s socialism seemed possible, and even desirable, to correct the presumably chaotic market.

In their attempt to meet the challenge put forth by Mises and Hayek, market socialists changed the fundamental assumption of the human motivation: postulating that self-interest would no longer guide the actions of men under socialism. The good of society would motivate individuals to deny their own self-interests, and economize the use of resources. This is what led Mises to emphasize the calculation argument over the classical incentive argument in his critique

⁶ Hayek reports, those who did venture to detail what economic organization would resemble such as Kautsky and Neurath demonstrated a general lack of understanding or awareness of the problem that economists had seen. Namely, that “the task that socialists had to solve was to show how in the absence of a pricing system the value of different goods was to be determined” (Hayek [1935a] 1980, 139)

of socialism. To Lange (1936), withal, questions of human motivation were not economic questions but psychological. In response, Hayek had essentially two choices. The first entailed a denial of the transformation of human proclivities under collective ownership arrangements. The second being the accepting of their assumption and demonstrating that even when men are angels and sought advanced material wealth under collectivism – they would fail. Hayek ([1937] 1980; 1940; and 1945) developed his arguments using the latter set of assumptions, accepting a high argumentative burden in the hopes that if he succeeded in proving the impossibility of socialism in this manner, his views would have the best chance of cascading through intellectual and political arenas.

When the incentive argument against socialism are de-emphasized, the question becomes one of informational requirements for economic coordination.⁷ Assuming individuals want to make prudent decisions even in economic environments without private property rights, the question turns to how will the actors know what actions are in fact the correct pursuits to generate economic optimality.

Hayek's (1935b) article begins to develop the importance of local knowledge by pointing out "...what is practically relevant here is...the nature and amount of *concrete information* required if a numerical solution is to be attempted" (Hayek [1935b] 1980, 153). Hayek argued that central planners would have to account for the usefulness of "every machine, tool, or building... determined by its particular state of wear and tear, its location, etc" (Hayek [1935b] 1980, 154). Moreover, "two technically similar goods in different places or in different packings

⁷ "...although this only means that the authorities only admit the obvious difficulty of making people follow out the plan loyally, there can be no doubt that the more serious disappointments are really due to the inherent difficulties of any central planning" (Hayek [1935b] 1980, 152).

or of a different age cannot possibly be treated as equal in usefulness for most purposes if even a minimum of efficient use is to be secured” Hayek [1935b] 1980, 154). Prices communicate the condensed knowledge of decisions in time and place allowing individuals to economize on the amount of information relevant to the choices they make. Monetary prices that emerge from the exchange of private property are relative prices that economize on information and facilitate individually prudent decision-making. Soon the Mises-Hayek Line of argument attracted a different method of central planning that attempted to incorporate rational economic calculation.⁸ Lerner, one of Hayek's students at LSE, led the way.

Lerner was an admirer of the market system as an allocation mechanism and opposed direct government control over individuals' lives. Lerner, moreover, was a neoclassical economist trained in the modern tradition of marginal analysis. The LSE was a bastion of Fabian socialism since its founding, but Lerner brought the modern model of market socialism and the arguments of Oskar Lange (1936-37a; 1936-37b; and 1936-37c) to the LSE, stimulating debates and pressing Hayek to articulate his objections. To Lerner (1934-35a; 1934-35b; 1936-37; 1937; and 1938), while Marxist theory may have provided the foundation for the analysis of capitalism, it was neoclassical economics that provided the blueprint for a working model of socialism.⁹ Hayek must have felt deep frustration by his student's use of neoclassical economics to advocate central direction of resource allocation.

⁸ “Since the clear and distinct formulation of a problem is certainly a major contribution to science, the economist will have to join the socialists in their recognition of Professor Mises' work on economic calculation in a socialist economy” (Lange, 1936, 53).

⁹ Coase (1993, 39) reports that Lerner actually visited Trotsky in Mexico to tell him not to despair the revolution was still possible due to the development of marginal analysis.

Hayek emphasized the extent the market makes use of time and place specific knowledge by communicating it to individuals through prices even under local conditions that are constantly changing. Where Lerner and Lange assume “given” information, Hayek begins to challenge these ideas.

“In a centrally planned society the selection of the most appropriate among the known technical methods will be possible only if all that knowledge can be used in the calculations of the central authority. This means in practice that this knowledge will have to be concentrated in the heads of one or at best a very few people who actually formulate the equations to be worked out. It is hardly necessary to emphasize that this is an absurd idea even in so far as that knowledge is concerned which can properly be said to “exist” at any moment of time. But much of the knowledge that is actually utilized is by no means “in existence” in this ready-made form” (Hayek [1935b] 1980, 155).”

The sharp clarity of the debate came with Lange’s (1936-37a) first part of his theory of socialism in response to Mises and Hayek. Lange challenged the impossibility of economic calculation under socialism by disputing the meaning of prices. Monetary prices, Lange asserts, are a subset of all prices; more generally prices reflect the relevant alternatives available. Thus, Lange states that to solve the problem of choice among alternatives, three things are needed; (1) the preference scale which guides choice, (2) knowledge of the terms offered for alternatives, and (3) knowledge of the amount of resources available. Lange’s second reply (1936-37b) advocated market socialism by trial-and-error procedures refine and solve the simultaneous equations necessary for optimal resource allocation.

