



# **An Introduction to Austrian Economics**

Participant Readings  
Socratic Seminar Series

# An Introduction to Austrian Economics

## I. Methodology

Peter Boettke, "Austrian School of Economics", *The Concise Encyclopedia of Economics*.

Murray Rothbard, "In Defense of Extreme *a priori*ism", *Southern Economic Journal* 23 (3): pp. 314-320.

## II. The Marvel of the Price System

Friedrich Hayek (1945) "The Use of Knowledge in Society" *American Economic Review*, 35(4): 519-530.

Randy Barnett (1992) "The Function of Several Property and Freedom of Contract" *Social Philosophy and Policy* 9(1): 62- 94.

## III. Economic Calculation

David Steele (1981) "Posing the Problem: The Impossibility of Economic Calculation under Socialism" *Journal of Libertarian Studies*, 1(1): 7-22.

## IV. Competition and Monopoly

Friedrich Hayek, "Competition as a Discovery Procedure", in *New Studies in Philosophy, Politics, Economics and the History of Ideas*, Chicago: University of Chicago Press, 1978, pp. 9-23.

Domenic Armentano (1999) *Competition and Monopoly: Theory and Evidence*, Chapter 3 with appendix.

## V. Business Cycles

Murray Rothbard (2000) "The Positive Theory of the Cycle" Chapter 1 in *America's Great Depression*, Mises Institute.

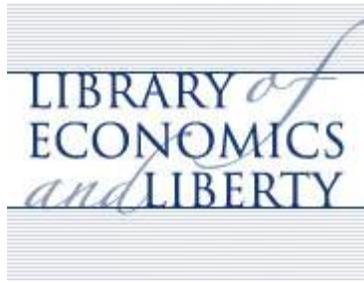
Robert Murphy (2016) "The Midas Paradox: Financial Markets, Government Policy Shocks and the Great Depression" *Quarterly Journal of Austrian Economics*, 19(1): 101-111.

## VI. Applications & Criticism

Roy Cordato, "Toward an Austrian Theory of Environmental Economics", *The Quarterly Journal of Austrian Economics*, 2004, 7(1): pp. 3-16.

Bryan Caplan (Undated) "Why I am Not an Austrian Economist" Working Paper, Department of Economics, George Mason University.

*Session I*  
*Methodology*



## THE CONCISE ENCYCLOPEDIA OF ECONOMICS

### **Austrian School of Economics** by Peter J. Boettke

The Austrian school of economics was founded in 1871 with the publication of Carl Menger's *Principles of Economics*. **MENGER**, along with **WILLIAM STANLEY JEVONS** and **LEON WALRAS**, developed the marginalist revolution in economic analysis. Menger dedicated *Principles of Economics* to his German colleague William Roscher, the leading figure in the German historical school, which dominated economic thinking in German-language countries. In his book, Menger argued that economic analysis is universally applicable and that the appropriate unit of analysis is man and his choices. These choices, he wrote, are determined by individual subjective preferences and the margin on which decisions are made (see **MARGINALISM**). The logic of choice, he believed, is the essential building block to the development of a universally valid economic theory.

The historical school, on the other hand, had argued that economic science is incapable of generating universal principles and that scientific research should instead be focused on detailed historical examination. The historical school thought the English classical economists mistaken in believing in economic laws that transcended time and national boundaries. Menger's *Principles of Economics* restated the classical political economy view of universal laws and did so using marginal analysis. Roscher's students, especially Gustav Schmoller, took great exception to Menger's defense of "theory" and gave the work of Menger and his followers, **EUGEN BÖHM-BAWERK** and Friedrich Wieser, the derogatory name "Austrian school" because of their faculty positions at the University of Vienna. The term stuck.

Since the 1930s, no economists from the University of Vienna or any other Austrian university have become leading figures in the so-called Austrian school of economics. In the 1930s and 1940s, the Austrian school moved to Britain and the United States, and scholars associated with this approach to economic science were located primarily at the London School of Economics (1931–1950), New York University (1944–), Auburn University (1983), and George Mason University (1981–). Many of the ideas of the leading mid-twentieth-

century Austrian economists, such as LUDWIG VON MISES and F. A. HAYEK, are rooted in the ideas of classical economists such as ADAM SMITH and DAVID HUME, or early-twentieth-century figures such as KNUT WICKSELL, as well as Menger, Böhm-Bawerk, and Friedrich von Wieser. This diverse mix of intellectual traditions in economic science is even more obvious in contemporary Austrian school economists, who have been influenced by modern figures in economics. These include ARMEN ALCHIAN, JAMES BUCHANAN, RONALD COASE, Harold Demsetz, Axel Leijonhufvud, DOUGLASS NORTH, Mancur Olson, VERNON SMITH, Gordon Tullock, Leland Yeager, and Oliver Williamson, as well as Israel Kirzner and Murray Rothbard. While one could argue that a unique Austrian school of economics operates within the economic profession today, one could also sensibly argue that the label “Austrian” no longer possesses any substantive meaning. In this article I concentrate on the main propositions about economics that so-called Austrians believe.

## **The Science of Economics**

### ***Proposition 1: Only individuals choose.***

Man, with his purposes and plans, is the beginning of all economic analysis. Only individuals make choices; collective entities do not choose. The primary task of economic analysis is to make economic phenomena intelligible by basing it on individual purposes and plans; the secondary task of economic analysis is to trace out the UNINTENDED CONSEQUENCES of individual choices.

### ***Proposition 2: The study of the market order is fundamentally about exchange behavior and the institutions within which exchanges take place.***

The price system and the market economy are best understood as a “catallaxy,” and thus the science that studies the market order falls under the domain of “catallactics.” These terms derive from the original Greek meanings of the word “*katallaxy*”—exchange and bringing a stranger into friendship through exchange. Catallactics focuses analytical attention on the exchange relationships that emerge in the market, the bargaining that characterizes the exchange process, and the institutions within which exchange takes place.

### ***Proposition 3: The “facts” of the social sciences are what people believe and think.***

Unlike the physical sciences, the human sciences begin with the purposes and plans of individuals. Where the purging of purposes and plans in the physical sciences led to advances by overcoming the problem of anthropomorphism, in the human sciences, the

elimination of purposes and plans results in purging the science of human action of its subject matter. In the human sciences, the “facts” of the world are what the actors think and believe.

The meaning that individuals place on things, practices, places, and people determines how they will orient themselves in making decisions. The goal of the sciences of human action is intelligibility, not prediction. The human sciences can achieve this goal because we are what we study, or because we possess knowledge from within, whereas the natural sciences cannot pursue a goal of intelligibility because they rely on knowledge from without. We can understand purposes and plans of other human actors because we ourselves are human actors.

The classic thought experiment invoked to convey this essential difference between the sciences of human action and the physical sciences is a Martian observing the “data” at Grand Central Station in New York. Our Martian could observe that when the little hand on the clock points to eight, there is a bustle of movement as bodies leave these boxes, and that when the little hand hits five, there is a bustle of movement as bodies reenter the boxes and leave. The Martian may even develop a prediction about the little hand and the movement of bodies and boxes. But unless the Martian comes to understand the purposes and plans (the commuting to and from work), his “scientific” understanding of the data from Grand Central Station would be limited. The sciences of human action are different from the natural sciences, and we impoverish the human sciences when we try to force them into the philosophical/scientific mold of the natural sciences.

## **Microeconomics**

### ***Proposition 4: Utility and costs are subjective.***

All economic phenomena are filtered through the human mind. Since the 1870s, economists have agreed that value is subjective, but, following ALFRED MARSHALL, many argued that the cost side of the equation is determined by objective conditions. Marshall insisted that just as both blades of a scissors cut a piece of paper, so subjective value and objective costs determine price. But Marshall failed to appreciate that costs are also subjective because they are themselves determined by the value of alternative uses of scarce resources. Both blades of the scissors do indeed cut the paper, but the blade of SUPPLY is determined by individuals’ subjective valuations.

In deciding courses of action, one must choose; that is, one must pursue one path and not others. The focus on alternatives in choices leads to one of the defining concepts of the economic way of thinking: opportunity costs. The cost of any action is the value of the highest-valued alternative forgone in taking that action. Since the forgone action is, by definition, never taken, when one decides, one weighs the expected benefits of an activity against the expected benefits of alternative activities.

***Proposition 5: The price system economizes on the information that people need to process in making their decisions.***

Prices summarize the terms of exchange on the market. The price system signals to market participants the relevant **INFORMATION**, helping them realize mutual gains from exchange. In Hayek's famous example, when people notice that the price of tin has risen, they do not need to know whether the cause was an increase in **DEMAND** for tin or a decrease in supply. Either way, the increase in the price of tin leads them to economize on its use. Market prices change quickly when underlying conditions change, which leads people to adjust quickly.

***Proposition 6: Private property in the means of production is a necessary condition for rational economic calculation.***

Economists and social thinkers had long recognized that private ownership provides powerful incentives for the efficient allocation of scarce resources. But those sympathetic to **SOCIALISM** believed that socialism could transcend these incentive problems by changing human nature. Ludwig von Mises demonstrated that even if the assumed change in human nature took place, socialism would fail because of economic planners' inability to rationally calculate the alternative use of resources. Without private ownership in the means of production, Mises reasoned, there would be no market for the means of production, and therefore no money prices for the means of production. And without money prices reflecting the relative scarcities of the means of production, economic planners would be unable to rationally calculate the alternative use of the means of production.

***Proposition 7: The competitive market is a process of entrepreneurial discovery.***

Many economists see **COMPETITION** as a state of affairs. But the term "competition" invokes an activity. If competition were a state of affairs, the entrepreneur would have no role. But

because competition is an activity, the entrepreneur has a huge role as the agent of change who prods and pulls markets in new directions.

The entrepreneur is alert to unrecognized opportunities for mutual gain. By recognizing opportunities, the entrepreneur earns a profit. The mutual learning from the discovery of gains from exchange moves the market system to a more efficient allocation of resources. Entrepreneurial discovery ensures that a **FREE MARKET** moves toward the most efficient use of resources. In addition, the lure of profit continually prods entrepreneurs to seek innovations that increase productive capacity. For the entrepreneur who recognizes the opportunity, today's imperfections represent tomorrow's profit.<sup>1</sup> The price system and the market economy are learning devices that guide individuals to discover mutual gains and use scarce resources efficiently.

## **Macroeconomics**

### ***Proposition 8: Money is nonneutral.***

Money is defined as the commonly accepted medium of exchange. If government policy distorts the monetary unit, exchange is distorted as well. The goal of **MONETARY POLICY** should be to minimize these distortions. Any increase in the **MONEY SUPPLY** not offset by an increase in money demand will lead to an increase in prices. But prices do not adjust instantaneously throughout the economy. Some price adjustments occur faster than others, which means that relative prices change. Each of these changes exerts its influence on the pattern of exchange and production. Money, by its nature, thus cannot be neutral.

This proposition's importance becomes evident in discussing the costs of **INFLATION**. The quantity theory of money stated, correctly, that printing money does not increase wealth. Thus, if the government doubles the money supply, money holders' apparent gain in ability to buy goods is prevented by the doubling of prices. But while the quantity theory of money represented an important advance in economic thinking, a mechanical interpretation of the quantity theory underestimated the costs of inflationary policy. If prices simply doubled when the government doubled the money supply, then economic actors would anticipate this price adjustment by closely following money supply figures and would adjust their behavior accordingly. The cost of inflation would thus be minimal.

But inflation is socially destructive on several levels. First, even anticipated inflation breaches a basic trust between the government and its citizens because government is

using inflation to confiscate people's wealth. Second, unanticipated inflation is redistributive as debtors gain at the expense of creditors. Third, because people cannot perfectly anticipate inflation and because the money is added somewhere in the system—say, through government purchase of **BONDS**—some prices (the price of bonds, for example) adjust before other prices, which means that inflation distorts the pattern of exchange and production.

Since money is the link for almost all transactions in a modern economy, monetary distortions affect those transactions. The goal of monetary policy, therefore, should be to minimize these monetary distortions, precisely because money is nonneutral.<sup>2</sup>

***Proposition 9: The capital structure consists of heterogeneous goods that have multispecific uses that must be aligned.***

Right now, people in Detroit, Stuttgart, and Tokyo City are designing cars that will not be purchased for a decade. How do they know how to allocate resources to meet that goal? Production is always for an uncertain future demand, and the production process requires different stages of **INVESTMENT** ranging from the most remote (mining iron ore) to the most immediate (the car dealership). The values of all producer goods at every stage of production derive from the value consumers place on the product being produced. The production plan aligns various goods into a capital structure that produces the final goods in, ideally, the most efficient manner. If capital goods were homogeneous, they could be used in producing all the final products consumers desired. If mistakes were made, the resources would be reallocated quickly, and with minimal cost, toward producing the more desired final product. But capital goods are heterogeneous and multispecific; an auto plant can make cars, but not computer chips. The intricate alignment of capital to produce various consumer goods is governed by price signals and the careful economic calculations of investors. If the price system is distorted, investors will make mistakes in aligning their capital goods. Once the error is revealed, economic actors will reshuffle their investments, but in the meantime resources will be lost.<sup>3</sup>

***Proposition 10: Social institutions often are the result of human action, but not of human design.***

Many of the most important institutions and practices are not the result of direct design but are the by-product of actions taken to achieve other goals. A student in the Midwest in January trying to get to class quickly while avoiding the cold may cut across the quad rather

than walk the long way around. Cutting across the quad in the snow leaves footprints; as other students follow these, they make the path bigger. Although their goal is merely to get to class quickly and avoid the cold weather, in the process they create a path in the snow that actually helps students who come later to achieve this goal more easily. The “path in the snow” story is a simple example of a “product of human action, but not of human design” (Hayek 1948, p. 7).

The market economy and its price system are examples of a similar process. People do not intend to create the complex array of exchanges and price signals that constitute a market economy. Their intention is simply to improve their own lot in life, but their behavior results in the market system. Money, law, language, science, and so on are all social phenomena that can trace their origins not to human design, but rather to people striving to achieve their own betterment, and in the process producing an outcome that benefits the public.<sup>4</sup>

The implications of these ten propositions are rather radical. If they hold true, economic theory would be grounded in verbal logic and empirical work focused on historical narratives. With regard to public policy, severe doubt would be raised about the ability of government officials to intervene optimally within the economic system, let alone to rationally manage the economy.

Perhaps economists should adopt the doctors’ creed: “First do no harm.” The market economy develops out of people’s natural inclination to better their situation and, in so doing, to discover the mutually beneficial exchanges that will accomplish that goal. Adam Smith first systematized this message in *The Wealth of Nations*. In the twentieth century, economists of the Austrian school of economics were the most uncompromising proponents of this message, not because of a prior ideological commitment, but because of the logic of their arguments.

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## Footnotes

**1.** Entrepreneurship can be characterized by three distinct moments: serendipity (discovery), search (conscious deliberation), and seizing the opportunity for profit.

**2.** The search for solutions to this elusive goal generated some of the most innovative work of the Austrian economists and led to the development in the 1970s and 1980s of the literature on free banking by F. A. Hayek, Lawrence White, George Selgin, Kevin Dowd, Kurt Schuler, and Steven Horwitz.

**3.** Propositions 8 and 9 form the core of the Austrian theory of the **BUSINESS CYCLE**, which explains how credit expansion by the government generates a malinvestment in the capital structure during the boom period that must be corrected in the bust phase. In contemporary economics, Roger Garrison is the leading expositor of this theory.

**4.** Not all spontaneous orders are beneficial and, thus, this proposition should not be read as an example of a Panglossian fallacy. Whether individuals pursuing their own self-interest generate public benefits depends on the institutional conditions within which they pursue their interests. Both the invisible hand of market efficiency and the **TRAGEDY OF THE COMMONS** are results of individuals striving to pursue their individual interests; but in one social setting this generates social benefits, whereas in the other it generates losses. New institutional economics has refocused professional attention on how sensitive social outcomes are to the institutional setting within which individuals interact. It is important, however, to realize that classical political economists and the early neoclassical economists all recognized the basic point of new institutional economists, and that it was only the mid-twentieth-century fascination with formal proofs of general competitive equilibrium, on the one hand, and the **KEYNESIAN** preoccupation with aggregate variables, on the other, that tended to cloud the institutional preconditions required for social cooperation.

## **In Defense of “Extreme Apriorism” By Murray N. Rothbard<sup>\*</sup>**

The stimulating methodological controversy between Professors Machlup and Hutchison proves that there are sometimes *more* than two sides to every question.<sup>1</sup> In many ways, the two are debating at cross-purposes: Professor Hutchison is primarily tilting against the methodological (and political) views of Professor Ludwig von Mises; his most serious charge is that Professor Machlup’s entire position is, at bottom, an attempt to cloak the Misesian heresy in the garments of epistemological respectability. Professor Machlup’s reply, quite properly, barely mentions Mises; for, in fact, their methodological views are poles apart. (Machlup’s position is close to the central “positivist” tradition of economic methodology.) But, in the meanwhile, we find that Professor Mises and “extreme apriorism” go undefended in the debate. Perhaps an extreme apriorist’s contribution to this discussion may prove helpful.

First, it should be made clear that neither Professor Machlup nor Professor Hutchison is what Mises calls a *praxeologist*, that is, neither believes (a) that the fundamental axioms and premises of economics are absolutely true; (b) that the theorems and conclusions deduced by the laws of logic from these postulates are therefore absolutely true; (c) that there is consequently no need for empirical “testing,” either of the premises or the conclusions; and (d) that the deduced theorems could not be tested even if it were desirable.<sup>2</sup> Both disputants are eager to test economic laws empirically.

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<sup>\*</sup> Murray Rothbard (1926-1995) wrote this piece in 1956. It originally appeared in the *Southern Economic Journal*, January 1957, pp. 314-320, and was reprinted in Murray Rothbard, *The Logic of Action One* (Edward Elgar, 1997, p. 100-108. This online edition is published with the permission of the Rothbard Estate, Copyright © 2002 The Mises Institute.

<sup>1</sup> Terence W. Hutchison, “Professor Machlup on Verification in Economics,” *Southern Economic Journal* (April 1956): 476-83; Fritz Machlup, “Rejoinder to a Reluctant Ultra-Empiricist,” *ibid.*, pp. 483-93.

<sup>2</sup> The praxeological tradition, though named only recently, has a long and honored place in the history of economic thought. In the first great methodological controversy in our science, John Stuart Mill was the positivist and Nassau Senior the praxeologist, with J.E. Cairnes wavering between the two positions. Later on, the praxeologic method was further developed by the early Austrians, by Wicksteed, and by Richard Strigl, reaching its full culmination in the works of Ludwig von Mises. Mises’s views may be found in *Human Action* (New Haven, Conn: Yale University Press, 1949), and in his earlier *Grundprobleme der Nationalökonomie* [translated

The crucial difference is that Professor Machlup adheres to the orthodox positivist position that the *assumptions* need not be verified so long as their deduced consequents may be proven true--essentially the position of Professor Milton Friedman--while Professor Hutchison, wary of shaky assumptions takes the more empirical--or institutionalist--approach that the assumptions had better be verified as well.

Strange as it may seem for an ultra-apriorist, Hutchison’s position strikes me as the better of the two. If one must choose between two brands of empiricism, it seems like folly to put one’s trust in procedures for testing only *conclusions* by fact. Far better to make sure that the assumptions also are correct. Here I must salute Professor Hutchison’s charge that the positivists rest their case on misleading analogies from the epistemology of physics.

This is precisely the nub of the issue. All the positivist procedures are based on the physical sciences.<sup>3</sup> It is physics that knows or can know its “facts” and can test its conclusions against these facts, while being completely ignorant of its ultimate assumptions. In the sciences of human action, on the other hand, it is impossible to test conclusions. There is no laboratory where facts can be isolated and controlled; the “facts” of human history are complex ones, resultants of many causes. These causes can only be isolated by theory, theory that is necessarily a priori to these historical (including statistical) facts. Of course, Professor Hutchison would not go this far in rejecting empirical testing of theorems; but, being commendably skeptical of the possibilities of testing (though not of its desirability), he insists that the assumptions be verified as well.

In physics, the ultimate assumptions cannot be verified directly, because we know nothing directly of the explanatory laws or causal factors. Hence the good sense of not attempting to do so, of using false assumptions such as the absence of friction, and so on. But false assumptions are the

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into English as *Epistemological Problems of Economics* (Princeton, N.J.: D. Van Nostrand, 1960]. On the similarity between Senior and Mises, see Marian Bowley, *Nassau Senior and Classical Economics* (New York: Augustus M. Kelley, 1949), chap. 1, esp. pp. 64-65. Lionel Robbins’s *Essay on the Nature and Significance of Economic Science* was emphatically praxeologic, although it did not delve into the more complex methodological problems.

