

Information or Knowledge About Preferences?: A Note on Dapprich and Cockshott

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In response to Lange's (1936; 1937) claim that he had effectively refuted Mises, Hayek summarized why Lange's "two pages of fiction" (Hayek 1982) failed to address Mises's claim that rational economic calculation under socialism was impossible (Mises 1920). The "endless repetition of this claim" (Hayek 1982, p. 135), namely that Lange had successfully responded to Mises, could be understood as failure to have engaged in an *immanent critique* of Mises (and later Hayek and Robbins). By translating Mises and Hayek's argument about the nature of economic calculation into a problem of aggregating economic information under static conditions, Lange failed to respond to Mises and Hayek on their own terms: namely, to address the problem of discovering economic knowledge under dynamic conditions, and the utilization of that knowledge in the context of the competitive entrepreneurial market process.

Ironically, Lange's (1967) claim that advances in computational technology could resolve the "impracticability" of aggregating the information necessary to engage in socialist calculation did not actually address the issue either. He continued to confuse the argument of Mises, Hayek and Robbins with a computational complexity argument, and as a result the two sides to the debate continued to talk past each other as Don Lavoie argued in *Rivalry and Central Planning* (1985a). As such the "knowledge problem" as developed by Mises and Hayek was never adequately addressed by the market socialists of the 1930s or since. Stating, as Lange did in his original rebuttal, that to "solve" the problem one must simply have the data of (1) preferences, (2) terms on which alternatives are offered, and (3) resource availability, and that the socialist planner can regard the data of (1) and (3) as *given* is simply solving the problem by hypothesis. It may, as Hayek (1982) put it, be comforting for the theorist to assume they know what they in fact do not know for mathematical tractability reasons, but it does not solve the knowledge problem that socialist planners would face in the real world. The same remains true for efforts to address the issue raised

if they treat as one of computational complexity and aggregating of economic information under static conditions.

Dapprich and Cockshott (2022) take up the issue of socialist planning by engaging Hayek's argument once more, specifically by demonstrating how available data can be used to plan production according to consumer preferences, utilizing input-output tables. Indeed, the input-output planning proposed by Dapprich and Cockshott is not only elegant in its simplicity, but also carefully explicated. Our purpose in our reply is therefore not to address the internal validity of Dapprich and Cockshott's planning model. In this respect, we agree, following *both* Mises and Hayek that under the conditions specified by Dapprich and Cockshott, there is no problem of economic calculation. Rather, our point here will be to address the soundness of the argument put forth by Dapprich and Cockshott. Like Lange before them, Dapprich and Cockshott have reiterated what Mises and Hayek had already admitted was *not* the problem of economic calculation, namely the aggregation of information about consumer preferences under static conditions. However, what remains unresolved in Dapprich and Cockshott's model is the question of how consumer preferences become discovered under dynamic conditions.

The internal validity of input-output planning model proposed by Dapprich and Cockshott rests on the fact that their model depends on a correct understanding of the imputation problem in economic calculation, namely that capital goods and other factors of production are derived from valuation in final consumer goods. As they state, "when compared to the traditional Soviet technique of material balances used in the year plans is that it allows you to work backwards from final consumption to the structure of industry that is needed to support that consumption. The old Soviet method worked the other way – targets were set in terms of gross output with final consumption by the population, or net output, being a derived residual." In this respect, Dapprich

and Cockshott seem to take their inspiration from the Lange-Lerner model of market socialism, since Dapprich and Cockshott (like Lange and Lerner) base their model on the use of equilibrium prices, as elaborated in Section 3.2 of the paper.