The Lange–Lerner argument was that rational economic planning could implement a market socialist system. This system could eliminate abuses of monopoly power and irrational production of a capitalist system. In their theory, individual freedom existed by allowing for a

free market in consumer goods; which also, according to Lange, aided the planners during the trial-and-error process. The free market in consumer goods, they argued, could coordinate production because if the prices of consumer goods were provided, then in equilibrium the price of the producer goods employed could be determined through the process of imputation.

To Hayek this direction in economic reasoning must have been puzzling, and led him to consider two possible explanations for why his arguments failed to convince even his own students. The first reason is a methodological trend involving the rise of positivism in economics. In short, the trend in economics towards a “blind application” of the methods of the natural sciences to problems of the social sciences was greatly distorting the basic economic phenomena under study. This line of Hayek's intellectual inquiry led him toward his “Abuse of Reason” project – a thorough critique of formalism and “scientism” in the discipline of economics (Caldwell, 2004).

Secondly, Hayek began to delve further into the shortcoming of the equilibrium theorizing about the market process. Laying out the argument in a fundamentally different fashion, Hayek emphasized the aspects of spontaneous order masked by traditional equilibrium theorizing and attempted to address the confusions he saw in the arguments of his opponents.

In *Economics and Knowledge* (1937) and then again in the reply to Lange and Lerner (1940), Hayek pushes for the return of contextual analysis. By reiterating the difference between the meaning of equilibrium in the sense of individual action and in the sphere of an entire economy, Hayek returns to the argument only partially developed in “The State of the Debate”, that “one person's actions are the other person's data” (Hayek [1937] 1980, 38). By directly addressing the apparent disjoint between the scientific language of mathematical modeling and

the realities of the central argument, Hayek clarifies his meaning. In the Pure Logic of Choice, "...“data” meant those facts, and only those facts, which were present in the mind of the action person, and only those subjective interpretations of the term “datum” made those propositions necessary truths” (Hayek [1937] 1980, 39).

The arguments in the socialist calculation debate served Hayek in refining his arguments concerning the function and role of the market price system, and it is consequently following these papers that Hayek solidifies his epistemic turn in “The Use of Knowledge in Society” (1945). Hayek restates the fundamental problem as one concerning mobilization of dispersed and incomplete knowledge held by individuals throughout the economy to those who require that information in order to plan accurately to bring about a state of greater co-ordination.

Hayek’s turn to what others’ would call a “more philosophical approach” to the study of the market comes by re-explaining himself in light of the socialist arguments made with the use of a neoclassical general equilibrium framework. The epistemic focus was an *economic efficiency* problem and not just a technical efficiency problem (1935a). By 1945, Hayek returns to this concept in the first sentence of the article by asking “What is the problem we wish to solve when we try to construct a rational economic order?”¹⁰

¹⁰ Even upon reflection years later, Hayek would come to mark this as the beginning of new line of inquiry into the nature of spontaneous order . “Though at one time a very pure and narrow economic theorist, I was led from technical economics into all kinds of questions usually regarded at philosophical. When I look back, it seems to have all begun, nearly thirty years ago, with an essay on “Economics and Knowledge” in which I examined what seemed to me some of the central difficulties of pure economic theory. Its main conclusion was that the task of economic theory was to explain how an overall order of economic activity was achieved which utilized a large amount of knowledge which was not concentrated in any one mind but existed only as separate knowledge of thousands or millions of different individuals” (Hayek, 1964, 91-92).

IV Hayek's Search for a Solution Involving Searchers¹¹

The economics profession had gone from a neoclassical framework that presumed the market was the primary means for the efficient allocation of resources, to accepting the idea that socialism was possible. The arguments of Lange and others for market socialism, was one Hayek would devote the rest of his career to answering. Hayek cultivated his responses over time, beginning with his response to Lange.

Hayek's (1940) response to Lange echoed the concerns he raised in his 1937 article concerning the discipline's preoccupation with equilibrium theorizing. The equilibrium approach often assumed what in fact had to be proven. The modeling techniques of modern economics had gone wrong; the tools did nothing to discuss how a system of acting agents adapts to changing circumstances. The issue of coordination and economic production among individuals was replaced with a simultaneous equation model. Consider the questions of imputation Lange (1936-37a, 1936-37b) raised. He argued if there were a market for consumer goods, by equilibrium construction there would be no need for a market in producer goods. The imputation the values of the higher order would already be determined by the consumer good prices. A market in capital goods, for Lange, would be redundant at best. Lange's approach is just one example (Schumpeter made similar arguments) of what Hayek (1945, 530) saw as a more general problem.

The problem existed because Lange's response was consistent given the equilibrium models. General equilibrium is a model wherein all plans are pre-reconciled. The Walrasian

¹¹ The language is a play on William Easterly's recent contrast between planners and searchers in the context of development. See Easterly (2006).

auction does not allow for error; no false trading is permitted. Hayek viewed the general equilibrium framework as completely sidestepping the problem of how imputation actually takes place within an economy of constant flux. How are individuals able to act where the plans of producers are coordinated with the demands of consumers at any point in time? How does the market process – the procedure leading up to equilibrium – occur?