<sup>3</sup> On the differences between the methodologies of praxeology and physics, see Murray N. Rothbard, “Toward a Reconstruction of Utility and Welfare Economics,” in *On Freedom and Free Enterprise: Essays in Honor of Ludwig von Mises*, Mary Sennholz, ed., (Princeton, N.J.: D. Van Nostrand, 1956), pp. 226ff)

reverse of appropriate in economics. For human action is not like physics; here, the ultimate assumptions are what is clearly known, and it is precisely from these given axioms that the corpus of economic science is deduced. False or dubious assumptions in economics wreak havoc, while often proving useful in physics.<sup>4</sup>

Hence, Professor Hutchison is correct in wishing to establish the assumptions themselves. But these premises do not have to be (indeed, cannot be) verified by appeal to statistical fact. They are established, in praxeology, on a far more certain and permanent basis as definitely true. How, then, are these postulates obtained? Actually, despite the “extreme a priori” label, praxeology contains one Fundamental Axiom--the axiom of *action*--which may be called *a priori*, and a few subsidiary postulates which are actually empirical. Incredible as it may seem to those versed in the positivist tradition, from this tiny handful of premises the whole of economics is deduced--and deduced as absolutely true. Setting aside the Fundamental Axiom for a moment, the empirical postulates are: (a) small in number, and (b) so broadly based as to be hardly “empirical” in the empiricist sense of the term. To put it differently, they are so generally true as to be *self-evident*, as to be seen by all to be obviously true once they are stated, and hence they are not in practice empirically falsifiable and therefore not “operationally meaningful.” What are these propositions? We may consider them in decreasing order of their generality: (1) the most fundamental--variety of resources, both natural and human. From this follows directly the division of labor, the market, etc.; (2) less important, that *leisure is a consumer good*. These are actually the only postulates needed. Two other postulates simply introduce limiting subdivisions into the analysis. Thus, economics can deductively elaborate from the Fundamental Axiom and Postulates (1) and (2) (actually, only Postulate 1 is necessary) an analysis of Crusoe economics, of barter, and of a monetary economy. All these elaborated laws are absolutely true. They are only *applicable* in concrete cases, however, where the particular limiting conditions apply. There is

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<sup>4</sup> This holds also for Professor Machlup’s “heuristic principles” which are allegedly “empirically meaningful” without being verifiable as true.

I do not wish to deny that false assumptions are useful in economic theory, but only when they are used as *auxiliary constructs*, not as premises from which empirical theories can be deduced. The most important such construct is the *evenly-rotating economy*, or “equilibrium.” It is not intended that this state be considered as *real*, either actual or potential. On the contrary, the empirically impossible ERE is constructed precisely in order to analyze theoretically a state of no-change. Only by analyzing a fictive changeless state can we arrive at a proper analysis of the changing real economic world. However, this is not a “false” assumption in the sense used by the positivists, because it is an absolutely true theory of a changeless state, if such a state could exist.

nothing, of course, remarkable about this; we can enunciate as a law that an apple, unsupported, will drop to the ground. But the law is applicable only in those cases where an apple is actually dropped. Thus, the economics of Crusoe, of barter, and of a monetary economy are applicable when these conditions obtain. It is the task of the historian, or “applied economist,” to decide which conditions apply in the specific situations to be analyzed. It is obvious that making these particular identifications is simplicity itself.

When we analyze the economics of indirect exchange, therefore, we make the simple and obvious limiting condition (Postulate 3) that indirect exchanges are being made. It should be clear that by making this simple identification we are not “testing the theory”; we are simply choosing that theory which applies to the reality we wish to explain.

The fourth--and by far the least fundamental--postulate for a theory of the market is the one which Professors Hutchison and Machlup consider crucial--that firms always aim at maximization of their money profits. As will become clearer when I treat the Fundamental Axiom below, this assumption is by no means a necessary part of economic theory. From our Axiom is derived this absolute truth: that every firm aims always at maximizing its *psychic* profit. This may or may not involve maximizing its *money* profit. Often it may not, and no praxeologist would deny this fact. When an entrepreneur deliberately accepts lower money profits in order to give a good job to a ne'er-do-well nephew, the praxeologist is not confounded. The entrepreneur simply has chosen to take a certain cut in monetary profit in order to satisfy his consumption--satisfaction of seeing his nephew well provided. The assumption that firms aim at maximizing their *money* profits is simply a convenience of analysis; it permits the elaboration of a framework of *catalactics* (economics of the market) which could not otherwise be developed. The praxeologist always has in mind the proviso that where this subsidiary postulate does *not* apply--as in the case of the ne'er-do-well--his deduced theories will not be applicable. He simply believes that enough entrepreneurs follow monetary aims enough of the time to make his theory highly useful in explaining the real market.<sup>5</sup>

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<sup>5</sup> I do not mean to endorse here the recent strictures that have been made against the monetary-profit maximization assumption--most of which ignore *long-run* as opposed to short-run maximization.

The curious idea that failure to pursue monetary goals is “irrational,” or refutes economics, is similar to the old notion that consumers were being irrational, or “uneconomic,” when they preferred to pay higher prices in stores nearer to them, or with a more congenial atmosphere.

We turn now to the Fundamental Axiom (the nub of praxeology): *the existence of human action*. From this absolutely true axiom can be spun almost the whole fabric of economic theory. Some of the *immediate* logical implications that flow from this premise are: the means-ends relationship, the time-structure of production, time-preference, the law of diminishing marginal utility, the law of optimum returns, etc. It is this crucial axiom that separates praxeology from the other methodological viewpoints--and it is this axiom that supplies the critical “a priori” element in economics.

First, it must be emphasized that whatever role “rationality” may play in Professor Machlup’s theory, it plays no role whatever for Professor Mises. Hutchison charges that Mises claims “all economic action was (or must be) rational.”<sup>6</sup> This is flatly incorrect. Mises assumes nothing whatever about the rationality of human action (in fact, Mises does not use the concept at all). He assumes nothing about the wisdom of man’s ends or about the correctness of his means. He “assumes” only that men *act*, that is, that they have *some* ends, and use *some* means to try to attain them. This is Mises’s Fundamental Axiom, and it is this axiom that gives the whole praxeological structure of economic theory built upon it its absolute and apodictic certainty.

Now the crucial question arises: how have we obtained the truth of this axiom? Is our knowledge *a priori* or empirical, “synthetic” or “analytic”? In a sense, such questions are a waste of time, because the all-important fact is that the axiom is self-evidently true, self-evident to a far greater and broader extent than the other postulates. For this Axiom is true for all human beings, everywhere, at any time, and could not even *conceivably* be violated. In short, we may conceive of a world where resources are *not* varied, but not of one where human beings exist but do not act. We have seen that the other postulates, while “empirical,” are so obvious and acceptable that they can hardly be called “falsifiable” in the usual empiricist sense. How much more is this true of the Axiom, which is not even conceivably falsifiable!

Postivists of all shades boggle at self-evident propositions. And yet, what is the vaunted “evidence” of the empiricists but the bringing of a hitherto obscure proposition into *evident* view? But some propositions need only to be stated to become at once evident to the self, and the action axiom is just such a proposition.

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<sup>6</sup> Hutchison, “Professor Machlup on Verification in Economics,” p. 483.

Whether we consider the Action Axiom “a priori” or “empirical” depends on our ultimate philosophical position. Professor Mises, in the neo-Kantian tradition, considers this axiom a *law of thought* and therefore a categorical truth *a priori* to all experience. My own epistemological position rests on Aristotle and St. Thomas rather than Kant, and hence I would interpret the proposition differently. I would consider the axiom a *law of reality* rather than a law of thought, and hence “empirical” rather than “a priori.” But it should be obvious that this type of “empiricism” is so out of step with modern empiricism that I may just as well continue to call it *a priori* for present purposes. For (1) it is a law of reality that is not conceivably falsifiable, and yet is empirically meaningful and true; (2) it rests on universal *inner* experience, and not simply on external experience, that is, its evidence is *reflective* rather than physical<sup>7</sup>; and (3) it is clearly *a priori* to complex historical events.<sup>8</sup>

The epistemological pigeon-holing of self-evident propositions has always been a knotty problem. Thus, two such accomplished Thomists as Father Toohey and Father Copleston, while resting on the same philosophical position, differ on whether self-evident propositions should be classified as “a posteriori” or “a priori,” since they define the two categories differently.<sup>9</sup>

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<sup>7</sup> See Professor Knight’s critique of Hutchison’s Significance and Basic Postulates of Economic Theory. Frank H. Knight, “What is Truth in Economics?” *Journal of Political Economy* (February 1940): 1-32.

<sup>8</sup> Professor Hutchison may have had me in mind when he says that in recent years followers of Professor Mises try to defend him by saying he really meant “empirical” when saying “a priori.” Thus, see my “Praxeology, Replay to Mr. Schuller,” *American Economic Review* (December 1951): 943-44. What I meant is that Mises’s fundamental axiom may be called “a priori” or “empirical” according to one’s philosophical position, but is in any case a priori for the practical purposes of economic methodology.

<sup>9</sup> Thus, Copleston calls self-evident principles “synthetic propositions a priori” (though not in the Kantian sense)—synthetic as conveying information about reality not contained logically in previous premises; and *a priori* as being necessary and universal. Toohey virtually obliterates the distinctions and terms self-evident propositions synthetic—a posteriori, because, while being necessary and universals, they are derived from experience. See F.C. Copleston, S.J., *Aquinas* (London: Penguin Books, 1955), pp. 28 and 19-41; John J.H. Toohey, S.J., *Notes on Epistemology* (Washington, D.C.: Georgetown University, 1952), pp. 46-55. All this raises the question of the usefulness of the whole “analytic-synthetic” dichotomy, despite the prominence implicitly given it in Hutchison’s *Significance and Basic Postulates of Economic Theory*. For a refreshing skepticism on its validity, and for a critique of its typical use of dispose of difficult-to-refute theories as either disguised definitions or debatable hypotheses, see Hao Wang, Notes on the Analytic-Synthetic Distinction,” *Theoria* 21 (Parts 2-3, 1955): 158ff.

From the Fundamental Axiom is derived the truth that everyone tries always to maximize his utility. Contrary to Professor Hutchison, this law is *not* a disguised definition--that they maximize what they maximize. It is true that *utility* has no concrete content, because economics is concerned not with the *content* of a man's ends, but with the fact that he has ends. And this fact, being deduced directly from the Action Axiom, is absolutely true.<sup>10</sup>

We come finally to Mises's ultimate heresy in the eyes of Professor Hutchison: his alleged logical deduction of "wholesale political conclusions" from the axioms of economic science. Such a charge is completely fallacious, particularly if we realize that Professor Mises is an uncompromising champion of "Wertfreiheit" not only in economics, but also for all the sciences. Even a careful reading of Hutchison's selected quotations from Mises will reveal no such illegitimate deductions.<sup>11</sup> Indeed, Mises's economics is unrivalled for its avoidance of unanalyzed *ad hoc* value judgments, slipped into the *corpus* of economic analysis.

Dean Rappard has posed the question: how can Mises be at the same time a champion of "Wertfreiheit in economics and of *laissez-faire*" liberalism, a "dilemma" which leads Professor Hutchison to accuse Mises of making political deductions from economic theory?<sup>12</sup>

The following passages from Mises give the clue to this puzzle:

Liberalism is a political doctrine. . . . As a political doctrine liberalism (in contrast to economic science) is not neutral with regard to values and ultimate ends sought by action. It assumes that all men or at least the majority of people are intent upon attaining certain goals. It gives

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<sup>10</sup> See Hutchison, "Professor Machlup on Verification Economics," P. 480. Alan Sweezy fell into the same error when he charged that Irving Fisher's dictum: "each individual acts as he desires," since not meant as a testable proposition in psychology, must reduce to the empty "each individual acts as he acts." On the contrary, the dictum is deducible directly from the Action Axiom, and is therefore both empirically meaningful and apodictically true. See Rothbard, "Toward a Reconstruction of Utility and Welfare Economics," pp. 225-28.

<sup>11</sup> Thus: "Liberalism starts from the pure sciences of political economy and sociology which within their systems make no valuations and say nothing about what ought to be or what is good or bad, but only ascertain what is and how it is" Quoted by Hutchison, "Professor Machlup on Verification Economics," p. 483n.

<sup>12</sup> William E. Rappard, "On Reading von Mises," in *On Freedom and Free Enterprise*, M. Sennholz, e., pp. 17-33.

them information about the means suitable to the realization of their plans. The champions of liberal doctrines are fully aware of the fact that their teachings are valid only for people who are committed to their valuational principles. While praxeology, and therefore economics too, uses the terms happiness and removal of uneasiness in a purely formal sense, liberalism attaches to them a concrete meaning. It presupposes that people prefer life to death, health to sickness . . . abundance to poverty. It teaches men how to act in accordance with these valuations.<sup>13</sup>

Economic science, in short, establishes existential laws, of the type: if A, then B. Mises demonstrates that this science asserts that *laissez-faire* policy leads to peace and higher standards of living for all, while statism leads to conflict and lower living standards. Then, Mises as a citizen chooses *laissez-faire* liberalism because he is interested in achieving these ends. The only sense in which Mises considers liberalism as “scientific” is to the extent that people unite on the goal of abundance and mutual benefit. Perhaps Mises is overly sanguine in judging the extent of such unity, but he never links the valuational and the scientific: when he says that a price control is “bad” he means bad not from his point of view as an economist, but from the point of view of those in society who desire abundance. Those who choose contrasting goals--who favor price controls, for example, as a route to bureaucratic power over their fellow men, or who, through envy, judge social equality as more worthwhile than general abundance or liberty--would certainly not accept liberalism, and Mises would certainly never say that economic science proves them wrong. He never goes beyond saying that economics furnishes men with the knowledge of the consequences of various political actions; and that it is the citizen’s province, knowing these consequences, to choose his political course.

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<sup>13</sup> Mises, *Human Action*, pp. 153-54; also see pp. 879-81.

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## THE USE OF KNOWLEDGE IN SOCIETY

By F. A. HAYEK\*

### I

What is the problem we wish to solve when we try to construct a rational economic order?

On certain familiar assumptions the answer is simple enough. *If* we possess all the relevant information, *if* we can start out from a given system of preferences and *if* we command complete knowledge of available means, the problem which remains is purely one of logic. That is, the answer to the question of what is the best use of the available means is implicit in our assumptions. The conditions which the solution of this optimum problem must satisfy have been fully worked out and can be stated best in mathematical form: put at their briefest, they are that the marginal rates of substitution between any two commodities or factors must be the same in all their different uses.

This, however, is emphatically *not* the economic problem which society faces. And the economic calculus which we have developed to solve this logical problem, though an important step toward the solution of the economic problem of society, does not yet provide an answer to it. The reason for this is that the "data" from which the economic calculus starts are never for the whole society "given" to a single mind which could work out the implications, and can never be so given.

The peculiar character of the problem of a rational economic order is determined precisely by the fact that the knowledge of the circumstances of which we must make use never exists in concentrated or integrated form, but solely as the dispersed bits of incomplete and frequently contradictory knowledge which all the separate individuals possess. The economic problem of society is thus not merely a problem

\* The author is Tooke professor of political economy and statistics at the University of London (London School of Economics and Political Science).

of how to allocate "given" resources—if "given" is taken to mean given to a single mind which deliberately solves the problem set by these "data." It is rather a problem of how to secure the best use of resources known to any of the members of society, for ends whose relative importance only these individuals know. Or, to put it briefly, it is a problem of the utilization of knowledge not given to anyone in its totality.

This 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. Though the problem with which I want primarily to deal in this paper is the problem of a rational economic organization, I shall in its course be led again and again to point to its close connections with certain methodological questions. Many of the points I wish to make are indeed conclusions toward which diverse paths of reasoning have unexpectedly converged. But as I now see these problems, this is no accident. It seems to me that many of the current disputes with regard to both economic theory and economic policy have their common origin in a misconception about the nature of the economic problem of society. This misconception in turn is due to an erroneous transfer to social phenomena of the habits of thought we have developed in dealing with the phenomena of nature.

## II

In ordinary language we describe by the word "planning" the complex of interrelated decisions about the allocation of our available resources. All economic activity is in this sense planning; and in any society in which many people collaborate, this planning, whoever does it, will in some measure have to be based on knowledge which, in the first instance, is not given to the planner but to somebody else, which somehow will have to be conveyed to the planner. The various ways in which the knowledge on which people base their plans is communicated to them is the crucial problem for any theory explaining the economic process. And the problem of what is the best way of utilizing knowledge initially dispersed among all the people is at least one of the main problems of economic policy—or of designing an efficient economic system.

The answer to this question is closely connected with that other question which arises here, that of *who* is to do the planning. It is about this question that all the dispute about "economic planning" centers. This is not a dispute about whether planning is to be done or not. It is a dispute as to whether planning is to be done centrally, by one authority for the whole economic system, or is to be divided

among many individuals. Planning in the specific sense in which the term is used in contemporary controversy necessarily means central planning—direction of the whole economic system according to one unified plan. Competition, on the other hand, means decentralized planning by many separate persons. The half-way house between the two, about which many people talk but which few like when they see it, is the delegation of planning to organized industries, or, in other words, monopoly.

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. And 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 fit their plans in with those of others.

### III

It will at once be evident that on this point the position will be different with respect to different kinds of knowledge; and the answer to our question will therefore largely turn on the relative importance of the different kinds of knowledge; those more likely to be at the disposal of particular individuals and those which we should with greater confidence expect to find in the possession of an authority made up of suitably chosen experts. If it is today so widely assumed that the latter will be in a better position, this is because one kind of knowledge, namely, scientific knowledge, occupies now so prominent a place in public imagination that we tend to forget that it is not the only kind that is relevant. It may be admitted that, so far as scientific knowledge is concerned, a body of suitably chosen experts may be in the best position to command all the best knowledge available—though this is of course merely shifting the difficulty to the problem of selecting the experts. What I wish to point out is that, even assuming that this problem can be readily solved, it is only a small part of the wider problem.

Today it is almost heresy to suggest that scientific knowledge is not the sum of all knowledge. But a little reflection will show that there is beyond question a body of very important but unorganized knowledge which cannot possibly be called scientific in the sense of knowledge of general rules: the knowledge of the particular circumstances of time and place. It is with respect to this that practically every individual has some advantage over all others in that he possesses unique information of which beneficial use might be made, but of

which use can be made only if the decisions depending on it are left to him or are made with his active coöperation. We need to remember only how much we have to learn in any occupation after we have completed our theoretical training, how big a part of our working life we spend learning particular jobs, and how valuable an asset in all walks of life is knowledge of people, of local conditions, and special circumstances. To know of and put to use a machine not fully employed, or somebody's skill which could be better utilized, or to be aware of a surplus stock which can be drawn upon during an interruption of supplies, is socially quite as useful as the knowledge of better alternative techniques. And the shipper who earns his living from using otherwise empty or half-filled journeys of tramp-steamers, or the estate agent whose whole knowledge is almost exclusively one of temporary opportunities, or the *arbitrageur* who gains from local differences of commodity prices, are all performing eminently useful functions based on special knowledge of circumstances of the fleeting moment not known to others.

It is a curious fact that this sort of knowledge should today be generally regarded with a kind of contempt, and that anyone who by such knowledge gains an advantage over somebody better equipped with theoretical or technical knowledge is thought to have acted almost disreputably. To gain an advantage from better knowledge of facilities of communication or transport is sometimes regarded as almost dishonest, although it is quite as important that society make use of the best opportunities in this respect as in using the latest scientific discoveries. This prejudice has in a considerable measure affected the attitude toward commerce in general compared with that toward production. Even economists who regard themselves as definitely above the crude materialist fallacies of the past constantly commit the same mistake where activities directed toward the acquisition of such practical knowledge are concerned—apparently because in their scheme of things all such knowledge is supposed to be "given." The common idea now seems to be that all such knowledge should as a matter of course be readily at the command of everybody, and the reproach of irrationality leveled against the existing economic order is frequently based on the fact that it is not so available. This view disregards the fact that the method by which such knowledge can be made as widely available as possible is precisely the problem to which we have to find an answer.

#### IV

If it is fashionable today to minimize the importance of the knowledge of the particular circumstances of time and place, this is closely connected with the smaller importance which is now attached to change

as such. Indeed, there are few points on which the assumptions made (usually only implicitly) by the "planners" differ from those of their opponents as much as with regard to the significance and frequency of changes which will make substantial alterations of production plans necessary. Of course, if detailed economic plans could be laid down for fairly long periods in advance and then closely adhered to, so that no further economic decisions of importance would be required, the task of drawing up a comprehensive plan governing all economic activity would appear much less formidable.

It is, perhaps, worth stressing that economic problems arise always and only in consequence of change. So long as things continue as before, or at least as they were expected to, there arise no new problems requiring a decision, no need to form a new plan. The belief that changes, or at least day-to-day adjustments, have become less important in modern times implies the contention that economic problems also have become less important. This belief in the decreasing importance of change is, for that reason, usually held by the same people who argue that the importance of economic considerations has been driven into the background by the growing importance of technological knowledge.

Is it true that, with the elaborate apparatus of modern production, economic decisions are required only at long intervals, as when a new factory is to be erected or a new process to be introduced? Is it true that, once a plant has been built, the rest is all more or less mechanical, determined by the character of the plant, and leaving little to be changed in adapting to the ever-changing circumstances of the moment?

The fairly widespread belief in the affirmative is not, so far as I can ascertain, borne out by the practical experience of the business man. In a competitive industry at any rate—and such an industry alone can serve as a test—the task of keeping cost from rising requires constant struggle, absorbing a great part of the energy of the manager. How easy it is for an inefficient manager to dissipate the differentials on which profitability rests, and that it is possible, with the same technical facilities, to produce with a great variety of costs, are among the commonplaces of business experience which do not seem to be equally familiar in the study of the economist. The very strength of the desire, constantly voiced by producers and engineers, to be able to proceed untrammelled by considerations of money costs, is eloquent testimony to the extent to which these factors enter into their daily work.

One reason why economists are increasingly apt to forget about the constant small changes which make up the whole economic picture is probably their growing preoccupation with statistical aggregates, which

show a very much greater stability than the movements of the detail. The comparative stability of the aggregates cannot, however, be accounted for—as the statisticians seem occasionally to be inclined to do—by the “law of large numbers” or the mutual compensation of random changes. The number of elements with which we have to deal is not large enough for such accidental forces to produce stability. The continuous flow of goods and services is maintained by constant deliberate adjustments, by new dispositions made every day in the light of circumstances not known the day before, by *B* stepping in at once when *A* fails to deliver. Even the large and highly mechanized plant keeps going largely because of an environment upon which it can draw for all sorts of unexpected needs; tiles for its roof, stationery for its forms, and all the thousand and one kinds of equipment in which it cannot be self-contained and which the plans for the operation of the plant require to be readily available in the market.