The crux of Dapprich and Cockshott's resolution of the knowledge problem raised by Hayek (1945) is based "on two distinct matters" that "must be available. First, we need information on the conditions of production. What production technologies (described by their inputs and outputs) are available? What resources can be used? Secondly, we need information on what products are needed, i.e. on consumer demand." One way to restate this point is to reframe this in terms of two sets of variables that undergird the process of economic calculation. One group of variables are characterized as exogenous (or underlying) variables, which include consumer preferences, population, resource availabilities, and technical possibilities. Another group of endogenous variables (or induced) variables consist of the prices, methods of production, and quantities and qualities of outputs, which the market at any given time generates, given the underlying variables. Under conditions of equilibrium, the values of these exogenous variables predetermine the values of endogenous variables, in which the price of inputs and the methods of production reflect not only the full cost of production, but also reflect that the least-cost technological possibility has been exploited, given the preferences of consumer (Kirzner 1992, 38-43). This is consistent with Dapprich and Cockshott's claim that "equilibrium prices of products are compared to labour values, which can be derived from disaggregated I/O tables."

This theoretical framework, however internally valid it may be to resolving the problem of economic calculation under socialism under static conditions, does not address the problem raised by Mises and Hayek, which as we have made clear in our paper (Boettke and Candela 2022) was not a problem of a static nature. "The static state," according to Mises, "can dispense with

economic calculation. For here the same events in economic life are ever recurring; and if we assume that the first disposition of the static socialist economy follows on the basis of the final state of the competitive economy, we might at all events conceive of a socialist production system which is rationally controlled from an economic point of view” (Mises 1920 [1935], p. 109). Building on Mises, Hayek makes a similar point, arguing that “competition is by its nature a dynamic process whose essential characteristics *are assumed away by the assumptions underlying static analysis*” (emphasis added, Hayek 1948, p. 94). Therefore, as Dapprich and Cockshott admit, the “static character” of their input-output analysis is not only a “drawback”, but irrelevant since it assumes away the very nature of the problem the input-output model is attempting to resolve.¹

The issue we are raising here draws attention a more fundamental issue, namely about the nature of consumer preferences under dynamic conditions. Implicit to Dapprich and Cockshott input-output planning model is the standard neoclassical assumption of constrained maximization, one in which atomistic individuals are passively responding to “parametric prices” (in the words of Lange) according to utility functions that are defined *independent of social interaction*. As a result, the calculation problem is thereby reduced to one of search of given information, in which central planners are already aware of what they are ignorant. This is fundamentally different from a problem of discovering what consumer preferences are when such preferences are only defined in the context of social interaction. James Buchanan, in “Order Defined in the Process of Its Emergence” (1982) best summarizes this point as follows:

Individuals do not act so as to maximize utilities described in independently existing functions. They confront genuine choices, and the sequence of decisions taken may be conceptualized, *ex post* (after the choices), in terms of “as if” functions that are maximized. But these “as if” functions are, themselves, generated in the choosing process, not separately from such process. If viewed in this

¹ See also Lavoie (1985b, 93-124) for a critique of aggregative planning and input-output analysis on the question of the discovery and utilization of knowledge, as well as a discussion of computers, computational power and human intelligence and thus knowledge.

perspective, there is no means by which even the most idealized omniscient designer could duplicate the results of voluntary interchange. The potential participants do not know until they enter the process what their own choices will be. From this it follows that it is logically impossible for an omniscient designer to know, unless, of course, we are to preclude individual freedom of will.

Therefore, if consumers are unaware of their own preferences prior to choice in the context of market exchange, then it logically follows that central planners must also be precluded from such *contextual knowledge*. Therefore, the dynamic nature of economic calculation implies discovery of knowledge that is an unknown unknown, rather than search for information that is a known unknown. None of this implies that computation technology is not a useful tool as a matter of “weak AI” as John Searle put it (1980, p. 417). However, Dapprich and Cockshott are only repeating the same mistake that Lange (1967) had made, and therefore do not confront the issue of “strong AI”, specifically how the instantiation of parametric pricing through an input-output model of central planning can replace market pricing through the *intentionality* of entrepreneurs in a price-making discovery process.

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