Decision makers use prices as signals to determine the relative scarcities of various factors of production, and thus the relative profitability of various combinations of goods to produce output. How does knowledge come to exist and how do individuals come to know how to act on such knowledge to bring about a state of affairs? Such a question is not addressed by assuming that knowledge is already fully possessed by everyone in the economy. The competitive general equilibrium framework employed by Lange and others, assumed away the problem Mises identified in 1920.

The problem with competitive general equilibrium was essentially epistemic. If our tools only allow us to see a world where plans immediately dovetail, then the process that brings about that coordination of plans will remain hidden. More importantly, the conditions that facilitate the process of economic coordination are absent in the general equilibrium model. Individuals' abilities to identify relevant data, to act on that knowledge, and to convey that knowledge to others are contingent on the context of their action.

Hayek's central point was that there are particular institutions necessary to bring about the emergence of prices to indicate relative scarcity and generate economic efficiency. If the institution of private property is not present, the market process will not occur. The context of exchange is crucial. If the socialists abolished private property, then some other means of

allocating goods and services would have to replace the market process. The socialist alternative would not have the benefit of monetary prices to indicate scarcities, and would not be able to count on individuals to calculate profitable opportunities. What then would characterize the production and distribution processes in a socialist economy?

Even brilliant economists such as Knight and Schumpeter dramatically misunderstood the fundamentals of market process because of the assumptions and tools of their analysis; Hayek sought to strike the root. Hayek (1937) set out to examine the role of the knowledge assumptions in traditional equilibrium analysis. The general idea developed concerns how an overall order of economic activity comes about as the result of utilizing a large amount of knowledge never given to one individual in total.

In addressing the concerns of the general equilibrium model, Hayek develops three points. First, in equilibrium everyone must have correct foresight of the actions of all other agents within the system. Expectations, in equilibrium, must already account for the actions of all other economic actors.¹² Individuals' expectations concerning future conditions are subjectively formed, and thus the "data" are not objective phenomena. The implication is that subjectivity introduces the possibility for error.

Second, Hayek (1937) distinguishes the differences between individual equilibrium and social equilibrium. The emphasis moves from the role of time in individual situations to subjectivity and dispersed nature of knowledge. The fact that knowledge is dispersed (as opposed to given to all) leads to the third point – different people have access to different "data"

¹² Caldwell (2002) connects Hayek's developments of this particular line of reasoning on expectations to the idea developed by Oskar Morgenstern that perfect foresight and movement toward equilibrium were logically incompatible.

or knowledge. If knowledge were simply subjective, then the neoclassical tools that deal with marginalist concepts already account for subjective perceptions. It is, however, because no one person possesses the relevant data and each individual accesses knowledge only in a local (in some cases, tacit) context that the “knowledge problem” remains even in the equilibrium construct. The epistemological problem is a permanent problem.

By 1945, Hayek clarified the idea that a crucial disjunction existed between the knowledge assumed to the planner by the economist, and the nature of knowledge that is possessed by the agents within the economy. The assumptions of equilibrium theorizing had come to obscure the very problem of rational economic organization both substantively and methodologically. The “data” underlying the simultaneous equations can never be “given” to a single mind, but rather the knowledge of the particular circumstances which individuals must take account of in their actions and plans is incomplete and contextual.

Reducing the fundamental problem of economics by assuming condensed and given knowledge on the part of central planners, sparked Hayek’s search for a rich understanding of spontaneous orders emerging from the interaction of individuals with fractal and dispersed knowledge.

V Conclusion

Within the context of the socialist calculation debate Hayek developed what is arguably his most important contribution to economics, namely, the role the price mechanism plays in capturing fractured and dispersed knowledge to efficiently allocate resources. The context of the debate shaped Hayek’s arguments against the collective ownership of the means of production in a different light than previously argued. Rather than contending with Marxists, historicists, and

institutionalists market advocates had to deal with arguments rooted in a neoclassical framework. This resulted in an epistemic turn towards Hayek placing a broader importance on the role of institutions. Just as Smith ([1776] 1976) noticed the importance of the division of labor, Hayek realized the crucial role played by the division of knowledge. The market economy contained the proper institutions that coordinated information where individuals could efficiently allocate scarce resources. Hayek was able to show market socialists that in their attempts to answer Mises, they provided no answer at all. They merely assumed what they needed to prove by treating the relevant knowledge of the market as “given.” Instead, Hayek’s work from the mid-1930s on emphasized that relevant economic knowledge is never “given.” The knowledge of the market is knowledge of time and place, not abstract. It must be discovered and utilized within specific economic contexts outside that context, the knowledge isn’t costly to obtain it literally does not exist.

What we have sought to provide in this paper is the context within which Hayek came to emphasize the contextual nature of the knowledge utilized in the market. It is this contextual knowledge that makes possible the intricate meshing of plans within a modern economy, and in turn, grants social cooperation under the division of labor that wealth and prosperity depend.

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