This is, perhaps, also the point where I should briefly mention the fact that the sort of knowledge with which I have been concerned is knowledge of the kind which by its nature cannot enter into statistics and therefore cannot be conveyed to any central authority in statistical form. The statistics which such a central authority would have to use would have to be arrived at precisely by abstracting from minor differences between the things, by lumping together, as resources of one kind, items which differ as regards location, quality, and other particulars, in a way which may be very significant for the specific decision. It follows from this that central planning based on statistical information by its nature cannot take direct account of these circumstances of time and place, and that the central planner will have to find some way or other in which the decisions depending on them can be left to the “man on the spot.”

## V

If we can agree that the economic problem of society is mainly one of rapid adaptation to changes in the particular circumstances of time and place, it would seem to follow that the ultimate decisions must be left to the people who are familiar with these circumstances, who know directly of the relevant changes and of the resources immediately available to meet them. We cannot expect that this problem will be solved by first communicating all this knowledge to a central board which, after integrating *all* knowledge, issues its orders. We must solve it by some form of decentralization. But this answers only part of our problem. We need decentralization because only thus can we ensure that the knowledge of the particular circumstances of time and place will be promptly used. But the “man on the spot” cannot decide

solely on the basis of his limited but intimate knowledge of the facts of his immediate surroundings. There still remains the problem of communicating to him such further information as he needs to fit his decisions into the whole pattern of changes of the larger economic system.

How much knowledge does he need to do so successfully? Which of the events which happen beyond the horizon of his immediate knowledge are of relevance to his immediate decision, and how much of them need he know?

There is hardly anything that happens anywhere in the world that *might* not have an effect on the decision he ought to make. But he need not know of these events as such, nor of *all* their effects. It does not matter for him *why* at the particular moment more screws of one size than of another are wanted, *why* paper bags are more readily available than canvas bags, or *why* skilled labor, or particular machine tools, have for the moment become more difficult to acquire. All that is significant for him is *how much more or less* difficult to procure they have become compared with other things with which he is also concerned, or how much more or less urgently wanted are the alternative things he produces or uses. It is always a question of the relative importance of the particular things with which he is concerned, and the causes which alter their relative importance are of no interest to him beyond the effect on those concrete things of his own environment.

It is in this connection that what I have called the economic calculus proper helps us, at least by analogy, to see how this problem can be solved, and in fact is being solved, by the price system. Even the single controlling mind, in possession of all the data for some small, self-contained economic system, would not—every time some small adjustment in the allocation of resources had to be made—go explicitly through all the relations between ends and means which might possibly be affected. It is indeed the great contribution of the pure logic of choice that it has demonstrated conclusively that even such a single mind could solve this kind of problem only by constructing and constantly using rates of equivalence (or “values,” or “marginal rates of substitution”), *i.e.*, by attaching to each kind of scarce resource a numerical index which cannot be derived from any property possessed by that particular thing, but which reflects, or in which is condensed, its significance in view of the whole means-end structure. In any small change he will have to consider only these quantitative indices (or “values”) in which all the relevant information is concentrated; and by adjusting the quantities one by one, he can appropriately rearrange his dispositions without having to solve the whole puzzle *ab initio*, or without needing at any stage to survey it at once in all its ramifications.

Fundamentally, in a system where the knowledge of the relevant facts is dispersed among many people, prices can act to coördinate the separate actions of different people in the same way as subjective values help the individual to coördinate the parts of his plan. It is worth contemplating for a moment a very simple and commonplace instance of the action of the price system to see what precisely it accomplishes. Assume that somewhere in the world a new opportunity for the use of some raw material, say tin, has arisen, or that one of the sources of supply of tin has been eliminated. It does not matter for our purpose—and it is very significant that it does not matter—which of these two causes has made tin more scarce. All that the users of tin need to know is that some of the tin they used to consume is now more profitably employed elsewhere, and that in consequence they must economize tin. There is no need for the great majority of them even to know where the more urgent need has arisen, or in favor of what other needs they ought to husband the supply. If only some of them know directly of the new demand, and switch resources over to it, and if the people who are aware of the new gap thus created in turn fill it from still other sources, the effect will rapidly spread throughout the whole economic system and influence not only all the uses of tin, but also those of its substitutes and the substitutes of these substitutes, the supply of all the things made of tin, and their substitutes, and so on; and all this without the great majority of those instrumental in bringing about these substitutions knowing anything at all about the original cause of these changes. The whole acts as one market, not because any of its members survey the whole field, but because their limited individual fields of vision sufficiently overlap so that through many intermediaries the relevant information is communicated to all. The mere fact that there is one price for any commodity—or rather that local prices are connected in a manner determined by the cost of transport, etc.—brings about the solution which (it is just conceptually possible) might have been arrived at by one single mind possessing all the information which is in fact dispersed among all the people involved in the process.

## VI

We must look at the price system as such a mechanism for communicating information if we want to understand its real function—a function which, of course, it fulfills less perfectly as prices grow more rigid. (Even when quoted prices have become quite rigid, however, the forces which would operate through changes in price still operate to a considerable extent through changes in the other terms of the contract.) The most significant fact about this system is the economy of knowledge

with which it operates, or how little the individual participants need to know in order to be able to take the right action. In abbreviated form, by a kind of symbol, only the most essential information is passed on, and passed on only to those concerned. It is more than a metaphor to describe the price system as a kind of machinery for registering change, or a system of telecommunications which enables individual producers to watch merely the movement of a few pointers, as an engineer might watch the hands of a few dials, in order to adjust their activities to changes of which they may never know more than is reflected in the price movement.

Of course, these adjustments are probably never "perfect" in the sense in which the economist conceives of them in his equilibrium analysis. But I fear that our theoretical habits of approaching the problem with the assumption of more or less perfect knowledge on the part of almost everyone has made us somewhat blind to the true function of the price mechanism and led us to apply rather misleading standards in judging its efficiency. The marvel is that in a case like that of a scarcity of one raw material, without an order being issued, without more than perhaps a handful of people knowing the cause, tens of thousands of people whose identity could not be ascertained by months of investigation, are made to use the material or its products more sparingly; *i.e.*, they move in the right direction. This is enough of a marvel even if, in a constantly changing world, not all will hit it off so perfectly that their profit rates will always be maintained at the same constant or "normal" level.

I have deliberately used the word "marvel" to shock the reader out of the complacency with which we often take the working of this mechanism for granted. I am convinced that if it were the result of deliberate human design, and if the people guided by the price changes understood that their decisions have significance far beyond their immediate aim, this mechanism would have been acclaimed as one of the greatest triumphs of the human mind. Its misfortune is the double one that it is not the product of human design and that the people guided by it usually do not know why they are made to do what they do. But those who clamor for "conscious direction"—and who cannot believe that anything which has evolved without design (and even without our understanding it) should solve problems which we should not be able to solve consciously—should remember this: The problem is precisely how to extend the span of our utilization of resources beyond the span of the control of any one mind; and, therefore, how to dispense with the need of conscious control and how to provide inducements which will make the individuals do the desirable things without anyone having to tell them what to do.

The problem which we meet here is by no means peculiar to economics but arises in connection with nearly all truly social phenomena, with language and most of our cultural inheritance, and constitutes really the central theoretical problem of all social science. As Alfred Whitehead has said in another connection, "It is a profoundly erroneous truism, repeated by all copy-books and by eminent people when they are making speeches, that we should cultivate the habit of thinking what we are doing. The precise opposite is the case. Civilization advances by extending the number of important operations which we can perform without thinking about them." This is of profound significance in the social field. We make constant use of formulas, symbols and rules whose meaning we do not understand and through the use of which we avail ourselves of the assistance of knowledge which individually we do not possess. We have developed these practices and institutions by building upon habits and institutions which have proved successful in their own sphere and which have in turn become the foundation of the civilization we have built up.

The price system is just one of those formations which man has learned to use (though he is still very far from having learned to make the best use of it) after he had stumbled upon it without understanding it. Through it not only a division of labor but also a coördinated utilization of resources based on an equally divided knowledge has become possible. The people who like to deride any suggestion that this may be so usually distort the argument by insinuating that it asserts that by some miracle just that sort of system has spontaneously grown up which is best suited to modern civilization. It is the other way round: man has been able to develop that division of labor on which our civilization is based because he happened to stumble upon a method which made it possible. Had he not done so he might still have developed some other, altogether different, type of civilization, something like the "state" of the termite ants, or some other altogether unimaginable type. All that we can say is that nobody has yet succeeded in designing an alternative system in which certain features of the existing one can be preserved which are dear even to those who most violently assail it—such as particularly the extent to which the individual can choose his pursuits and consequently freely use his own knowledge and skill.

## VII

It is in many ways fortunate that the dispute about the indispensability of the price system for any rational calculation in a complex society is now no longer conducted entirely between camps holding different political views. The thesis that without the price system we

could not preserve a society based on such extensive division of labor as ours was greeted with a howl of derision when it was first advanced by von Mises twenty-five years ago. Today the difficulties which some still find in accepting it are no longer mainly political, and this makes for an atmosphere much more conducive to reasonable discussion. When we find Leon Trotsky arguing that "economic accounting is unthinkable without market relations"; when Professor Oscar Lange promises Professor von Mises a statue in the marble halls of the future Central Planning Board; and when Professor Abba P. Lerner re-discovers Adam Smith and emphasizes that the essential utility of the price system consists in inducing the individual, while seeking his own interest, to do what is in the general interest, the differences can indeed no longer be ascribed to political prejudice. The remaining dissent seems clearly to be due to purely intellectual, and more particularly methodological, differences.

A recent statement by Professor Joseph Schumpeter in his *Capitalism, Socialism and Democracy* provides a clear illustration of one of the methodological differences which I have in mind. Its author is pre-eminent among those economists who approach economic phenomena in the light of a certain branch of positivism. To him these phenomena accordingly appear as objectively given quantities of commodities impinging directly upon each other, almost, it would seem, without any intervention of human minds. Only against this background can I account for the following (to me startling) pronouncement. Professor Schumpeter argues that the possibility of a rational calculation in the absence of markets for the factors of production follows for the theorist "from the elementary proposition that consumers in evaluating ('demanding') consumers' goods *ipso facto* also evaluate the means of production which enter into the production of these goods."<sup>1</sup>

Taken literally, this statement is simply untrue. The consumers do nothing of the kind. What Professor Schumpeter's "*ipso facto*" presumably means is that the valuation of the factors of production is

<sup>1</sup> J. Schumpeter, *Capitalism, Socialism, and Democracy* (New York, Harper, 1942), p. 175. Professor Schumpeter is, I believe, also the original author of the myth that Pareto and Barone have "solved" the problem of socialist calculation. What they, and many others, did was merely to state the conditions which a rational allocation of resources would have to satisfy, and to point out that these were essentially the same as the conditions of equilibrium of a competitive market. This is something altogether different from showing how the allocation of resources satisfying these conditions can be found in practice. Pareto himself (from whom Barone has taken practically everything he has to say), far from claiming to have solved the practical problem, in fact explicitly denies that it can be solved without the help of the market. See his *Manuel d'économie pure* (2nd ed., 1927), pp. 233-34. The relevant passage is quoted in an English translation at the beginning of my article on "Socialist Calculation: The Competitive 'Solution,'" in *Economica*, New Series, Vol. VIII, No. 26 (May, 1940), p. 125.

implied in, or follows necessarily from, the valuation of consumers' goods. But this, too, is not correct. Implication is a logical relationship which can be meaningfully asserted only of propositions simultaneously present to one and the same mind. It is evident, however, that the values of the factors of production do not depend solely on the valuation of the consumers' goods but also on the conditions of supply of the various factors of production. Only to a mind to which all these facts were simultaneously known would the answer necessarily follow from the facts given to it. The practical problem, however, arises precisely because these facts are never so given to a single mind, and because, in consequence, it is necessary that in the solution of the problem knowledge should be used that is dispersed among many people.

The problem is thus in no way solved if we can show that all the facts, *if* they were known to a single mind (as we hypothetically assume them to be given to the observing economist), would uniquely determine the solution; instead we must show how a solution is produced by the interactions of people each of whom possesses only partial knowledge. To assume all the knowledge to be given to a single mind in the same manner in which we assume it to be given to us as the explaining economists is to assume the problem away and to disregard everything that is important and significant in the real world.

That an economist of Professor Schumpeter's standing should thus have fallen into a trap which the ambiguity of the term "datum" sets to the unwary can hardly be explained as a simple error. It suggests rather than there is something fundamentally wrong with an approach which habitually disregards an essential part of the phenomena with which we have to deal: the unavoidable imperfection of man's knowledge and the consequent need for a process by which knowledge is constantly communicated and acquired. Any approach, such as that of much of mathematical economics with its simultaneous equations, which in effect starts from the assumption that people's *knowledge* corresponds with the objective *facts* of the situation, systematically leaves out what is our main task to explain. I am far from denying that in our system equilibrium analysis has a useful function to perform. But when it comes to the point where it misleads some of our leading thinkers into believing that the situation which it describes has direct relevance to the solution of practical problems, it is time that we remember that it does not deal with the social process at all and that it is no more than a useful preliminary to the study of the main problem.

## THE FUNCTION OF SEVERAL PROPERTY AND FREEDOM OF CONTRACT\*

BY RANDY E. BARNETT

### I. THE NATURE OF FUNCTIONAL ANALYSIS

Suppose you are on a commercial airplane that is flying at 35,000 feet. Next to you sits a man who appears to be sleeping. In fact, this man has been drugged and put upon the plane without his knowledge or consent. He has never flown on a plane before and, indeed, has no idea what an airplane is. Suddenly the man awakes and looks around him. Terrified by the alien environment in which he finds himself, he searches for a door or window from which to make an escape. As luck would have it, he is seated right next to a window exit and he begins to pull the handle that will open the window.<sup>1</sup> You are aware that opening the window exit at this altitude will cause the cabin to quickly depressurize and that this man, you, and probably several other passengers will be sucked out the window to your deaths. You desperately want to stop him from opening the window. Now assume that for some reason it is impossible to prevent him physically from performing the deadly act. Your only option is to rationally persuade him to leave the window exit alone. You cry out to him and, with both hands on the handles, he turns to face you and waits to hear what you have to say. What sort of argument would you make?

I suggest that you would begin by trying to explain the function of the window exit he is trying to remove. This will not be easy. Remember, he has no conception of air travel. You will have to explain to him the concept of an airplane and the fact that this airplane is flying at 35,000 feet. Even though you are both seated in an airplane, your explanation will have to persuade him that airplanes really "exist." Suppose he responds that he does not believe in any nonsense about flying machines ("nonsense *without* stilts" he calls it) and that he will just remove the window exit and see for himself. For him to appreciate the hazard of his empiri-

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<sup>1</sup> Although the pressurized cabin and the design of airplane exits would make this impossible, assume that he can open the window exit.

cal experiment, you will have to go on to explain the concept of air pressure and the fact that the cabin is pressurized and that his removal of the window will cause rapid depressurization that will suck both him and you and probably many others to their deaths.

If you succeed in getting the man to understand and accept all the concepts and facts that comprise a functional explanation of the window, he will in all probability cease his deadly course of conduct and you and the other passengers will be saved. Of course, even though you will be a hero, you will not have offered a "complete" explanation of why the man should refrain from opening the window. Suppose he responded to your functional analysis as follows: "I understand all you say and accept it as true. But now explain to me why I should care if you, me, and countless others will be sucked out the window to our deaths?" Clearly some other line of argument will now be required to answer this challenge. But whatever other arguments might be required, no set of arguments against his opening the window will be complete without a "functional" component.

If this were an introduction to a paper on environmentalism, a functional analysis would require no further explanation. We are now familiar with the "spaceship earth" metaphor and arguments to the effect that if we continue to do X on a large scale (emit fluorocarbons, pollute the groundwater, destroy the rain forest, etc.), we will suffer consequences that all would deem to be objectionable. But while many now understand the concept of a physical environment in which certain actions *if widespread* will have devastating effects on everyone, most are far less conscious of our legal environment in which certain actions *if widespread* will also yield devastating effects on everyone. My thesis is, then, that all of us in this world are flying together in a "social airplane," but, while many people are aware of the rule that "they should not open the window exit," only a handful of people appreciate the function of the window or even that they are flying at 35,000 feet. Consequently, very few understand entirely why this rule should exist and why they should obey it.

Several property and freedom of contract<sup>2</sup> are concepts that have, like the window exit on an airplane, vital functions in the social airplane in which we are all flying. They cannot be understood completely without appreciating these functions. To fully understand the function of the window exit, one must understand the problems that this device is intended to handle. Similarly, to understand the concepts of several property and freedom of contract fully, one must appreciate the problem or problems these concepts handle and how they handle them.<sup>3</sup> Whatever else is required to completely explain the concepts of several property and freedom of contract, no account is complete without this sort of functional analysis. Understanding the problems that are handled by several prop-

<sup>2</sup> These concepts will be defined below.

<sup>3</sup> See Randy E. Barnett, "The Internal and External Analysis of Concepts," *Cardozo Law Review*, vol. 11 (1990), pp. 525-35.

erty and freedom of contract will go a long way to appreciating why the laws of any society should not be inconsistent with these principles.

Several property and freedom of contract are the conceptual mainstays of the liberal conception of justice, which— together with the liberal conception of the rule of law— addresses three general categories of social problems: problems of knowledge, of interest, and of power. Each of these categories of problems is actually a set of associated problems. There are at least three distinct problems of knowledge, three problems of interest and two problems of power.

Some of the problems in each category result from our efforts to solve other problems. For example, the *second-order problem of knowledge* is to communicate the substance of justice in a form that can generally be known and acted on. This problem arises from using the liberal conception of justice (which includes the concepts of several property and freedom of contract) to solve the *first-order problem of knowledge* as described in Section II. The second-order problem of knowledge is handled by regulating human conduct by means of action-guiding rules and principles that conform to the formal requirements of the liberal conception of the rule of law and by having principles of justice that normally regulate objectively manifested conduct rather than subjective intent. The *third-order problem of knowledge* is to discover and promulgate a particular set of these concrete action-guiding rules and principles that is consistent with the liberal conception of justice. This problem is addressed by the common-law adjudicative process whose procedural attributes comprise another part of the liberal conception of the rule of law.

The problems of interest include the problems of partiality, of incentives, and of compliance. The *partiality problem* arises because persons tend to favor their own interests over the interests of others when making judgments concerning resource use. The *incentive problem* arises when persons have inadequate incentives to use the resources that lie within their proper jurisdiction. The *compliance problem* arises when persons do not find it in their interest to conform their actions to the requirements of justice or the rule of law. (The first two of these problems will be discussed at greater length in Section III.) While each of these problems of interest would exist independently of any knowledge problem, they cannot be entirely understood without taking into account the way we handle the knowledge problem by means of the liberal conception of justice and the rule of law. Similarly, the two problems of power— which will not be treated in this paper— are actually specialized problems of knowledge and of interest that arise when force is used to address the compliance problem. The *problem of enforcement error* that arises from mistaken applications of legal coercion is a type of knowledge problem; the *problem of enforcement abuse* that arises when legal coercion is used for improper purposes is a special problem of interest.

None of these problems is easily explained. Perhaps this is why they are generally neglected. It is impossible to discuss in this paper every aspect of each of these problems or how each is addressed by the liberal conceptions of justice and the rule of law. I shall confine myself to explaining the aspects of these problems that are handled by the concepts of several property and freedom of contract.<sup>4</sup> Those problems – such as the twin problems of power – that are primarily handled by other aspects of the liberal conception of justice or by the rule of law will be omitted.

One more preliminary matter must be stressed. Although I shall begin by considering how the concepts of several property and freedom of contract address the knowledge problem, the function of these concepts cannot be understood solely from the perspective of this problem. Important aspects of the concepts of several property and freedom of contract cannot be appreciated fully without also taking into account their ability to handle the problems of interest. The more work each of these concepts performs, the more valuable it is.

## II. THE PROBLEM OF KNOWLEDGE

Although, as just noted, the liberal conception of justice and the rule of law addresses three distinct orders of knowledge problems, what I will call the *first-order problem of knowledge* is handled primarily by the concepts of several property and freedom of contract. The first-order problem of knowledge arises because access to the vast range of knowledge possessed by individuals and associations is limited. For example, each person has knowledge of his particular situation – including knowledge of his abilities, his interests, his preferences, and his opportunities – and access to this knowledge by others is extremely limited. When persons seek to act on the basis of the knowledge in their possession, such action necessarily involves the use of physical resources (including their bodies). Many of these actions will conflict, in the sense that attempts by some to use physical resources to put their knowledge into action will inevitably interfere with the efforts of others to do the same.

No one has placed greater stress on this particular knowledge problem than Friedrich Hayek. As he explains:

<sup>4</sup>The rights of several property and freedom of contract are widely viewed as “economic rights.” Yet they can be as personal as any “personal right” one can imagine. Properly understood, the right of several property includes the right to control one’s body, including one’s sexual behavior. The right of freedom of contract includes the right to purchase books, birth control devices, or intoxicating substances from willing sellers. This is not, however, an analysis of the distinction between personal and economic rights. Instead, it is an analysis of the function played by the rights of several property and freedom of contract. Since, whatever else these rights embrace, they embrace economic activities then, *a fortiori*, this is an analysis of economic rights.

The peculiar character of the problem of a rational economic order is determined precisely by the fact that the *knowledge of the circumstances* of which we must make use never exists in concentrated or integrated form but solely as the dispersed bits of incomplete and frequently contradictory knowledge which all the separate individuals possess. The economic problem of society is thus not merely a problem of how to allocate “given” resources—if “given” is taken to mean given to a single mind which deliberately solves the problem set by those “data.” It is rather a problem of how to secure the best use of resources known to any of the members of society, for ends whose relative importance only those individuals know. Or, to put it briefly, it is a *problem of the utilization of knowledge which is not given to anyone in its totality.*<sup>5</sup>

Hayek’s account does not assume that everything that people believe is true. Rather, it maintains that there are many things that each of us believes that are true and that access to these “truths” by others is severely limited.

The radically dispersed knowledge that Hayek is describing may be either “personal” or “local,” depending upon the degree of its accessibility. Individuals have access to their own *personal knowledge* that others necessarily lack.<sup>6</sup> Only I know what I am thinking and feeling right now as I write this passage; only I can observe the room I am working in from this vantage point; only I know what it is I plan to write; only I know that I would like something to drink. A list of my personal knowledge would be both endless and impossible to compile.<sup>7</sup>

*Local knowledge* is knowledge that, unlike personal knowledge, is publicly accessible to particular associations of persons. Like personal knowledge, however, access to local knowledge is limited. A dinner conversation between two people in a crowded restaurant is accessible to both conversants, but not to everyone in the restaurant. Even persons at the next table may be hard-pressed to understand what is being said. Knowledge need not be limited to a few people to be local. Sixty-five thousand people could watch a football game. Their knowledge of the

<sup>5</sup> Friedrich A. Hayek, *Individualism and Economic Order* (Chicago: University of Chicago Press, 1948), pp. 77–78 (emphasis added). For additional discussion of the knowledge problem, see Don Lavoie, *National Economic Planning: What is Left?* (Cambridge: Ballinger, 1985); *Rivalry and Central Planning* (New York: Cambridge University Press, 1985); Thomas Sowell, *Knowledge and Decisions* (New York: Basic Books, 1980).

<sup>6</sup> Although I have borrowed the term “personal knowledge” from Michael Polanyi, his use of the term differs markedly from mine, as do the types of problems his analysis is intended to address. See Michael Polanyi, *Personal Knowledge* (Chicago: University of Chicago Press, 1962).

<sup>7</sup> Personal knowledge includes a tacit dimension that, as Michael Polanyi has explained, contains “an *actual knowledge* that is indeterminate, in the sense that its contents *cannot be explicitly stated.*” Michael Polanyi, *Knowing and Being* (Chicago: University of Chicago Press, 1969), p. 141.

game is local in the sense that the rest of the world does not have access to what the spectators can observe about the game in progress. Even if millions more are watching on television, such knowledge would still be local in the relevant sense since billions lack access to it.

We are now in a position to characterize the first-order problem of knowledge that is caused by this radical dispersion of knowledge. It has two aspects or dimensions:

- (1) One must be able to act on the basis of one's own personal knowledge or the local knowledge one has access to as a member of an association; (2) when so acting, one must somehow take into account the knowledge of others of which each person is hopelessly ignorant.

The dispersal of personal and local knowledge can be pictured as a "knowledge glass" each of us possesses that is both half-full (what each of us knows) and half-empty (what each of us is ignorant of). The problem is making use of the half that is full while taking into account the half that is empty. People must be able to develop and to act on the basis of their own personal and local knowledge, but we understand that their actions are likely to affect others in ways that can scarcely be known.

The first step in seeing how this problem is addressed is to recognize that the first-order problem of knowledge is (a) to enable each person to *act* on the basis of his own knowledge while (b) enabling each person to take into account the knowledge of others. The *actions* of some, not their knowledge, are what interfere with the ability of others to act on the basis of their personal and local knowledge. Ideally, what is sought is a social order in which the *use* of everyone's knowledge is possible. Although differing preferences and opinions can give rise to conflicting actions, we need not control preferences and opinions themselves to handle the problem of conflicting action. We need only control actions. Nor need we control any actions that do not impede the ability of others to put the knowledge in their possession to good use. In sum, to solve the first-order knowledge problem requires only an "order of actions,"<sup>8</sup> not an order of preferences. An order of actions requires some scheme in which conflicts among actions are minimized.

Human action must occur during particular periods of time and in particular physical spaces; this imperative is reflected in the term "order" itself. An "order" of actions initially suggests a scheme of *temporal priority*. ("First her actions, then his.") But *spatial priority* is another dimension of order. ("She acts over here; he acts over there.") Thus, to achieve an order of actions one must regulate the use of physical resources in a society. An order of actions is achieved when the individual or associational

<sup>8</sup> This helpful phrase is Hayek's. See, e.g., Friedrich Hayek, *Law, Legislation, and Liberty*, vol. 1 (Chicago: University of Chicago Press, 1974), p. 96.

uses of physical resources (human action) are temporally and spatially coordinated so as to reduce or eliminate the possibility that two persons or associations will attempt to use the same resource at the same time. If human actions can be suitably regulated, then we need not attempt the potentially tyrannical effort to remold or coordinate personal preferences themselves.

Yet although the concept of a social order in which human actions are coordinated is useful to clarify our objective, the concept itself specifies neither the type of order that is most desirable nor the manner by which such an order of actions can be achieved. Lon Fuller, for example, distinguished between the order “of a morgue or cemetery” and “an order . . . at least good enough to be considered as functioning by some standard or other.”<sup>9</sup> Social order could be achieved by allocating the use of resources by a lottery, by brute force, or by some other method, but what *kind* of order would this be? The preceding analysis of the knowledge problem provides a way out of the open-endedness of the concept of social order. For it suggests that we want an order of actions in which personal and local knowledge is developed, disseminated, and acted upon. Not every kind of ordering method will be able to accomplish this equally well.

#### A. *Two methods of ordering actions*

Let us now distinguish between two quite different methods of achieving an order of actions: centralized and decentralized ordering. *Centralized ordering* attempts to order the actions of diverse persons and associations by delegating the authority to regulate the conduct of other persons or associations in a society to some persons or associations in that society. *Decentralized ordering* attempts to order the actions of diverse persons and associations by delegating to each person or association in society defined authority to regulate their own conduct.

1. *Centralized ordering.*<sup>10</sup> The idea of centralized ordering of society as a whole is both attractive and plausible in light of its familiarity, for we witness centralized ordering in nearly every facet of our daily lives. The family is organized in this way, with parents making decisions about the disposition of family assets among the family members. Larger commercial firms are organized this way as well, with a hierarchical association of persons called “management” making decisions about using the re-

<sup>9</sup> Lon L. Fuller, “Positivism and Fidelity to Law: A Reply to Professor Hart,” *Harvard Law Review*, vol. 71 (1958), p. 644.

<sup>10</sup> The following discussion of centralized ordering is heavily influenced by Hayek. See, e.g., Hayek, *Individualism and Economic Order*, pp. 119–208; *New Studies in Philosophy, Economics and the History of Ideas* (Chicago: University of Chicago Press, 1978), pp. 232–46. Hayek’s analysis and that of others arguing in the same vein is explained and applied in Lavoie, *National Economic Planning: What is Left?* and *Rivalry and Central Planning*.

sources of the company, subject to the approval of a board of directors. Perhaps the military, with its extremely well-defined chains of command, is the most explicit scheme of centralized ordering.

Centralized ordering is undoubtedly a valuable method of capitalizing upon both personal and local knowledge. One individual acting as a central director or planner can effectively order the actions of other persons so as to capitalize on the planner's personal knowledge. For example, it can harness the personal knowledge of a parent of the needs of her child, an entrepreneur's personal knowledge of an unfulfilled demand in a market and a practical way of fulfilling it, or a field officer's personal knowledge of a tactical situation in combat. Or centralized direction can capitalize upon the local knowledge of an association. For example, it can harness the local knowledge of a husband and wife, the talented managers of a corporation, or a military command.

Centralized ordering is completely unsuited, however, to handle the first-order knowledge problem. Suppose we delegated to some person or association the responsibility for coordinating resource use in accordance with the diverse knowledge of all persons and associations. To achieve an overall order of actions with such a strategy, some person or identifiable set of persons in a society would somehow have to (a) obtain the personal and local knowledge of all persons and associations in that society, (b) incorporate this knowledge into a coherent or coordinated "plan" of human actions, and then (c) transmit instructions on resource use consistent with this plan to everyone in the society so that persons may act accordingly. Serious problems arise when trying to establish the order of an entire society in such a manner.

The very strength of centralized direction in capitalizing on the personal and local knowledge of central directors is at once its weakness as a strategy for solving the first-order problem of knowledge. Centralized ordering is especially effective when those in charge of the ordering scheme have access to useful personal or local knowledge. Although central directors have access to their own personal and local knowledge, they lack the access to the knowledge that they would need to reconcile the ever-changing diversity of personal and local knowledge dispersed throughout a society. Access to such knowledge is essential if a centralized ordering strategy for the society as a whole is to be implemented, but such access is simply unavailable.

In sum, centralized direction cannot solve the first-order problems of knowledge in society at large because central directors cannot possibly have access to the personal and local knowledge that such an ordering strategy requires. They are hopelessly ignorant of the knowledge that is needed to achieve an order of actions.

2. *Decentralized ordering.* How could the first-order knowledge problem possibly be addressed by anything but central direction without immediately descending into chaos or disorder? The answer – at the most abstract

and general level—involves the concept of *jurisdiction*. A jurisdictional strategy attempts to handle the first-order problem of personal and local knowledge dispersed throughout society by using the idea of “bounded individual and associational discretion.” This method of social ordering defines a jurisdiction or domain within which an individual or association is free to act on the basis of personal and local knowledge.

Implicit in this jurisdictional strategy is a crucial distinction between the judgment-maker and the judgment to be made. Or, to use the language of American sports, such a strategy distinguishes the question of “who makes the call?” from the question of “what is the correct call?”<sup>11</sup> Although both of these questions require knowledge to answer, each question requires substantially different knowledge. To answer the second of these questions requires personal and local knowledge of particular circumstances—knowledge that is inaccessible to centralized mechanisms. The first of these questions requires only that we know who is in the best position to have this knowledge.

We may refer to this quality of “being in the best position to know” as the quality of institutional or personal *competence*. The knowledge required to answer the second of these two questions differs substantially from that required to answer the question of competence. Even when we do not know the correct call to make, we may know who is most likely to have the knowledge that such a call requires. Instead of requiring that we gain access to the personal and local knowledge needed to make the decision in question, such an assessment requires only that we determine who is in the best position to obtain the knowledge that the decision requires. In baseball, for example, we may know that the umpire is in the best position to assess whether or not a pitched ball is in the strike zone without knowing anything about a particular pitch.

The earlier discussion of personal and local knowledge suggests that individuals and associations have a comparative advantage over centralized mechanisms. They have access to these types of knowledge that centralized mechanisms must lack. The fact that individual persons and institutions are generally in the best position to make the right call does not, however, mean that they will always make good use of their access or that others are never in a better position to make a particular call. Nor does it mean that an analysis of personal and institutional competence would never benefit from a substantive assessment of the right call to make. We may, in fact, bolster our assessment of personal and institutional competence by sampling a few decisions to see if they appear to reflect the knowledge we expect these persons and institutions to possess. A pattern of egregious decisions would call into question the competence of the decision-maker.

<sup>11</sup> The phrase “making the call” in American sports derives from baseball umpires who are said to “call” whether a pitch is a ball or a strike. So we could distinguish the question of who it is that is to make the call—the umpire—from the question of the correct call to make—a ball or a strike.

Still, the possibility of second-guessing the wisdom of the decisions of those in the best position to make a call does not change the basic analysis. Given that no decision-maker is perfect, we need to make a comparative and generalized judgment when determining the appropriate jurisdictional allocation. A persistent bias in favor of centralized decision-making results from our apparent ability to second-guess the wisdom of the decisions of others when these decisions go awry. Such a bias is an instance of the fallacy of the whole; it falsely assumes that what is unquestionably true about individual decisions—that others can sometimes know better—is also true of systematic decision-making—that others are more competent generally. An institutional competence to second-guess the correctness of another's call *on occasion* does not entail an institutional competence to make correct calls for others *systematically*. The concept of competence does not rest on an ability to make every decision better than anyone else; it rests on being in a better position than anyone else to make knowledgeable decisions.

The idea of jurisdiction based on “bounded individual and associational discretion” is, of course, far too general to define actual conduct as permissible or prohibitible. It says nothing about the nature of the domain or the extent of the boundary. Nonetheless, even at this extremely general level, such a strategy is theoretically revealing in several ways. First, it identifies *discretion* (or liberty) as a means of capitalizing on knowledge that cannot be transmitted through a chain of command to central directors. Second, it places discretion in the hands of *individuals* who are most likely to possess personal knowledge and in the hands of *associations* which are most likely to possess local knowledge. Finally, it immediately suggests that discretion must somehow be *bounded*, albeit in a manner that does not undermine the purpose for adopting the strategy. The boundaries of this discretion are defined by two distinct conceptual components: decentralized jurisdiction over physical resources and consensual transfers of these jurisdictions. Let us consider each in turn.

#### B. Decentralized jurisdiction

The first-order problem of knowledge has two aspects or dimensions. First, we need to enable persons to develop and act upon the basis of their own knowledge. Second, we need to enable persons to take into account the knowledge of others of which they are ignorant when making their decisions of how to act. Decentralized jurisdiction is the principal means of coping with the first aspect of the problem.

Before briefly considering the basic principles of such a strategy, a caveat is in order. I do not contend that the following rather abstract principles of decentralized jurisdiction are capable of yielding specific allocations of jurisdiction to particular individuals. Instead, these principles serve as functional criteria for evaluating the set of conventional rules that is needed to determine specific allocations. In other words, these

general principles cannot take the place of *laws* to govern the allocation of resources, but any such laws should be critically assessed to determine if they function in a manner that is consistent with these principles.

*Jurisdiction or discretionary control over resources must be delegated to identifiable individuals and groups.* The fact that access to personal and local knowledge is dispersed throughout society gives rise to the first-order problem of knowledge. Knowledgeable decisions cannot be made concerning the use of resources if the decision-maker lacks access to this vital personal and local knowledge. If decisions concerning resource use are to be knowledgeable, decision-making authority concerning resource use must belong to the persons and associations with access to such knowledge. Conversely, those who, by assumption, lack the requisite knowledge of resource use should also lack the authority to interfere with the decisions made by those with knowledge—at least as a general matter. All else being equal, the distribution of jurisdiction over physical resources, should mirror as closely as possible the distribution of access to knowledge in society.

*The allocation of jurisdiction should reflect an assessment of who is in the best position to have personal and local knowledge of the resources in question.* Insurmountable knowledge problems prevent us from allocating jurisdiction on the basis of who actually has the best knowledge of certain resources. If a centralized institution charged with allocating jurisdictions knew what it would need to know to make such allocations, we would not need a decentralized jurisdictional strategy in the first place. The most we can hope for is to determine the general characteristics of those who are in the best position to have knowledge of potential resource uses, regardless of whether they in fact always have the best knowledge. In sum, we rely on these general characteristics to establish a *presumption of competence* in favor of individuals and groups who have access to the personal and local knowledge pertaining to their own situation.

*The domain accorded any particular individual or group must be bounded.* If the distribution of jurisdiction over physical resources mirrors as closely as possible the distribution of knowledge in society, then this also means that such jurisdiction must be limited or bounded. Because access to personal and local knowledge is limited, no one has access to all such knowledge. Consequently, no person or group should have jurisdiction over all resources.

*Because the knowledge of individuals and associations is dynamic, not static, jurisdictional boundaries must be subject to revision.* Jurisdiction cannot be allocated once and for all. Knowledge is constantly changing; consequently, the person or association in the best position to have this knowledge may change as well. Absent the need to continually adjust the jurisdiction of individuals and associations, we might imagine a centralized regime being able to allocate jurisdiction once and for all. However, a centralized regime would simply be swamped by the need to constantly readjust jurisdictional boundaries according to shifting personal and local knowl-

edge. The restricted access to such knowledge renders such an approach not merely impossible, but inconceivable.

Although the dynamic nature of the first-order problem of knowledge makes changes in jurisdiction necessary, allowing jurisdictional boundaries to change gives rise to very ticklish problems. Rarely will it be sufficiently clear whether the current jurisdiction-holder or some other potential decision-maker is in the better position to use the resources in question. If a potential user were permitted simply to displace the present user on the basis of a mere assertion of superior knowledge, this would provide no way of knowing that the new user is really in any better position to use the resources than the present user.

The only way that such a decision can reflect the knowledge of both parties is to require that transfers occur only with the consent of the current holder of jurisdiction. In this way, a requirement of consent is the key to solving the second aspect of the first-order problem of knowledge: that of enabling individuals to take into account the knowledge of others when making their decisions. It is to this requirement for solving the first-order problem of knowledge that I now turn.

### C. *Consensual transfers*

The concept of bounded individual and associational discretion is crucial to harnessing the local and personal knowledge that is dispersed throughout society. Recall the two dimensions or aspects of the first-order problem of knowledge discussed above:

- (1) one must be able to act on the basis of one's own personal knowledge or the local knowledge one has access to as a member of an association; (2) when so acting, one must somehow take into account the knowledge of others of which each person is hopelessly ignorant.

The concept of consensual transfers addresses both dimensions of the first order problem of knowledge. First, *permitting* consensual transfers of jurisdiction addresses the problem of enabling persons to act on the basis of their personal and local knowledge by authorizing them to transfer jurisdictions they currently have in exchange for jurisdictions they believe they can put to better use. In this way, a transfer of a person's jurisdiction reflects this person's local and personal knowledge.

Second, the *requirement* that all transfers of jurisdiction must be by consent addresses the second dimension of this knowledge problem by enabling—indeed, forcing<sup>12</sup>—persons to take into account the knowl-

<sup>12</sup> The fact that persons *must* take the knowledge of others into account addresses, not the problem of knowledge, but a pervasive problem of interest discussed in Section III: the *partiality problem*. The set of resource prices that results from this requirement, however, does address the second aspect of the first-order problem of knowledge by enabling persons to take the knowledge of others into account when they decide whether and how to act. In this respect, the ability of the requirement of consent to address the knowledge problem depends to some extent on its ability also to address the problem of interest.

edge of others when making their decisions. For changes in boundaries to reflect the knowledge of all affected parties, such revisions must be based on the manifested consent of the individuals or associations whose boundaries are changed. By requiring consent, the new claimant is compelled to take the knowledge of the present jurisdiction-holder into account—including the present holder's knowledge of her own perceptions, preferences, opportunities, etc.

For example, if Ann, the present holder, would prefer to maintain jurisdiction than see it transferred to Ben, the new claimant, then Ben must offer Ann something that he has reason to think she would value more. In other words, the onus falls upon Ben to provide Ann with jurisdiction over some other resource that she would prefer to the jurisdiction she currently holds. So, for example, Ben could offer Ann jurisdiction over a book she has yet to read in exchange for her jurisdiction over a book she has already read. Only if Ben must obtain Ann's consent is there any assurance that his claim to jurisdiction will take her knowledge into account.

The requirement of consensual transfers affects our ability to take into account the knowledge of others far more profoundly than this simple example suggests. Such a requirement also makes possible the evolution of a powerful institution that enables this personal and local knowledge to be "encoded" and transmitted worldwide in a form that can be easily understood by others and incorporated into their decisions without centralized direction. In short, the requirement of consent permits the evolution of *prices*.

Prices are by far the most neglected form of knowledge we have. The reason for this is that the knowledge embedded in prices is not *explicit*; we are never conscious of it as knowledge. It is encoded knowledge, and we are conscious only of the code. Prices reflect the vast personal and local knowledge of the many competing uses to which any physical resource may be put. My computer is constructed of plastic, glass, various metals, and other resources. My desk is made of wood. These resources could have been used in a variety of other ways by people throughout the globe. I have not the slightest way of knowing even a small fraction of the specific alternative uses that others might find for these resources. And yet without a comprehensive knowledge of all the alternative uses of these resources, how can a knowledgeable decision be made on how these resources should be used?

In light of the dispersed nature of personal and local knowledge, the problem of knowing alternative uses of resources is immense. For the relevant alternative uses of resources depend upon each person's personal knowledge of perceptions, interests, and opportunities. They also depend upon the local knowledge of associations as to their shared interests and opportunities. This personal knowledge is generally inaccessible to others, while this local knowledge is inaccessible to those outside the rele-

vant association. Moreover, persons and associations are not neutral towards the variety of other resource uses of which they are aware. They have preferences among the available alternatives and these preferences – or subjective values – are constantly changing. In deciding what I should do, how can I possibly take the knowledge of alternative resource use into account? How could I possibly “weigh” the limitless alternatives?

This is a knowledge problem of such enormous proportions that *less information is preferable to more*. That is, even if we could have direct access to all the knowledge we require, the sheer volume of such knowledge would prevent us from ever putting it to use. We need somehow to condense this knowledge to a usable form. We need to convert it to a form of local knowledge that can itself be integrated into each person’s personal knowledge. And this process of condensation need not be perfect to be superior to the only alternative: near-total ignorance. This vital function is performed by the device of resource prices.

Resource prices condense the personal and local knowledge of each one of us into a form of local knowledge that can be integrated into the personal knowledge of all of us. Resource prices are local knowledge insofar as they are communicated from one person to another in an intelligible form. Once communicated, they may be integrated into the personal knowledge of individuals concerning their available opportunities. For example, a trip to Paris has a resource price attached to it. When I consider this choice, I must consider the costs to me of paying this price. This cost is the most highly valued set of opportunities that I will forgo by choosing to go to Paris.<sup>13</sup> Of course, even with a price of zero, there is no such thing as a truly cost-free trip to Paris, since such a trip will require me to forgo other potential uses of my time. But the monetary price of a trip to Paris will strongly influence the cost to me of such a trip. And the monetary price reflects the uses to which *others* may put the resources that it would take to get me to Paris.

Here the requirement of consent is crucial. Prices are able to communicate this information only because the consent of those with jurisdiction over particular resources is required before jurisdiction may be transferred to another. None of this calculation would have been performed had I not been required to obtain the airline’s consent to fly me to France and had the airline not been required to obtain the consent of all those whose cooperation is needed to make the flight. The need of others to obtain the consent of a jurisdiction-holder means that anyone wishing to obtain a transfer of jurisdiction must offer the present jurisdiction-holder jurisdiction over other resources that the present holder believes he or she would put to better use. The types of offers, as well as the number of persons offering to make exchanges, serve to educate the holder of the value that

<sup>13</sup> For a discussion of the subjective costs of choice, see James Buchanan, *Cost and Choice* (Chicago: Markham, 1969).

others place on the resources over which she has jurisdiction. When this value reaches a certain level, the holder is induced to make an exchange, thereby revealing that the value she placed on the resource was less than the value to her of the resources offered. Without the requirement of consent, this information would never be revealed and prices could not arise.

With a set of prices a person is able to – indeed, she must<sup>14</sup> – decide whether to use a resource, save it for later use, or exchange it for another resource by comparing her knowledge of the different uses she may have for a resource and of her own preferences among these uses with the knowledge and preferences of countless others that are encoded in the market price for the good. If the market price is higher than the value she places on the resource, then she will be induced to exchange it. If the market price is lower, she will either use the resource or conserve it for later use or exchange. The process is dynamic in that the holder of jurisdiction is incorporating price signals – a form of local knowledge – into the personal knowledge on which she bases her decision; in turn, her decision (to hold or sell) will influence the price signals received by others and will then be incorporated into their personal knowledge.

We may summarize this analysis as follows. In making personal or local decisions about resource use, each person or association needs “input” or knowledge about the potential resource use of others relative to the supply of resources. Resource prices provide this knowledge in a usable form and in the only manner that such knowledge could ever be provided systematically. And such a knowledge-conveying mechanism would cease to exist without the requirement that one’s jurisdiction over resources cannot be displaced without one’s consent, for it is consent-based exchanges that generate prices. Without such consent-based exchanges, prices could not emerge and the knowledge they convey would be hopelessly inaccessible.

#### *D. The liberal conception of justice*

We have now identified a two-part strategy to handle the first-order problem of knowledge. First, recognize the jurisdiction of individuals and associations over physical resources so as to permit them to act on the basis of their own personal and local knowledge. This enables individuals and associations to harness the knowledge in their possession. Second, allow the transfer of a person’s or association’s jurisdiction only with manifested consent. This permits changes in jurisdictions to reflect changes in knowledge, while making possible a price system that enables persons to take the knowledge of others into account when deciding how to act.

<sup>14</sup> Once again, by forcing – as opposed to enabling – persons to take into account the knowledge of others, the requirement of consent also addresses the partiality problem discussed in Section III.

This two-part strategy is reflected in the liberal conception of justice. According to the liberal conception of justice, the use of force in society is governed by *rights*. The first part of the strategy – decentralized jurisdiction – is reflected in the nature and scope of these rights. Rights concerning jurisdiction over physical resources are usually called property rights. According to the classical liberal view, to have property in a physical resource – including one’s body – means that one is free to use this resource in any way one chooses, provided that this use does not infringe upon the rights of others.

Because this concept of property protects the discretionary use of resources by private persons, as opposed to government officials, this idea is often referred to as “*private* property.” However, for present purposes, the term “*several* property” – a term favored by F. A. Hayek and the figures of the Scottish enlightenment – may be more illuminating.<sup>15</sup> This term makes it clearer that jurisdiction to use resources is dispersed among the “*several*” – meaning diverse, many, numerous, distinct, particular, or separate – persons and associations that make up a society, rather than being reposed in a monolithic centralized institution.

The second part of the strategy – consensual transfers only – is reflected in a concept that is sometimes called “*freedom of contract*.” The concept of freedom of contract consists of two distinct principles: the principle of freedom *to* contract and the principle of freedom *from* contract. Freedom to contract holds that persons may consent to legally enforceable transfers of their property rights; freedom from contract holds that transfers of property rights should not be imposed upon them without their consent. In other words, freedom to contract *permits* consensual transfers, while freedom from contract *requires* that transfers be by consent. Against a backdrop of several property, the two principles that comprise freedom of contract regulate the transfers of the several property rights persons have. The manifested consent of the rights-holder is, under normal circumstances, sufficient to transfer a property right; property rights may not normally be transferred without the consent of the rights-holder.<sup>16</sup>

We are now in a position to summarize a primary function of the concepts of several property and freedom of contract: both concepts help address the first-order problem of knowledge. By delegating discretion to

<sup>15</sup> See, e.g., Hayek, *Law, Legislation and Liberty*, vol. 1, p. 121.

<sup>16</sup> I discuss the implications of this principle for contract law in Randy E. Barnett, “Contract Scholarship and the Reemergence of Legal Philosophy,” *Harvard Law Review*, vol. 97 (1984), pp. 1223–45; “A Consent Theory of Contract,” *Columbia Law Review*, vol. 86 (1986), pp. 269–321; “Contract Remedies and Inalienable Rights,” *Social Philosophy and Policy*, vol. 4 (1986), pp. 179–202; “Squaring Undisclosed Agency With Contract Theory,” *California Law Review*, vol. 75 (1988), pp. 1969–2003; and Randy E. Barnett and Mary C. Becker, “Beyond Reliance: Promissory Estoppel, Contract Formalities, and Misrepresentations,” *Hofstra Law Review*, vol. 15 (1987), pp. 443–97. A condensed and revised account of this approach appears in Randy E. Barnett, “Rights and Remedies in a Consent Theory of Contract,” eds. R. G. Frey and Christopher Morris, *Liability and Responsibility: Essays in Law and Morals* (Cambridge: Cambridge University Press, 1991), pp. 135–72.

make choices concerning the uses of resources, several property enables persons and associations to act on the basis of their personal and local knowledge. Freedom *to* contract enables persons to exchange their rights on the basis of their knowledge that other rights would better serve their purposes; it also enables them to make gifts of their rights on the basis of their knowledge that others could make better use of these rights. In this way, rights to use resources are permitted to flow to those who believe that they know best how to use them. Freedom *from* contract protects the expectations of current rights-holders, permitting them to put their knowledge into effect over a period of time free from the interference of others. Moreover, without adherence to the principle of freedom from contract, resource prices cannot arise; it is then impossible for the knowledge of others to be taken into account when individuals and associations attempt to put their own knowledge into action. The price system of knowledge transmittal would be short-circuited and disrupted by forced transfers of rights.

The ideas of several property and freedom of contract correspond to a traditionally powerful conception of rights – those rights that are sometimes called “negative rights” (as distinct from “positive rights”) or, more informatively, “liberty rights” (as distinct from “welfare rights”).<sup>17</sup> It makes a great deal of sense to represent the idea of jurisdiction based on bounded individual and associational discretion by the term “rights.” It conforms to common usage to say that a person who is exercising her jurisdiction to regulate the use of particular resources is exercising her rights and that others have a duty to refrain from interfering with her actions.

However, there is a serious problem with the rhetoric of rights that arises when rights are defined as “justified” or “valid” claims, as modern philosophers are wont to do.<sup>18</sup> Since anything can be made the subject of a claim, *a fortiori* anything can potentially be the subject of a right. Because, however, this modern conception of rights permits *any* claim to be cast in the form of a rights-claim, we can be easily misled into mistakenly validating invalid rights claims.

In contrast, the idea of jurisdiction based on “bounded individual or associational discretion to use resources” offers a much more specific conception of rights. Unlike the entirely open-ended modern concept of a right as a justified or valid claim, the liberal conception of rights ties the concept of a right to a jurisdiction over particular physical resources. And part of what counts as an acceptable justification of such claims stems

<sup>17</sup> See, e.g., Loren E. Lomasky, *Persons, Rights, and the Moral Community* (New York: Oxford University Press, 1987), p. 84.

<sup>18</sup> See, e.g., Joel Feinberg, “The Nature and Value of Rights,” in *Rights, Justice, and the Bounds of Liberty* (Princeton: Princeton University Press, 1980), pp. 151–52: “Some identify right and claim without qualification; some define ‘right’ as justified or justifiable claim, others as recognized claim; still others as valid claim. My own preference is for the latter definition.”

from the need to solve the first-order problem of knowledge and other pervasive social problems. The concrete “legal rights” that are actually enforced by a legal system may or may not be consistent with the abstract “background rights” specified by the liberal conception of justice. But if the first-order problem of knowledge is to be addressed, they *ought* to correspond as closely as possible with the background rights to possess, use, and dispose of scarce resources that are a part of the liberal conception of justice.

E. *Ownership and “distributive” justice*

The liberal conception of justice based on principles of several property and freedom of contract gives particular content to one of the oldest ways of expressing the idea of justice: “to each his own.” The obvious problem with the principle of “to each his own” is that it seems to beg rather than address the question of justice. For, while urging that justice is the respect for what is rightfully one’s own, this principle says nothing about what is properly one’s own. Indeed, the idea of ownership or “one’s own” seems to be little more than a conclusion of a more fundamental analysis that this principle simply assumes and cannot possibly provide. It would seem that the first question of justice must be to ask what exactly ought to be one’s own.

Yet the analysis of the first-order knowledge problem presented here suggests a new way of looking at this problem—or at least a new starting point. Instead of beginning the analysis with a determination of what physical resources ought to be one’s own—an analysis that looks completely open-ended—it begins by acknowledging the prior existence of one’s “own” knowledge. To understand the nature of personal and local knowledge is to recognize implicitly that one’s knowledge is inescapably one’s own.<sup>19</sup> The very definition of personal knowledge presented above is that unique constellation of perceptions, preferences, and opportunities possessed by the individual and to which only the individual has access. In short, to address the knowledge problem, justice must contain some notion of *ownership* because personal knowledge is inescapably one’s own.

But doesn’t this argument merely push the normative question of ownership back one level without solving it? In the case of physical resources, it is one thing to claim that a person is naturally *in possession (de facto)* of certain resources; it is quite another to claim that such possession is normatively justified as *ownership (de jure)*. After all, what did the individual do to deserve this possession? Similarly, it is one thing to claim

<sup>19</sup> I am not speaking now of the *source* of one’s knowledge, which may or may not be “socially determined” according to the current vernacular. I am speaking of the knowledge in one’s possession, however acquired, to which others have limited access.

that only the individual (or association) is in possession of certain knowledge; it is quite another to suggest that such possession says anything about what distribution of resources is normatively justified. After all, what did the individual do to deserve the possession of knowledge on which resource ownership is allegedly based?<sup>20</sup> From this observation comes an argument that physical resources should be “distributed” in a manner so that “no one gains or loses from his arbitrary place in the natural distribution of assets or his initial position in society without giving or receiving compensating advantages in return.”<sup>21</sup>

This argument is based on notions of “distributive justice” that seem somehow out of place in the context of the serious problems generated by the limited access to personal and local knowledge. No one would suggest that the “distribution” of knowledge could be redistributed any more than can the “natural endowments” that some possess and others lack. Indeed, the first-order problem of knowledge arises precisely because personal and local knowledge unavoidably resides within particular persons and associations and cannot be redistributed. There simply would be no knowledge *problem* if personal and local knowledge really could be freely redistributed.

But if people do not deserve the knowledge they possess, how does the mere “arbitrary” fact of possession justify any particular distribution of physical resources? Given that the distribution of knowledge throughout society cannot be redistributed, a jurisdiction to exercise bounded individual and personal discretion over physical resources – what I am calling several property rights – enables persons and associations to put their knowledge to work. Although physical resources differ from personal and local knowledge in that it is possible to redistribute them, if adhering to the liberal conception of justice described here is the best or only way to handle the first-order problems of knowledge, then the fact that personal and local knowledge cannot be redistributed places serious limits on the wisdom or justice of redistributing physical resources in some other manner.

Moreover, the objection that the liberal conception of justice bases rights, in part, on characteristics such as the possession of knowledge that are not deserved rests heavily on the concept of desert. The knowledge one naturally possesses is not “deserved,” it is said, and therefore nothing concerning justice can flow from the “arbitrary” fact of possession alone. However, even if it is true that persons do not deserve the knowledge they have (a claim that is less plausible than the claim that natural endowments are undeserved), a recognition that the concepts of several

<sup>20</sup> This objection to the moral relevance of one’s own knowledge is suggested by John Rawls’s analysis of natural endowments. Compare John Rawls, *A Theory of Justice* (Cambridge: Harvard University Press, 1971), p. 102: “No one deserves his greater natural capacity nor merits a more favorable starting place in society.”

<sup>21</sup> *Ibid.*, p. 102.

property and freedom of contract function, in part, to handle the first-order problem of knowledge suggests that the notion of “moral desert” is irrelevant and even pernicious in this context.

The dispersion of personal and local knowledge to which individuals and associations have limited access is the first problem addressed by the concept of justice being examined here. *The idea that the possession of resources or endowments or knowledge must be deserved has no place in solving this problem.* The knowledge problem exists whether or not individuals and associations deserve the knowledge in their possession. To the extent that persons are deprived of their ability to act on the basis of their knowledge and the information needed to take the knowledge of others into account, distributing physical resources according to principles that ignore all “undeserved” personal characteristics exacerbates the problem.

Finally, the argument that the *de jure* ownership of one’s knowledge cannot be derived from *de facto* possession of one’s knowledge and that the distribution of this sort of personal endowment is “morally arbitrary” because such endowments are not deserved employs a normative standard—desert—that, in this context, borders on absurdity. Given that one’s knowledge is inseparable from oneself, this is tantamount to claiming that before the distribution of knowledge in society may properly influence the requirements of justice, persons must show they deserve to retain their *own* consciousness, their *own* thoughts, and even their *own* life. Only then would these facts of ownership become morally significant. The concept of ownership of one’s knowledge cannot be dismissed as a “mere assertion” requiring ultimate justification in terms of desert, because the fact of such ownership is too embedded in the nature of human beings living in society with others. For this reason, ownership of one’s knowledge can provide a morally significant reason for a conception of justice that allocates ownership of physical resources in a manner that permits persons to exploit the knowledge in their possession.

Viewing justice as a means of solving the pervasive social problems caused by the radical dispersal and relative inaccessibility of personal and local knowledge casts the age-old debate over distributive justice in a new light. Using the concept of desert to drive a wedge between ownership and justice is a mistake because it prevents the concept of ownership based on several property and freedom of contract from performing one of its functions. But the knowledge problem is not the only reason for a liberal conception of justice that is incompatible with some redistributive schemes. As will be explained in Section III, such schemes can also obstruct our ability to cope with the pervasive problems of interests.

#### *F. The principle of first possession*

An important aspect of the liberal conception of justice is yet to be considered. We have discussed at considerable length the concepts of several

property and freedom of contract. The concept of several property suggests that the control of resources should reflect the dispersal of personal and local knowledge, and the concept of freedom of contract governs how rights to owned resources are to be transferred. Still, we have yet to specify any principle to govern how physical resources come to be owned in the first instance.

The principle of property acquisition associated with classical liberalism is that of first possession. The *principle of first possession* specifies that unowned resources come to be owned by the first person or association to establish control over them.<sup>22</sup> The principle also embraces self-ownership—the ownership of one’s body—since only the person controls his or her own body. Although the most important and best-known function of the principle of first possession is probably its ability to address the problems of interest—in particular, the incentive problem—it also plays a generally overlooked role in addressing the first-order problem of knowledge.

Consider what happens when Ann first comes upon a resource that is unowned, perhaps a section of ocean floor that can be mined for minerals. The first function of a principle of first possession is to enable Ann to act on the basis of her knowledge by asserting control over the resource. And, because the resource is unowned—that is, no one else maintains a prior claim to the resource—her actions do not disturb the order of actions in her society; her actions do not interfere with the actions of others. This is not the only way that the principle of first possession reflects the need to address the first-order problem of knowledge.

Second, since her time and other resources are scarce, her efforts to establish control over the seabed come at the expense of other opportunities she must necessarily forgo. The fact that Ann incurs these opportunity costs by using resources she already owns—for example, her body—to establish control over this resource reveals that she has knowledge of how it may be used, in much the same way that the requirement of consensual transfers reveals such knowledge. She would rather invest this portion of her time and energy on using this resource than for any other purpose. Because Ann is the first, she is also the only person to demonstrate such knowledge in so reliable a fashion. At this point, by her committal of her own scarce resources to establish possession of the unowned seabed, Ann is the only potential claimant who is demonstrating that she knows of good uses for it. The principle of first possession acknowledges this fact by allocating the ownership of this resource to Ann.

<sup>22</sup> One must be careful to distinguish the principle of first possession that has long dominated the law of property from theories that seek to explain or justify the principle, such as the “labor-mixing theory” of John Locke. Offered here is a functional theory of the principle of first possession that stresses its role in handling the problems of knowledge and interest. For a concise account of how this principle is applied in the law of property, see Richard A. Epstein, “Possession as the Root of Title,” *Georgia Law Review*, vol. 13 (1979), pp. 1221–43.

Third, when Ben later comes to the seabed, unless Ann and Ben agree to share the resource, some way of deciding between his claim and hers must be established or a conflict will occur and the order of actions will be breached. From the perspective of the ongoing order of actions, the two claims are quite different. Ann's first possession—solely because it was first—did not jeopardize the order of actions by dispossessing the previously lodged claim of any other person. Ben's claim, on the other hand, does threaten to dispossess Ann's previously lodged claim, entailing a loss of her prior investment of time and resources and the defeat of her previously formulated plans that depend upon her continued possession of the resource. In this respect, favoring the claim of the first possessor is less disruptive to the order of actions that permit persons and associations to act on the basis of their knowledge. The timing is of the essence.

Fourth, unless Ben is obliged to obtain Ann's consent to use the resource, we have no way of knowing that Ann's previously demonstrated knowledge is being taken into account by Ben when he decides to pursue his claim. Put another way, without a requirement of obtaining the consent of the first possessor, any subsequent claimant will not "internalize" the cost imposed by his claim on the first possessor. In this respect, the principle of first possession performs the same general function as the requirement of consent—that is, it assures that the knowledge of others will be taken into account when one acts on the basis of one's own knowledge. This should not be surprising, since the principle can be viewed as a specific application of the requirement. Indeed, the resource price mechanism (which has to begin somewhere) begins when Ben is required to "bid" for Ann's previously established claim to the resource and Ann must decide whether to transfer her rights, perhaps in exchange for something that Ben has offered, or to hold on to them. Whichever person ends up in possession of the resource will have internalized the opportunity cost of that possession to the other claimant.

Although the principle of first possession can be seen as addressing the first-order problem of knowledge in these ways, I want to emphasize that I am not suggesting that the first possessor necessarily has "better" knowledge than any subsequent claimant, any more than the requirement of consensual transfers is based on a claim that a present right-holder is necessarily "more knowledgeable" than every potential transferee. The analysis of the function of several property and freedom of contract presented here entails no such effort at interpersonal comparisons of knowledge. Rather, it is precisely because as observers or as claimants we are unable to make such comparisons that some such criterion as the principle of first possession is needed to handle the twofold knowledge problem arising from the radical dispersion of personal and local knowledge.

Of course, if a consensual transfer of rights occurs between the first possessor and a subsequent claimant, then this is *prima facie* evidence that the subsequent claimant can put the resource that is the subject of the

rights-transfer to better use than the rights that are being transferred to the first possessor (and, conversely, that the first possessor can put whatever rights are received in return to better use than the rights transferred to the subsequent claimant). Adhering to the principle of first possession addresses the knowledge problem, in part, by *revealing* this information. In contrast, any principle of allocation that requires for its operation that such information *be obtained* first runs afoul of the knowledge problem.

G. *Beyond the first-order problem of knowledge*

The principle of first possession (and the other principles of justice discussed here) has other functions besides that of handling the first-order problem of knowledge. So, for example, a more concrete version of the principle of first possession—“first to stake a claim, first in right”—addresses the problem of communicating justice (the second-order problem of knowledge) that is handled by the liberal conception of the rule of law. Only a more concrete expression of the principle of first possession can provide a useful guide to action *before* costly investment is made by two conflicting parties. And, as I discuss in Section III, the principle of first possession also addresses the important problem of incentives. Ann will have the incentive to use her knowledge only if she can be assured that she will not be dispossessed by latecomers.

The first-order problem of knowledge does not unequivocally determine the entire scope of the liberal conception of justice, because this problem is one among several pervasive social problems addressed by the liberal conception of justice. Therefore, from the perspective of this particular knowledge problem or any other problem, it may be possible to imagine alternative conceptions of justice or other types of solutions that may work as well as the concepts of several property and freedom of contract. But the fact that the liberal conception of justice (and the rule of law) is seen as handling several different social problems means that ties at the level of the first-order problem of knowledge can be broken by taking into account further stages of analysis involving other problems.

Indeed, one weakness of previous accounts of liberalism is their tendency to focus exclusively on a single problem or on only a small number of the problems that liberalism is needed to handle. The basic tenets of liberalism become more authoritative as the number of pervasive social problems they address increases. When the answers liberalism provides to one set of problems are refined in light of other pervasive problems, the importance of liberalism becomes much clearer—as does the comparative weakness of alternative approaches.

For example, my analysis of the first-order problem of knowledge has stressed that knowledge is dispersed, that individuals and associations are usually in the best position to make knowledgeable decisions, and that individuals and associations are therefore entitled to a presumption of competence and a jurisdiction over resources that will effectuate their

decisions. It would be easy, however, to identify instances where individuals and associations seem incompetent to make decisions for themselves, and others seem more competent. If this were the only problem we faced we might imagine other institutions intervening, perhaps only in exceptional circumstances, to correct the errors that individuals and associations will inevitably make.

However, permitting such interventions gives rise to a serious partiality problem—one of the pervasive problems of interest. Once the power of intervention is legitimated, interveners are quite likely to pursue their own interests rather than serving the interests of the person allegedly being protected. Moreover, because individuals and associations will not always think they have made a mistake, the intervening decision-makers will often have to impose their decisions by force. Using force aggravates both the problems of knowledge and of interest by raising the costs of both enforcement error and enforcement abuse; these are the problems of power.

Advocating such interventions on the grounds that they will address the first-order problem of knowledge better than adherence to the liberal conception of justice is, therefore, insufficient. It must also be shown how the other serious problems *avoided* by the liberal conception of justice but *exacerbated* by such interventions can be adequately handled.

### III. THE PROBLEMS OF INTEREST

The problems of interest take many forms, but they all spring from the common tendency of persons to make judgments or choose actions that they believe will serve their interests. Put another way, people tend to try to satisfy their subjective preferences (although these preferences may not always be self-regarding). The fact that people make choices on the grounds of interest is not, by itself, a problem. Social theories that posit the end of all actions based on interest are positing the end of human beings as we know them. Such theories are “utopian”; they require a basic change in the constitution of human beings that is probably impossible to achieve, even if it is desirable to do so. Rather, acting out of interest can be considered a problem only against some normative background that distinguishes objectionable from unobjectionable actions.

In this section, I discuss how the liberal conception of justice based on several property and freedom of contract helps to address two distinct problems of interest: the partiality problem and the incentive problem.<sup>23</sup>

<sup>23</sup> A third important problem of interest—the *compliance problem*—involves gaps that may arise between the requirements of justice and the rule of law and a person’s perception of interest. In most cases, these gaps are narrowed by powerful socializing influences. In others, they are narrowed by the use of force or power. The use of force or power results in two serious problems of power: the *problem of enforcement abuse* and the *problem of enforcement error*. Space prevents me from explaining how the liberal conception of justice and the rule of law, including the concepts of several property and freedom of contract, addresses these problems—but it does.

The fact that my presentation of these problems of interest is shorter than my discussion of the knowledge problems does not reflect the relative importance of these respective problems; rather, it demonstrates the degree to which the problems of interest are far better known and easier to explain than the problems of knowledge. Moreover, the manner by which the liberal conception of justice and the rule of law addresses the problems of interest—particularly the incentive problem—is also more widely understood.

I shall thus spend the bulk of my time explaining some of the less well understood ways that the concepts of several property and freedom of contract address the partiality problem and the incentive problem. These problems of interest would require some solution even if we faced no problems of knowledge. That the concepts of several property and freedom of contract address these problems provides additional reasons for adhering to these concepts beyond those offered in Section II. Those who urge that these concepts be abandoned or highly qualified must explain how this vital function can be performed in some other manner.

#### A. *The partiality problem*

The *partiality problem* is extremely fundamental; it would exist whether or not we faced the sort of knowledge problem I described in Section II. It arises from the fact that people tend to make judgments that are partial to their own interests or the interests of those who are close to them at the expense of others. The word “partial” reflects both the cause and consequence of this problem. One meaning of the term is “affecting only a part; not complete or total.” In this sense, it is inevitable that individuals can have only a partial or incomplete view of the facts that go into reaching any decision. It is very hard to avoid seeing the world from one’s own particular, and therefore partial, vantage point. Like other interested action, the existence of partial judgment is not itself a problem. The term “partial” merely denotes an incomplete, rather than an incorrect, point of view.

But this partiality or incompleteness of vision also leads to a tendency to favor one’s own interest that comprises the other meaning of the term partial: “favoring one person, faction, etc. more than another; biased, prejudiced.” Partiality, in this sense, is judgment affected by interest. Once again, this is not in itself a problem. Just as most of our actions are motivated by interest, much of our judgment is to some degree partial towards our own interests and the interests of those whom we care about—whose interests, for this reason, become part of our own.

A *partiality problem* arises when persons whose viewpoints are influenced by their own interests are called upon to make judgments that are supposed to take into account the interests of persons remote to them as well as their own. This type of impartial or objective assessment is re-

quired when making a general or society-wide determination of how resources are to be used. Yet it is simply very difficult for persons charged with making such a decision to set their own interests in proper perspective in order to make an impartial assessment. We may summarize this problem of partiality as follows: the partiality problem refers to the difficulty of making judgments concerning resource use that take into account all available personal and local knowledge without succumbing to the tendency of persons to give priority to their own knowledge and interests.

Moreover, the tendency of interest to render persons' judgments partial would create a need for the liberal fusion of justice and the rule of law even in the absence of serious knowledge problems. That is, even if, contrary to my thesis (but as many believe), persons with centralized jurisdiction over resources can gain sufficient access to the personal and local knowledge of others to address the knowledge problem, we would still need to confront the problem of partiality. Assuming that these persons have access to the local and personal knowledge of others, what assurance do we have that their decisions concerning resource use will be based impartially on this knowledge, rather than on a partial judgment of what is in their own interest? What is to preclude these judgments concerning resource use from being made on a partial rather than a complete view of all the knowledge at their disposal?<sup>24</sup> In what follows, I explain how the concepts of several property and freedom of contract address this problem.

1. *Partiality and several property.* The degree to which the partiality of a decision concerning resource use becomes a problem depends on the extensiveness of the jurisdiction over resources. Consider the extreme case of one person having jurisdiction over all the resources in the world, including other people's bodies. Quite obviously, a partial decision by this ruler will overlook vast amounts of knowledge possessed by others; consequently, it will have far more serious consequences for their interests than a regime in which each person has jurisdiction over his own body and some comparatively small fraction of the world's resources. In the former regime, a partial judgment will reflect the interest of just one person, whereas in the latter regime a multitude of partial judgments will reflect a multitude of interests.

To better appreciate this point, consider a submarine with many different compartments that can be sealed off from the others should a leak

<sup>24</sup> Within the public choice school of economics, "interest group theory" argues that much of the behavior of government actors can be explained as exercises of interest rather than as exercises of impartial judgment of the public good. For a sympathetic portrayal of this approach, see, e.g., Iain McLean, *Public Choice* (Oxford: Basil Blackwell, 1987); Jerry L. Mashaw, "The Economics of Politics and the Understanding of Public Law," *Chicago-Kent Law Review*, vol. 65 (1989), pp. 123-60. For a critical appraisal, see Daniel A. Farber, "Democracy and Disgust: Reflections on Public Choice," *Chicago-Kent Law Review*, vol. 65 (1989), pp. 161-76.

occur. Normally, of course, people on the submarine are free to move unimpeded from one area of the ship to another. When leakage threatens, however, the compartment with the leak can be closed off quickly to limit the extent of the damage to the ship. The problem of partial judgment concerning resource use is analogous to the leak of water in the sub, except that partiality is the norm, not the exception. When it inevitably occurs, it is important to limit the area it can affect. Were there no compartmentalization of decision-making, a single exercise of partiality—like a single leak of water in the submarine—could seriously jeopardize the interests of everyone else.

The concept of several property reflects a strategy of decentralizing jurisdiction over resources to the level of those individuals and associations that are most likely to be in possession of personal and local knowledge. Such a regime not only makes possible the utilization of personal and local knowledge as I discuss in Section II; it also limits the impact of judgments made on the basis of only partial information. We may summarize this as follows: *decentralized jurisdiction through the device of several property makes possible the effective compartmentalization of partiality.*

The term *several* property is preferable to private property precisely because it emphasizes the plurality and diversity of jurisdictions in a regime governed by the liberal conception of justice. Like the submarine with separate compartments, in such a regime the jurisdiction of any particular individual or association will be bounded or limited. In most (but clearly not all) circumstances, a partial exercise of such bounded jurisdiction will mainly affect the person exercising this judgment. Where the exercise of jurisdiction on the basis of partial judgment does affect others, the extent of these “external” effects will be limited. Indeed, the thrust of much of liberal legal theory is to cause actors to “internalize” the costs of their actions by making them liable for the harms their actions cause to others. For example, whole categories of external effects caused by the use of physical force or fraud are prohibited. What external effects of partiality remain can often be adjusted by the consummation of mutually satisfactory consensual exchanges that the liberal principle of freedom to contract makes possible.

Compartmentalization does not eliminate all partiality; that would be both impossible and undesirable. Instead, it dampens the *problem* of partiality by limiting the range of resources over which a single partial interest will prevail. So limited, partiality can be a good thing rather than a problem. As has been known since *The Wealth of Nations*, the pursuit of one’s own interest and the interest of those one cares about can be a powerful motive for conduct that is beneficial both to self and to others. It also is the motive that propels the marketplace of consensual exchanges that, as we will discuss in the next section, helps solve the incentive problem.

Moreover, *decentralization also makes possible a system of effective checks and balances on partiality.* At the constitutional level, a system of checks and

balances was one of James Madison's solutions to the problem of "faction" by which he meant

a number of citizens, whether amounting to a majority or minority of the whole, who are united and actuated by some common impulse of passion, or of interest, adverse to the rights of other citizens, or to the permanent and aggregate interests of the community.<sup>25</sup>

Madison's solution to this instance of a partiality problem was, in part, to divide powers so that each institution could resist the others. While this idea is well known among constitutional theorists, that several property plays the same function at the level of individuals and associations is usually overlooked.

The fact that persons retain jurisdiction over their respective resources—especially including their bodies—means that they often have a way to retaliate in kind with actions that undercut the interests of a person whose partial judgment has adversely affected them. In this way, the decentralized jurisdiction resulting from several property permits the undue partiality that affects the interests of others to be discouraged by a strategy of "tit for tat." When I take action that adversely affects the interests of others, those whose interest I have hurt are more likely to be able to retaliate in kind than they would be able to in a regime in which all jurisdiction resided in a single person or association. The demonstrated ability to retaliate in this way has proved to be a powerful deterrent to the initiation of conduct that adversely affects the interests of others. The existence of such a deterrent can also lead to a general and quite powerful norm of cooperation.<sup>26</sup>

2. *Partiality and freedom of contract.* The concept of freedom of contract also can be seen as addressing the partiality problem. When seeking to obtain the rights held by another, we cannot expect a person to be impartial in assessing whether he can make better use of the resources than the present right-holder. By making consent of a right-holder a necessary condition of a rights-transfer, the principle of freedom from contract forces prospective rights-holders to take the knowledge of current holders into account when deciding whether to effectuate a transfer.

The fact that property rights may not transfer without the consent of the current owner means that, to acquire the right to use these resources, any prospective owner is compelled to induce the current rights-holder to consent to a transfer. The amount and kind of this inducement reflects the personal and local knowledge of the current rights-holder as to how these resources may be used. In this way, the knowledge of the current

<sup>25</sup> *The Federalist No. 10* (James Madison) (New York: Modern Library, 1937), p. 54 (emphasis added).

<sup>26</sup> See Robert Sugden, *The Economics of Rights, Co-operation, and Welfare* (Oxford: Basil Blackwell, 1986).

rights-holder becomes part of the prospective owner's cost of obtaining control over the resource. This in turn forces a prospective owner to take the current rights-holder's knowledge into account without requiring that the prospective owner have direct access to the personal or local knowledge of the current rights-holder. (The principle of first possession also performs this function with respect to subsequent claimants of previously unowned property that has been subject to the control of a first possessor.)

It is now apparent how the system of resource prices that arises from adherence to the principle of freedom from contract addresses not only the first-order problem of knowledge but also the partiality problem. The requirement that everyone pay the price for resources held by others does more than *enable* persons to take into account the knowledge of others; it *forces* them to take the knowledge and interests of others into account, even when they would not otherwise find it in their interest to do so. In this manner, the concept of freedom of contract functions with the concept of several property to ameliorate the partiality problem.

#### B. *The incentive problem*

The strategy of solving the first-order problem of knowledge by adhering to the concept of several property assumes that people in such a regime will have sufficient interest in exercising their jurisdiction over resources knowledgeable. Suppose, however, that right-holders lack adequate incentives to employ their knowledge in their decisions concerning the use of their resources. This is the *incentive problem* and we may summarize it as follows: The incentive problem concerns choices among actions that justice permits; it refers to the need to close the gap between the conduct that personal and local knowledge recommends and what persons perceive to be in their interest to do.

The incentive problem arises most graphically when the benefits of exercising knowledgeable control over resources do not accrue to the person or persons exercising such control. In the next two sections, I consider two different policies of redistribution. The first policy gives rise to serious incentive problems; the second policy is needed to solve incentive problems.

1. *The incentives of redistribution.* To appreciate the nature of the incentive problem, let us imagine a world of several property where control over resources was decentralized in much the same manner as we witness in western countries—perhaps even more so. Those who were generally in the best position to have beneficial knowledge of resource use were those who had legal control as well. In other words, the allocation of legal control to individuals and associations closely reflected the distribution of personal and local knowledge.

Now imagine that all the benefits accruing from a knowledgeable exercise of control were routinely siphoned off and given to others—for example, via a steeply progressive income tax or a confiscatory wealth tax.

The inability to reap any of the benefits resulting from the use of knowledge to exercise control over resources would greatly reduce the incentive to exercise knowledgeable control in the future. Some incentive to act productively might still exist if the activity of exercising control was intrinsically rewarding to the person exercising control. As the inherent interest in doing a job declines, however, even this residual incentive to act knowledgeably would diminish as well.

This analysis suggests that, *just as the distribution of control over resources should correspond to the distribution of knowledge in society, the distribution of benefits should correspond to the distribution of control*. While the concept of several property disperses the control of resources throughout society in a way that tends to match the distribution of knowledge, an important function of the principle of first possession and the two principles that comprise the concept of freedom of contract—freedom from contract and freedom to contract—is to address the incentive problem.

The principle of first possession ensures that someone investing scarce resources in establishing control over a resource will not be divested of the benefits of this investment at some later time when another person makes a claim for the same resource. Without such a principle, first possessors would lack a right to continued possession on which they could rely. This would undermine any incentive they might have to employ their knowledge to make full use of the property. For example, their incentive to invest their time, energy, and other resources into improving the newly possessed property in some permanent way would be seriously undermined if the next person along could dispossess them without their consent.

Like the principle of first possession, the principle of freedom *from* contract ensures that changes in control of resources reflect the knowledge of the original right-holder. Only if the right-holder consents to a transfer will it be recognized as valid. Consent to a rights transfer will not be given unless the right-holder subjectively values (*ex ante*) the resulting distribution of rights more highly than the original distribution of rights that preceded the transfer. Without a requirement of consent, the incentive to rely upon or improve the property within one's rightful jurisdiction would be adversely affected by the prospect that others could come along and dispossess the right-holder without his or her consent.

Finally, the principle of freedom *to* contract provides incentives for beneficial transactions by enforcing agreements motivated by the prospects of receiving a benefit or "profit." The prospect of such gains creates powerful incentives to investigate and discover previously unknown opportunities for beneficial transfers. *Entrepreneurship* is the ability to identify previously unknown or neglected opportunities for beneficial transactions.<sup>27</sup> If contracts producing so-called "speculative" gains were unen-

<sup>27</sup> The theorist most responsible for stressing the nature and importance of profits and entrepreneurship is Israel Kirzner. See, e.g., Israel M. Kirzner, *Competition and Entrepreneurship* (Chicago: University of Chicago Press, 1973).

forceable, then the incentive for such entrepreneurial activity would be eliminated.

Conversely, the prospect of incurring a "loss" induces a level of caution in persons' actions. One has an incentive to be careful about putting one's knowledge into action if one must incur the full cost of having made a mistake. Moreover, the only way to eliminate losses is to transfer resources to the actor who has made the bad bargain from others who have not. In the absence of consent by the person to whom the loss is shifted—for example, a consent to a risk-pooling or insurance scheme—such a policy of coerced loss-spreading will have adverse incentive effects on those from whom this compensation is confiscated.

The liberal conception of justice, then, both inhibits transfers that adversely affect interest and encourages beneficial transfers. The principles of first possession and freedom from contract—that is, no transfers without consent—ensure that rights transfers will not create negative incentives. The principle of freedom to contract—that is, consensual transfers are valid—makes entrepreneurship possible by ensuring that positive incentives exist for beneficial rights transfers. In these ways, the concepts of several property and freedom of contract function not only to address the knowledge problem, but the problem of interest as well.

2. *Redistribution as compensation for injustice.* The preceding analysis of the incentives of redistribution has another implication for the liberal conception of justice that takes me somewhat beyond the subject of several property and freedom of contract to the subject of the appropriate remedy for violations of the rights that these concepts entail. When incentives to act knowledgeably are diminished by forced transfers, it is not enough simply to condemn such redistribution as unjust. Condemnation will not preserve the incentives for productive activity that are undermined by transfers without consent. Some form of compensation to the victim of redistribution is needed to restore the benefits taken from the right-holder. Unless compensation is made, persons will have greatly reduced incentives to use their knowledge to increase the value of the resources they control.

Where is this compensation to come from? There are really only two choices. Compensation can come from the person who received the benefits of the redistribution, or it can come from someone else who did not. If compensation is taken from persons who did not receive the proceeds of the redistribution, a new and equally debilitating forced transfer will occur. From the standpoint of the incentive problem, there is no reason to prefer the first victim of redistribution to the second. It would seem that as between (a) the victim of a forced transfer, (b) all persons in the world who received no benefit from the unjust distribution, and (c) the person who received a benefit, the compensation should come from the perpetrator of the injustice. Only a redistribution from the perpetrator of an unjust taking will preserve the victim's incentives to act knowledgeably without at the same time undermining the incentives others have to em-

ploy their own knowledge. In the liberal conception of justice, the requirement that the perpetrator of an unjust redistribution compensate the victim of the injustice is called the *principle of restitution*: the principle of restitution requires that one who violates the tenets of justice must compensate the victim for the cost of the injustice.<sup>28</sup>

#### IV. CONCLUSION

Let me conclude by summarizing the analysis presented here and by placing it in proper perspective. A functional analysis of several property and freedom of contract enables us to see how these allegedly “economic” rights address the problems of knowledge and interest that must somehow be solved. At the risk of oversimplification, the functional analysis presented here may be summarized as follows:

- a. The concept of several property (including the principle of first possession) handles the first-order problem of knowledge by allotting jurisdiction over resources to individuals and associations, the persons in possession of personal and local knowledge. It addresses the partiality problem by compartmentalizing the pursuit of interest.
- b. The concept of freedom of contract is composed of two principles: (1) freedom to contract and (2) freedom from contract.
  1. Freedom to contract addresses the first-order problem of knowledge by permitting transfers of resources when right-holders discern an opportunity for improving upon the current allocation. This principle addresses the incentive problem by creating opportunities for profitable exchanges or entrepreneurship; the prospect of losses arising from exchanges provides an incentive for the exercise of caution.
  2. Freedom from contract (along with the principle of first possession) addresses the second-order problem of knowledge by protecting right-holders’ ability to make and effectuate knowledgeable plans in reliance on their continued control of resources. Further, these principles make possible the existence of resource prices that convey in coded form the local and personal knowledge of potential users of resources, so that this knowledge may be taken into account when persons decide how to act.

<sup>28</sup> See Randy E. Barnett, “Restitution: A New Paradigm of Criminal Justice,” *Ethics*, vol. 87 (1977), pp. 279–301; “The Justice of Restitution,” *American Journal of Jurisprudence*, vol. 25 (1980), pp. 117–32. A functional analysis of the sort I apply here to the rights of several property and freedom of contract would add considerably to what I have previously said in defense of pure restitution and against both pure punishment and punitive restitution. However, because restitution is not considered an “economic right,” I do not offer this analysis here.

Freedom from contract (and the resource prices it makes possible) also addresses the partiality problem by forcing those who aspire to control resources to take into account the knowledge and interests of present right-holders. This principle addresses the incentive problem by preventing redistributive activity that deprives owners of their incentive to knowledgeably exercise their rightful jurisdiction.

I want to reiterate that a functional analysis does not constitute a complete explanation of these concepts. Other modes of analysis—such as, perhaps, a more abstract moral theory—are needed to answer other criticisms of these concepts. The fact that a functional analysis cannot answer every criticism that may be made of the concepts of several property and freedom of contract, however, does not by itself undermine the value of this approach. As I have explained elsewhere, to the extent that different modes of analysis converge on the same conclusion, our confidence in that conclusion increases. In this way, depending on how the term is used, either competing modes of analysis are not truly “redundant,” or redundant modes of analysis are valuable.<sup>29</sup>

Still, I have not attempted to present a complete functional analysis of several property and freedom of contract. A complete presentation would require a thorough treatment of every serious proposal to weaken or eliminate these concepts to see how such proposals deal with these (and other) problems of knowledge and interest, as well as the problems of power. It would also require consideration of any proposals that may exist for better handling these pervasive social problems. A complete analysis would be more rigorously comparative than this presentation, but what has been presented provides good reason to adhere to these concepts in the absence of a showing that other approaches can adequately handle the pervasive social problems that must somehow be handled.

In sum, the analysis presented here, while not complete, supports a presumption in favor of several property and freedom of contract. Critics of these economic rights cannot merely point to their shortcomings. They also must show persuasively how they would address these pervasive and very serious social problems. This is a burden that, to date, critics of such rights have been both unwilling and unable to bear.

*Chicago-Kent College of Law, Illinois Institute of Technology*

<sup>29</sup> See Randy E. Barnett, “The Virtues of Redundancy in Legal Thought,” *Cleveland-State Law Review*, vol. 38 (1990), pp. 153–68; “Foreword: Of Chickens and Eggs—The Compatibility of Moral Rights and Consequentialist Analyses,” *Harvard Journal of Law and Public Policy*, vol. 12 (1989), pp. 611–36.

*Session III*

*Economic Calculation*

# **Posing the Problem: The Impossibility of Economic Calculation under Socialism**

by David Ramsay Steele

*Department of Sociology, University of Hull*

## **The Economic Calculation Argument**

For industry to be operated effectively, it is necessary that those in charge be able to perform "economic calculation." It does not matter at all, for the purposes of this argument, whether "those in charge" are professional managers, acquisitive capitalists, workers' councils or other democratically-elected assemblies, or holy men appointed by the gods. The problem of economic calculation which faces them is examined in more detail in some of the following essays, but the general idea can be explained very briefly and simply.

Those in charge of a productive unit, or enterprise (such as a factory), have to make decisions from time to time about how it will be run. They have to decide, for example, whether to instal a new kind of machine, or whether to switch from one technical process to another which will require different raw materials. Often they will have to select one plan out of dozens of possible alternatives. How are they to choose?

At first, the answer might seem obvious. They should choose "the best" or "most efficient." But that is not as simple as it sounds. It is not a task which can be performed unaided by those, such as scientists or technicians, who are familiar only with the physical operations involved. In fact, the major part of the problem is beyond the competence of technicians or scientists, and they are powerless to solve it for us.

As a simple example, suppose that we are in charge of an enterprise, and have to choose between two technical processes, A and B. Process A needs 50 tons of rubber, and 40 tons of timber, per week. Process B requires 40 tons of rubber, and 50 tons of timber, per week. The technical expert has informed us that A and B are both feasible alternatives for reaching a given end, but with that her work is done. Her purely technical knowledge does not enable her to go further, and tell us whether A or B is preferable.

If there were a third possible process, C, which used 35 tons of rubber and 35 tons of timber per week, to attain the same result as A or B, there would of course be no further problem: we would choose C. But between A and B we stand perplexed. Process A would enable us to save on timber, but

at the expense of rubber. Process B would enable us to save on rubber, but at the expense of timber. Except for an improbable coincidence, one of them is the "better" method, the more "efficient," "productive" or "economical." The other is inefficient and wasteful. But which?

It is clear that we need some way of comparing timber and rubber, by reducing them to common units. It is equally clear that any and all *physical* units, such as weight or volume, would be irrelevant. (A gallon of water ought not to be equated with a gallon of mercury, nor a ton of sand with a ton of platinum.) We are perhaps tempted to say, rather hazily, that we want to be able to make a comparative valuation of rubber and timber in terms of their "scarcity," "costliness" or maybe "social importance."

In the market, such comparisons are made by referring to prices. The people in charge of the enterprise look at the market prices of rubber and timber, observing which is cheaper and which more expensive. If the price of rubber is \$500 per ton, and the price of timber \$1,000 per ton, then process A is cheaper than process B, and is more likely to be profitable.

The timber-and-rubber example is, of course, highly simplified. It would be more realistic to consider more than two processes, each of which utilized *numerous* factors, including various kinds of labor, with some of the inputs common to all the processes, though in different quantities, and some peculiar to one process only, or to a few of them. Then we would have to consider that the end results of the two (or more) processes might be different in detail, so that their comparative assessment might lead, say, to the conclusion that "the product of A is inferior to the product of B, but A is preferable nonetheless because of its considerably lower cost." We should remember that the vital role of economic calculation is by no means confined to major turning points in the life of the enterprise, such as the choice of a whole new technology, but extends also to the innumerable adjustments which have to be made every day, hour or minute. A production decision does not normally begin with all the "technical" facts, and only then proceed to the "economic" choice. Rather, the technician is aware from the outset of market prices, can therefore think in terms of "costly" and "cheap," and hardly ever makes purely technical calculations without the ever-present guidance of the market. Finally, prices change (and prices of factors of production generally change more frequently, unpredictably and substantially than prices of finished consumer goods). Therefore, the enterprise decision-maker does not merely read off the current prices, but tries to anticipate future prices, since the decision to adopt a specific course of action may have to be made well in advance of some of the resulting purchases of inputs. However, current and recent prices offer a very convenient starting-point for estimating future prices. All these qualifications show how much I have simplified the timber-and-rubber example in order to bring out clearly the essential point; but it will be

evident that they do not *diminish* the importance of economic calculation using market prices, but on the contrary *increase* it.

I am not going to claim that reliance on market prices is a perfect method. At this point, suffice it to observe briskly that (a) market prices are spontaneous social products, resulting from an unplanned pattern of interactions among millions of people; (b) market prices generalize, encapsulate or sum up an immense amount of information which need not be, and generally is not, known to any single person or committee; (c) we can easily show that the influences which raise or lower prices, and thereby help to guide the behavior of those decision-makers who use these prices, are influences which would have to be taken into account, in broadly the same way, in any conceivable system for coordinating modern industry; (d) calculation using prices *works*, that is to say, prodigious industrial achievements have been brought to pass within societies which relied upon market prices.

As stated, I do not contend that market prices are *a perfect method* for performing economic calculation in an advanced industrial society. I contend that market prices are *the only method*. There simply is no other way. Therefore, market prices are essential to the survival of any complex industrial structure capable of generating high levels of material consumption.

The decisive demonstration of the impossibility of rational economic calculation under socialism was supplied by Ludwig von Mises in the spring of 1920, but Mises had his precursors. Hermann Heinrich Gossen, forgotten pioneer of marginal utility, had written as early as 1854:

only through private property is the measure found for determining the quantity of each commodity which it would be best to produce under given conditions. Therefore, the central authority, proposed by the communists, for the distribution of the various tasks and their reward, would very soon find that it had taken on a job the solution of which far surpasses the abilities of individual men.<sup>1</sup>

Several nineteenth-century writers came close to a similar statement. Walter Bagehot pointed out that monetary accounting was indispensable in order to estimate costs of production, in any complex industrial society, and he coupled this with observations on the inability of primitive savages to perform calculations of profits or costs. He did not go on to draw the simple inference that developed industry without the market was an impossibility. Maybe he considered it too obvious to need stating.<sup>2</sup>

### The Related Issues

Other writers directly tackled the question of a socialist economic order, but without isolating the calculation problem. Two lines of thought were

pursued, which come very close to the economic calculation argument, but still leave it unformulated.

Wicksteed raised the issue of individuals' *remuneration* under socialism. From Wicksteed's discussion it seems almost certain that he had the economic calculation difficulty in mind:

If public bodies were the only employers, on what principle should remuneration of the different agents be fixed? Is it possible to conceive of any machinery by which the marginal significance of each should be determined. . . ?<sup>3</sup>

But he did not explicitly separate the question of allocation from the question of payment, because he was examining a hypothetical market socialism in which one enterprise after another was progressively taken over by the state.<sup>4</sup>

Other economists approached the socialist economy from a rather different angle. Without committing themselves on the ultimate feasibility of socialism, they pointed out that *if* a socialist society could and did come about, it would have to employ an allocative system closely parallel to that of the market. Socialism would have to "price" the factors of production, and would be compelled to use "rent," "interest" and "profit," or at least, bookkeeping notions strictly analogous to these. Such arguments were advanced by Wieser, Böhm-Bawerk (both 1889), Pareto (1897) and Barone (1908).<sup>5</sup>

The contributions of Pareto and Barone were to be curiously misrepresented later. Barone was a follower of Pareto, and they both expressed their ideas in mathematical equations based on those of Walras. The point of their arguments was to impress upon the socialists that any hypothetical socialist economy would conform to patterns similar to those found in a market. As far as I know, neither Pareto nor Barone gave a literal, categorical verdict on whether socialism was a practical possibility, though the very strong implication of their words is negative. What they did flatly state was that the function of the price system could never be replaced by the solving of equations. The equations only described the tendency of market prices; they could not be arrived at independently and used to replace market prices.<sup>6</sup> After Mises had raised the calculation issue, it was claimed that he had been refuted in advance by Barone, who had proposed that a socialist society could allocate its resources by the planners' sitting down and solving equations! Barone's blistering rebuttal of socialist misconceptions was hailed as if it had been a pioneering demonstration of the practicability of socialism. This bizarre story was given wide currency by Lange and Schumpeter, and has become part of the present largely fictitious consensus on the economic calculation debate.

### Pierson's Contribution

Following Kautsky's well-publicized speech in Delft, Holland, on *The Social Revolution*, the Dutch economist Nikolaas G. Pierson approached the question of the economic viability of socialism in a paper published that same year, 1902. Pierson's main concern is to emphasize that a socialist society would confront a "problem of value."

The practical problem of value which is automatically solved [by the market]... would not disappear if its automatic solution were made impossible; it would remain in its entirety.<sup>7</sup>

After showing that a number of separate socialist states would have to regulate their mutual dealings with the aid of money prices, Pierson argues that a communist society would be unable to calculate "net income," since it would have no unit to perform the functions now performed by prices. The society would be unable to determine, say at the end of a year, whether it or any of its component parts had made a net gain or loss during that period. To draw up an inventory of all goods at two different points in time would not suffice: all these items would have to be expressed in common units of value.

Pierson examines the ways in which a socialist administration might ration out consumer goods, including the system of labor-vouchers, and shows that trading would re-emerge. He explains that

the commercial principle, which such a society sought in vain to abolish, comes once more into the foreground... The phenomenon of value can no more be suppressed than the force of gravity. What is scarce and useful *has value*... to annihilate value is beyond the power of man.<sup>8</sup>

Dealing with Kautsky's suggestion that socialist "wages" could be fixed according to labor productivity, Pierson points out that this is not as easy as it sounds. Disentangling the contributions to output of all the different workers—determining the productivity of clerical workers compared with manual workers, for instance, let alone the contribution made by entrepreneurial awareness of fruitful possibilities—will be impossible without some assessment of economic "value." Pierson somewhat confuses the issue here by defending the "productivity" of advancing money. Presumably in Kautsky's socialism, though it retains money and wages, there would be no money loans to business enterprises. The entire question of which enterprises should be folded, which continued and which expanded would be determined by administrative means without the instrumentality of finance. Nevertheless, Pierson's point, that mere knowledge of opportunities can be immensely productive, stands.

All the essentials of the economic calculation argument are presented by Pierson.

1. Society faces specifically economic problems, which cannot be reduced to the fields of competence of technologists or engineers.
2. These problems will not disappear under communism/socialism, but the present solution, the market (for factors of production), will disappear. Communism will have to find some alternative solution.
3. Any solution must take the form of comparing any and all goods according to common units denoting what Pierson calls their "value."
4. (By implication) Apart from market prices, no such units can be found. Therefore communism is impossible.

As Mises later acknowledged, "Pierson clearly and completely recognized the problem in 1902."<sup>9</sup> However, Pierson's approach is that of throwing out a number of suggestions about difficulties in operating a socialist economy. Apparently, he does not himself realize the relative importance of the points he is making. He overstresses international trade, in view of the fact that Marxists believe in world unification.<sup>10</sup> He often fails to separate the questions of allocation and remuneration, though he does clearly see that it "is possible. . . to carry out works at too high a cost, to put up buildings in the wrong places and to design them in a manner inappropriate to their purpose," and that this cannot be a purely technical matter, but must be one of "value."

Pierson's continual harping on the necessity of value may seem strange to a modern reader. But in 1902 any active socialist or critic of socialism would have known almost by heart the celebrated passage from *Anti-Dühring* in which Engels explained how very easy it would be to organize socialist production:

Society can simply calculate how many hours of labour are contained in a steam-engine, a bushel of wheat of the last harvest, or a hundred square yards of cloth of a certain quality. . . . society will not assign values to products. It will not express the simple fact that the hundred square yards of cloth have required for their production, say, a thousand hours of labour in the oblique and meaningless way, stating that they have the *value* of a thousand hours of labour. It is true that even then it will still be necessary for society to know how much labour each article of consumption requires for its production. It will have to arrange its plan of production in accordance with its means of production, which includes, in particular, its labour-power. The useful effects of the various articles of consumption, compared with one another and with the quantities of labour required for their production, will in the end determine the plan. People will be able to manage everything very simply, without the intervention of much-vaunted "value."<sup>11</sup>

Today, the myopia and economic illiteracy of this passage are painfully evident to anyone.

### Weber on Rational Calculation

It often turns out that a crucial breakthrough is made independently and almost simultaneously by several individuals. The economic calculation argument was separately given a full and clear statement in 1920 by Boris Brutzkus, Ludwig von Mises and Max Weber. Weber's version occurs in his *Economy and Society* which was not published until the following year.

Weber's treatment is slighter than those of Brutzkus or Mises, but in its context it is something of an aside, since the work is mainly an attempt to summarize the classification of "ideal types" which Weber believed necessary for the sociological study of modern Western economic and political institutions. This task, however, leads him to point out the limitations of "calculation in kind" by contrast with monetary calculation, an issue which was highly topical since in 1919 two influential socialist theorists, Otto Neurath and Otto Bauer, had each published books advocating a moneyless economy.<sup>12</sup> Weber refers specifically to Neurath, who argued that non-monetary calculation was already well established, that market prices were arbitrary anyway, since they did not measure anything, and that the German war economy had shown the way forward to a new "natural" (moneyless) economy.

Weber's argument is vitiated by his concern with an unsound (and not altogether intelligible) opposition between "formal rationality" and "substantive rationality."<sup>13</sup> He states that only the market can permit the achievement of a very high degree of formal rationality. His concept of substantive rationality is obscure, but it seems that Weber believes either that formal rationality is important in its own right, or else that it is a necessary condition of any substantive rationality. At any rate, he concludes that

the possibility must be considered that the maintenance of a certain density of population within a given area is possible only on the basis of accurate calculation. In so far as this is true, a limit to the possible degree of socialization would be set by the necessity of maintaining a system of effective prices.<sup>14</sup>

This seems "substantive" enough. Weber acknowledges that non-monetary budgeting may be "rational" under very simple conditions, "so long as the situation does not require a very precise estimate of the comparative utility to be gained from the allocation of the available resources to each of a large number of very heterogeneous modes of use."<sup>15</sup> Non-monetary computation in small-scale, self-sufficient households, once it has to deal with factors of any complexity, is confined to "traditional standards" and "rough estimates," and cannot therefore cope very well with changing conditions.

Rational accounting of any complexity requires money prices, and these require the autonomy of separate units. Fictitious prices, which do not correspond to those actually established by competing enterprises in a market, would be useless.<sup>16</sup> Calculation in kind may work to some extent where different ways of producing the same final good are being compared, or where a given supply of factors may be used in alternate ways to produce one of several kinds of goods.

But the more difficult problems of calculation begin when it becomes a question of comparing different kinds of means of production, their different possible modes of use, and qualitatively different final products. . . . the comparison of different kinds of processes of production with the use of different kinds of raw materials and different ways of treating them, is carried out today by making a calculation of comparative profitability in terms of money costs. For accounting in kind, on the other hand, there are formidable problems involved here which are incapable of objective solution.<sup>17</sup>

A modern enterprise is perpetually confronted with the question whether each of its parts is paying its way, or whether any part is utilizing inputs that could more rationally be used elsewhere. This can be settled relatively easily and accurately using proceeds and costs expressed in money, but "it is exceedingly difficult to do this entirely in terms of material goods, and indeed it can be accomplished at all only in very simple cases." No technical improvements can save the day for moneyless calculation, asserts Weber: "really exact accounting" in kind is "impossible in principle." The main problem is one of imputation, attributing values to the factors of production. Any non-monetary system of accounting would have to set up "indices of the value" of different resources which would have to play a role similar to that of market prices. But there is no way of establishing such indices:

Nothing is gained by assuming that, if only the problem of non-monetary economy were seriously enough attacked, a suitable accounting method would be discovered or invented. The problem is fundamental to any kind of complete socialization. We cannot speak of any kind of a "rational planned economy" so long as at this decisive point we have no way of working out a rational plan.<sup>18</sup>

### **Brutzkus and Bolshevism**

Boris Brutzkus was an economist caught up in the Russian revolution, the subsequent Bolshevik takeover, and the attempt by the Bolsheviks to usher in a communist order. In August 1920 the Bolsheviks were at their hour of greatest glory. They had defeated the "counter-revolutionary" forces in the field, and fastened their own unchallenged rule onto the Russian Empire. The abolition of money was in progress: the communist economy was

visibly taking shape. Its impoverishing dislocations of production could still be blamed on the recent wars. At this moment, Brutzkus delivered a lecture to an academic audience in Petrograd, explaining that "the system of Marxian communism, as then conceived, was — quite apart from the conditions produced by the war — intrinsically unsound and must inevitably break down."

Seven months later, the Bolsheviks found themselves compelled, if they wished to remain in power, to abandon the pursuit of communism and deliberately foster the market economy. At the same time, there was a temporary relaxation of political repression. Some criticisms of the regime were permitted to appear, subject to a rather mild censorship. Brutzkus published the substance of his lecture in a learned journal, and only a few paragraphs were deleted by the state. In the summer of 1922, political repression was intensified once more. Many anti-Bolshevik academics were rounded up and ordered to leave the country. Trotsky described this policy as "preventive humanity," and argued that

Learned ideologists are not at present dangerous to the Republic, but external or internal complications might arise which would oblige us to have these ideologists shot. Better let them go abroad therefore.<sup>19</sup>

Trotsky probably did not dream that the same preventive humanity would before long be accorded to him.

In the 1921 articles based on his 1920 lecture, Brutzkus points out that "scientific socialism" has confined itself to criticizing the capitalist order, without paying any serious attention to the organization of socialist society. Both the Western social democrats and the Russian Bolsheviks found themselves in power without possessing the comprehensive plan which would obviously be required for the construction of socialism. Nonetheless, the outlines of Marxian socialism are clear: it is on a large industrial scale, and it replaces the "anarchy of production" with a unitary plan. There are therefore no wages, profits, rent or other prices.

Brutzkus argues that any economic activity "must obey the principle that its results must correspond to the costs expended upon them."<sup>20</sup> In a primitive, small-scale society this is fairly easy. In the "capitalist system" the principle is obeyed by making sure that goods can be sold at a price which covers their costs of production. "This evaluation takes place by virtue of a spontaneous process, the results of which must be taken by the entrepreneur as data." But when central planning has supplanted the market, these data will clearly not be available.

After dismissing the suggestions of Bukharin and Tschayanoff that calculation in kind could be performed, Brutzkus considers the idea of using "labor" as a measure of production costs. There is no way of reducing all the varying qualities of labor to a single homogeneous measure, and "labor value" would fail to take account of the current scarcity of capital

goods. Furthermore, it is only in a hypothetical and never-to-be-reached equilibrium that market prices would equal past production costs (and hence, if we assume that all production costs can be reduced to labor, to "labor values"). The actual divergencies of market prices from costs of production represent important influences which ought to be taken into account, and which would therefore have to be included in any method proposed to replace market prices.

The socialist planners would have to quantify everyone's needs, and then specify the means of attaining them. Brutzkus believes that even to measure the population's requirements for foodstuffs would be extremely difficult, and to estimate all their needs would be beyond the capabilities of any administrative body.<sup>21</sup> But this is not the main problem. In the market, enterprises must pay their way or close down; but under socialism, "there exists no direct connection between the productivity of an undertaking and the supply of funds for its continuance." Nor could there be any such connection, for

under socialism there is no general measure of value. Suppose that a Soviet estate has contributed so and so much milk, so and so many pounds of meat, so and so many bushels of grain. How many pounds of best quality seed, how much artificial manure or oil cake, how many head of breeding cattle or suits of clothes and how much fuel may the estate claim in return for its products? . . . in a society without markets the problem is insoluble.<sup>22</sup>

Brutzkus presents a number of other arguments not central to the economic calculation question. He points out that if the socialist authorities once accept the need to keep material rewards for work in proportion to the productiveness of the work, they will be bound to introduce rent, interest and profit. He argues that there are no grounds to expect any enhancement of personal freedom, much less the abolition of the state, from any attempt at socialist planning, and calls into question the view that people will work more enthusiastically in a socialist society. Finally, he claims that conditions in Russia, with its self-sufficient isolation and highly concentrated industry, have been rather favorable to the institution of socialism. Consequently, its failure there is an especially conclusive refutation.

### The Classic Statement

Of the trio which unleashed the economic calculation argument, Weber, Brutzkus and Mises, the outstanding figure was undoubtedly Mises.<sup>23</sup> His statement was published first, it was soon incorporated into a comprehensive critique of socialism in all its aspects, *Die Gemeinwirtschaft (Socialism: An Economic and Sociological Analysis)*, it quickly reached a wide audience of socialists and was so stinging and provocative that it could not be ignored. Judged from the viewpoint of exposing the weakness of

socialism as a practical project (which was not Weber's primary purpose), Mises' contribution was much more pertinent and detailed than Weber's, and also more exact and succinct than Brutzkus'. The socialist economist Oskar Lange, in a sarcastic observation with serious overtones, stated that Mises' services to socialist theory were such that a statue of him ought to occupy an honorable place in the great hall of the socialist society's Central Planning Board. True, the statue has not so far materialized. But then, neither has any Central Planning Board of the kind envisaged by Lange.

In his "Economic Calculation in the Socialist Commonwealth," Mises emphasizes that the way in which consumer goods are distributed is a secondary matter. Like Pierson before him, he points out that once individuals in a socialist society have collected their "coupons," trade will emerge. But this trade will be confined to consumption-goods. Production-goods, because they will be owned by "the community," cannot be subject to commercial transactions.

Just because no production-good will ever become the object of exchange, it will be impossible to determine its monetary value. Money could never fill in a socialist state the role it fills in a competitive society in determining the value of production-goods. Calculation in terms of money will here be impossible.<sup>24</sup>

Under simple conditions, a Robinson Crusoe, or a family of subsistence farmers, would not only value consumption-goods, but would also be able to impute value to production-goods. If fish were valued, so would be a fishing net. If wild boar were valued, so would be a spear. Even at such a simple level, the producers would have to take account of "the intersubstitutability of goods." Some production-goods could be used for producing alternative consumption-goods in different quantities. Crusoe would have to make a rough-and-ready estimate of the importance of these production-goods, but he would not, of course, be able to total costs of production in money prices. Neither would he have access to any units which could enable him to assess whether a contemplated course of action (such as building a highly elaborate boar trap with materials which could be used for other purposes) was worth it.

In a society with a more complex technology, the rough-and-ready estimates employed by tiny bands of hunters and farmers would be useless. Here, assessment is made in terms of costly or less costly, dear or cheap, as demonstrated by objective exchange-value: market prices expressed in money. The use of objective exchange-values for economic calculation "entails a threefold advantage." Calculation can be based upon the valuations of all participants in trade; there is in monetary profitability an immediate and sure indication of economical production; and values can be referred to a common unit.

Two conditions are necessary before monetary calculation can be

employed in directing production. First, higher-order goods (capital goods) must be exchanged, as well as first-order goods (consumption-goods). It is not enough to be able to value first-order goods, because

No single man can ever master all the possibilities of production, innumerable as they are, as to be in a position to make straightway evident judgements of value without the aid of some system of computation. The distribution among a number of individuals of administrative control over economic goods in a community of men who take part in the labour of producing them, and who are economically interested in them, entails a kind of intellectual division of labour, which would not be possible without some system of calculating production and without economy.<sup>25</sup>

Second, there must be "a universally employed medium of exchange," money, used in the exchange of means of production as well as consumption-goods. Otherwise it would be impossible to reduce all the many exchange-relationships to a common denominator.

It is no use appealing to existing examples of state-directed concerns, for these are islands of "socialism" within the market, having access to market data. Nor can socialism merely continue what was done previously within the market, for with changing conditions, the old methods of production will "become irrational."

Because the socialist planners will be unable to reduce all the means of production to a common denominator, they will be confined to hazarding "vague estimates." The possibility of exact calculation disappears with the price system. "Where there is no free market, there is no pricing mechanism; without a pricing mechanism, there is no economic calculation."<sup>26</sup>

As a possible way out, Mises considers the division of industry into branches controlled by "syndicates" permitted to trade with each other. However, no useful prices could emerge except where the syndicates' autonomy was such that they held *de facto* property rights in their means of production:

This would not be socialization but workers' capitalism and syndicalism.<sup>27</sup>

Today we might call this "market socialism," a term that would have sounded very strange in 1920. Mises makes it clear that he regards "workers' capitalism and syndicalism," in this context, as a form of "private ownership of the means of production." It is effective control by sections of society, instead of unitary control of all resources from a single center.

Mises dismisses on two grounds the suggestion that labor-hours could be used to estimate production costs. It ignores the different qualities of labor, and it does not take into account unproduced natural resources. The latter point applies even if, along the lines of the Marxian theory of value, we

subsume under "socially necessary labor-time" all natural resources as and how they are used up in production:

Let the amount of socially necessary labour-time required for the production of each of the commodities *P* and *Q* be 10 hours. Further, in addition to labour the production of both *P* and *Q* requires the raw material *a*, a unit of which is produced by an hour's socially necessary labour; 2 units of *a* and 8 hours' labour are used in the production of *P*, and one unit of *a* and 9 hours' labour in the production of *Q*. In terms of labour *P* and *Q* are equivalent, but in value terms *P* is more valuable than *Q*. The former is false, and only the latter corresponds to the nature and purpose of calculation.<sup>28</sup>

Mises also advances the argument that people cannot be expected to display suitable initiative in an organization in which they have no personal stake, but he observes that even if this objection were of no account, the economic calculation argument would be decisive. After a brief review of the inconclusive remarks of Otto Bauer and Lenin on the running of a socialist economy, Mises finishes by declaring that although "rational economic activity is impossible in a socialist commonwealth," this need not deter those socialists motivated by ascetic ideals, nor those prepared to abandon material affluence for the sake of the ethical goal. Mises does not dispute that "socialism" is possible at a low level of technology and consumption.

#### What Mises Meant by "Socialism"

Mises always made clear what he meant by socialism, a society without private ownership and market exchange of the means of production. Socialism might or might not do away with money altogether, but it would by definition do away with monetary exchange of factors of production. In socialism, social production would be planned and managed as a single unit by a single supreme planning body.

There is no question but that this conception of socialism corresponded to that of the vast majority of avowed socialists in 1920, and for some time afterwards. One indication of this is that Brutzkus and Weber independently took it for granted, and the earliest respondents to Mises did not challenge it. However, Mises did exaggerate slightly in claiming that "all socialists before 1920" held that "socialism necessarily requires the abolition of the market and of market exchange and even that this fact is both the essential element and the preeminent feature of a socialist economy."<sup>29</sup> To make this statement correct, it is necessary to put "Marxist socialists" instead of "socialists," and "market for industrial means of production" instead of merely "market." As a matter of fact, the earliest socialists, the followers of Saint-Simon, did not commit themselves to the total

elimination of the market, and Proudhon was an early "market socialist." The *Communist Manifesto* execrated "bourgeois socialism," which sought to reform instead of abolish "the bourgeois relations of production" (private property and the market). It was the growth of Marxism at the expense of other socialist schools which led by the turn of the century to the predominance of the strictly non-market idea of socialism and which was almost taken for granted in the German-speaking world when Mises penned his critique.

It may clarify matters to distinguish four varieties of projected socialism.

1. Marxian communism. Total abolition of the market, money and prices. Distribution of consumer-goods either by ration tickets, such as labor-vouchers (definitely *not* money) or by free access. Coordination of production to be achieved by central planning, using technical data only, not prices.
2. What we might loosely call "Communist production, market distribution." A market exists for consumer goods only. Either it emerges spontaneously on the basis of the ration tickets mentioned above; or the planning authority deliberately allows for such a market, pays everyone in tickets which can be transferred and accumulated, and somehow prices consumer goods so that they can be acquired from "the community" (i.e., the planning body) in exchange for the tickets. All production goods are owned by "society"; therefore they do not change hands on a market, and have no market prices.
3. Proposed systems which, while not explicitly either of the above, contain features which must lead to one of the above. (For example, if it were proposed that all prices should be fixed centrally by the state, this would mean that the state would have to determine all physical quantities and technical processes, too. The "prices" would cease to be real prices at all, and the market for factors of production would be ruled out.)
4. Out-and-out "market socialism," in which there is a market for both consumer goods and means of production.

According to Mises, the first three are practically impossible, in conjunction with large-scale industry and division of labor. The fourth is entirely feasible, though it amounts to acceptance of everything which most socialists for the past hundred years have been denouncing as capitalism. It is possible that market socialists may reject some of the institutional requirements and social consequences of a market for factors of production, in which case their position is internally inconsistent. For example, a society with a market for factors of production is one where industry is governed by "the profit motive," and where neither incomes nor wealth holdings can be equalized.

Mises defined socialism in terms of ownership by "the community." In passing he indicated that this could mean nothing other than state ownership, but he did not wish to be sidetracked by a merely semantic argument.<sup>30</sup> Although the rhetoric of modern socialism has generally been democratic, appealing to the interests of the masses, the economic calculation argument applies to *any* centrally-directed system:

A socialist community can have only one ultimate organ of control. . . . It does not matter whether this organ is an absolute prince or an assembly of all citizens organized as a direct or indirect democracy. It does not matter how this organ conceives its will and expresses it. For our purpose we must consider this as accomplished.<sup>11</sup>

As Rothbard has pointed out,<sup>12</sup> the argument applies equally to the notion of "One Big Firm," a single cartel or trust emerging from the market. Such a firm would be unable to calculate and would swiftly disintegrate. In practice, this means that the free market places a limit on the extent of even partial monopolies. The growth of such monopolies must lead to the indeterminacy of prices, with consequent losses and the re-assertion of competition.

### NOTES

1. Quoted in Ludwig von Mises, *Socialism: An Economic and Sociological Analysis* (London: Jonathan Cape, 1951), p. 135.
2. Bagehot, *Economic Studies* (London: Longmans Green, 1898; reprint ed., Clifton, N. J.: Kelley, 1973), pp. 54-58.
3. P. H. Wicksteed, *The Common Sense of Political Economy* (London: George Routledge and Sons, 1933), 2:682.
4. Actually there can be no possibility of separating allocation from remuneration, but this is a conclusion drawn from the economic calculation argument, and to state the argument clearly it is necessary, as a preliminary, to separate the two issues.
5. Friedrich von Wieser, *Natural Value* (London: Macmillan, 1893), passim; Böhm-Bawerk (on the need for interest under socialism), *Capital and Interest* (South Holland, Ill.: Libertarian Press, 1959), 2:341-46; Vilfredo Pareto, quoted in F. A. Hayek, *Individualism and Economic Order* (London: Routledge and Kegan Paul; Chicago: University of Chicago Press, 1949), p. 140; Enrico Barone, "The Ministry of Production in the Collectivist State," in Hayek, ed., *Collectivist Economic Planning* (London: George Routledge and Sons, 1935).
6. This point is pursued in the following chapter of the work from which this paper has been excerpted.
7. Nikolaas Pierson, "The Problem of Value in the Socialist Community," in Hayek, *Collectivist Economic Planning*, pp. 60-61.
8. *Ibid.*, p. 75.
9. Mises, *Socialism*, p. 135.
10. Few participants in the economic calculation discussion have paid any attention to the fact that Marxist socialism demands central planning on a worldwide scale.
11. Friedrich Engels, *Anti-Dühring: Herr Eugen Dühring's Revolution in Science* (Moscow: Foreign Languages Publishing House, 1962), pp. 424-25.
12. Otto Neurath, *Durch die Kriegswirtschaft zur Naturalwirtschaft* [Through the War Economy to the Natural Economy]; Otto Bauer, *Der Weg zum Sozialismus* [The Road to Socialism]. Neurath's work is now available in English as "Through War Economy to Economy in Kind," in a collection of his writings: Marie Neurath and Robert S. Cohen, eds., *Empiricism and Sociology* (Dordrecht, Holland: D. Reidel, 1973). His argument is briefly dealt with in T. J. B. Hoff, *Economic Calculation in the Socialist Society* (London: William Hodge, 1949), pp. 48-51.
13. Max Weber, *The Theory of Social and Economic Organization* (New York: Free Press of Glencoe, 1964), pp. 184-85.
14. *Ibid.*, p. 207.
15. *Ibid.*, p. 188.

16. *Ibid.*, p. 194.
17. *Ibid.*, pp. 203–204.
18. *Ibid.*, p. 205.
19. Quoted in Boris Brutzkus, *Economic Planning in Soviet Russia* (London: George Routledge and Sons, 1935), p. xvii.
20. *Ibid.*, p. 9. Part 1 of this book consists of Brutzkus' 1921 articles.
21. *Ibid.*, p. 44.
22. *Ibid.*, pp. 45–46.
23. Mises, "Die Wirtschaftsrechnung im sozialistischen Gemeinwesen," *Archiv für Sozialwissenschaft und Sozialpolitik* 47, no. 1 (April 1920). Translated as "Economic Calculation in the Socialist Commonwealth," in Hayek, *Collectivist Economic Planning*.
24. Mises, "Economic Calculation," p. 92.
25. *Ibid.*, p. 102.
26. *Ibid.*, p. 111.
27. *Ibid.*, p. 112.
28. *Ibid.*, p. 113. If we follow Marx's usage, there would be no "value" under socialism/communism and hence no application of the labor theory of value. There is no evidence that Marx intended his labor theory of value to have any bearing on the organization of socialist production; it is a theory to account for relative prices under capitalism. Mises writes of "the labor theory of value" as a basis for socialist calculation, but if we read this as "accounting in socially necessary labor-hours," the argument is not affected.
29. Mises, *Human Action: A Treatise on Economics* (Chicago: Henry Regnery, 1963), p. 707.
30. Mises, *Socialism*, p. 129.
31. *Ibid.*, p. 130.
32. Murray N. Rothbard, "Ludwig von Mises and Economic Calculation under Socialism," in Laurence S. Moss, ed., *The Economics of Ludwig von Mises: Towards a Critical Reappraisal* (Kansas City: Sheed and Ward, 1976), pp. 75–76.

*Session IV*

*Competition and Monopoly*

# COMPETITION AS A DISCOVERY PROCEDURE

F.A. HAYEK

TRANSLATED BY MARCELLUS S. SNOW

## I.

It would not be easy to defend macroeconomists against the charge that for 40 or 50 years they have investigated competition primarily under assumptions which, if they were actually true, would make competition completely useless and uninteresting. If anyone actually knew everything that economic theory designated as “data,” competition would indeed be a highly wasteful method of securing adjustment to these facts. Hence it is also not surprising that some authors have concluded that we can either completely renounce the market, or that its outcomes are to be considered at most a first step toward creating a social product that we can then manipulate, correct, or redistribute in any way we please. Others, who apparently have taken their notion of competition exclusively from modern textbooks, have concluded that such competition does not exist at all.

By contrast, it is useful to recall that *wherever* we make use of competition, this can only be justified by our *not* knowing the essential circumstances that determine the behavior of the competitors. In sporting events, examinations, the awarding of government contracts, or the bestowal of prizes for poems, not to mention science, it would be patently absurd to sponsor a contest if we knew in advance who the winner would be. Therefore, as the title of this lecture suggests, I wish now to consider competition systematically as a procedure for discovering facts which, if the procedure did not exist, would remain unknown or at least would not be used.

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Marcellus S. Snow is professor emeritus at the University of Hawaii at Manoa; snow@hawaii.edu. This is a translation from German of F.A. Hayek’s “Der Wettbewerb als Entdeckungsverfahren,” a 1968 lecture sponsored by the Institut für Weltwirtschaft at the University of Kiel. It was published as No. 56 in the series Kieler Vorträge.

It might at first appear so obvious that competition always involves such a discovery procedure that this is hardly worth emphasizing. When this is explicitly underscored, however, conclusions are immediately obtained that are in no way so obvious. The first is that competition is important *only* because and insofar as its outcomes are unpredictable and on the whole different from those that anyone would have been able to consciously strive for; and that its salutary effects must manifest themselves by frustrating certain intentions and disappointing certain expectations.

The second conclusion, closely associated with the first, is methodological in nature. It is of particular interest in that it has reference to the principal reason why, during the last 20 or 30 years, microeconomic theory—the analysis of the fine details of the economy’s structure which alone can teach us to understand the role of competition—has lost so much of its reputation, and indeed as a result appears not at all to be understood anymore by those calling themselves economic theorists. For this reason I would like to begin here with a few words about the methodological particularity of every theory of competition that makes the conclusions drawn from it appear suspicious to all those who habitually decide, on the basis of an excessively simplified criterion, what they are prepared to recognize as scientific.

The only reason we use competition at all has as its necessary consequence the fact that the validity of the theory of competition can never be empirically verified *for those cases in which it is of interest*. It is of course possible to verify the theory on preconceived theoretical models; and in principle we could also conceivably verify the theory in artificially created situations in which all the facts that competition is to discover are known to the observer in advance. In such a situation, however, the outcome of the experiment would be of little interest, and it would probably not be worth the cost of conducting it. When, however, we do not know in advance the facts we wish to discover with the help of competition, we are also unable to determine how effectively competition leads to the discovery of all the relevant circumstances that could have been discovered. All that can be empirically verified is that societies making use of competition for this purpose realize this outcome to a greater extent than do others—a question which, it seems to me, the history of civilization answers emphatically in the affirmative.

The curious fact that the merits of competition cannot be empirically verified in precisely those cases in which it is of interest is also shared by the discovery procedures of science in general. The advantages of established scientific procedures cannot themselves be scientifically demonstrated; they are recognized only because they have actually provided better results than alternative procedures.<sup>1</sup>

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<sup>1</sup>See the interesting discussion of these problems in M. Polanyi, *The Logic of Liberty* (London, 1951), in which the author is led from a study of the methods of scientific research to that of economic competition. See also K.R. Popper, *Logik der Forschung*, 2d. ed. (Tübingen, 1966), p. 16.

The difference between economic competition and the successful procedure of science is that the former exhibits a method of discovering particular temporary circumstances, while science seeks to discover something often known as “general facts,” i.e., regularities in events, and is concerned with unique, particular facts only to the extent that they tend to refute or confirm its theories. Since this is a matter of general and permanent features of our world, scientific discoveries have ample time to demonstrate their value, whereas the usefulness of particular circumstances disclosed by economic competition is to a considerable extent transitory. It would be as easy to discredit the theory of scientific method by noting that it does not lead to verifiable predictions regarding what science will discover, as it has been to discredit the theory of the market by noting that it does not lead to predictions about particular outcomes of the market process. By the nature of things, however, the theory of the market is unable to accomplish this in all those cases in which it is reasonable to make use of competition. As we shall see, the predictive power of this theory is necessarily constrained to a prediction of the type of structure or abstract order that will result; it does not, however, extend to a prediction of particular events.<sup>2</sup>

## II.

Although this will lead me even further from my main topic, I should like to add a few words about the consequences of the disappointment in microeconomic theory caused by using fallacious methodological criteria of scientism. Most of all, this disappointment was probably the major reason why a great number of economists rejected it in favor of so-called macroeconomic theory, which, since it aims to predict concrete events, appears to correspond better with the criteria of scientism. In reality, however, it seems to me much less scientific—indeed, in the strictest sense, it can make no claim to the name of a theoretical science.

The basis for this point of view is the conviction that the coarse structure of the economy can exhibit no regularities that are not results of the fine structure, and that those aggregates or mean values, which alone can be grasped statistically, give us no information about what takes place in the fine structure. The notion that we must formulate our theories so that they can be *immediately* applied to observable statistical or other measurable quantities seems to me to be a methodological error which, had the natural sciences followed it, would have greatly obstructed their progress. All we can require of theories is that, after an input of relevant data, conclusions can be derived from them that can be checked against reality. The fact that these concrete data are so diverse

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<sup>2</sup>See my essay “The Theory of Complex Phenomena” in *The Critical Approach in Science and Philosophy*, M. Bunge, ed. (London and New York, 1964). Reprinted in my *Studies in Philosophy, Politics, and Economics* (Chicago and London, 1967).

and complex in our area of inquiry that we can never take them all into account is an unchangeable fact, but not a shortcoming of the theory. A result of this fact is that we can derive from our theories only very general statements, or “pattern predictions,” as I have called them elsewhere;<sup>3</sup> we cannot, however, derive any specific predictions of individual events from them. Certainly, however, this does not justify insisting that we derive unambiguous relationships among the immediately observable variables, or that this is the only way of obtaining scientific knowledge—particularly not if we know that, in that obscure image of reality we call statistics, in aggregates and averages we unavoidably summarize many things whose causal meaning is very diverse. It is a false epistemological principle to adapt the theory to the available information, so that the observed variables appear directly in the theory.

Statistical variables such as national income, investment, price levels, and production are variables that play no role in the process of their determination itself. We might be able to notice certain regularities (“empirical laws” in the specific sense in which Carl Menger contrasted them to theoretical laws) in the observed behavior of these variables. Often these regularities apply, but sometimes they do not. Yet using the means of macrotheory, we can never formulate the conditions under which they apply.

This should not mean that I regard so-called macrotheory as completely useless. About many important conditions we have only statistical information rather than data regarding changes in the fine structure. Macrotheory then often affords approximate values or, probably, predictions that we are unable to obtain in any other way. It might often be worthwhile, for example, to base our reasoning on the assumption that an increase of aggregate demand will in general lead to a greater increase in investment, although we know that under certain circumstances the opposite will be the case. These theorems of macrotheory are certainly valuable as rules of thumb for generating predictions in the presence of insufficient information. But they are not only not more scientific than is microtheory; in a strict sense they do not have the character of scientific theories at all.

In this regard I must confess that I still sympathize more with the views of the young Schumpeter than with those of the elder, the latter being responsible to so great an extent for the rise of macrotheory. Exactly 60 years ago, in his brilliant first publication,<sup>4</sup> a few pages after having introduced the concept of “methodological individualism” to designate the method of economic theory, he wrote:

If one erects the edifice of our theory uninfluenced by prejudices and outside demands, one does not encounter these concepts [namely “national income,” “national wealth,” “social capital”] at all. Thus we will not be further concerned with them. If we wanted to do so, however, we would see

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<sup>3</sup>See my above-cited essay, “The Theory of Complex Phenomena.”

<sup>4</sup>J. Schumpeter, *Das Wesen und der Hauptinhalt der theoretischen Nationalökonomie* (Leipzig, 1908), p. 97.

how greatly they are afflicted with obscurities and difficulties, and how closely they are associated with numerous false notions, without yielding a *single* truly valuable theorem.

### III.

Returning now to my actual topic after having shared my concerns with you on this matter, I should like to begin with the observation that market theory often prevents access to a true understanding of competition by proceeding from the assumption of a “given” quantity of scarce goods. Which goods are scarce, however, or which things are goods, or how scarce or valuable they are, is precisely one of the conditions that competition should discover: in each case it is the preliminary outcomes of the market process that inform individuals where it is worthwhile to search. Utilizing the widely diffused knowledge in a society with an advanced division of labor cannot be based on the condition that individuals know all the concrete uses that can be made of the objects in their environment. Their attention will be directed by the prices the market offers for various goods and services. This means, among other things, that each individual’s particular combination of skills and abilities—which in many regards is always unique—will not only (and not even primarily) be skills that the person in question can recite in detail or report to a government agency. Rather, the knowledge of which I am speaking consists to a great extent of the ability to detect certain conditions—an ability that individuals can use effectively only when the market tells them what kinds of goods and services are demanded, and how urgently.

This suggestion must suffice here to clarify the kind of knowledge I am speaking of when I call competition a discovery procedure. Much more would have to be added if I wanted to formulate this outline so concretely that the meaning of this process emerged clearly. What I have said, however, should be sufficient to point out the absurdity of the conventional approach proceeding from a state in which all essential conditions are assumed to be known—a *state* that theory curiously designates as perfect competition, even though the opportunity for the *activity* we call competition no longer exists. Indeed, it is assumed that such activity has already performed its function. Nonetheless, I must now turn to another question about which even more confusion still exists, namely the meaning of the claim that the market spontaneously *adjusts* the plans of individuals to the facts thus discovered; in other words, the question of the purpose for which the information thus discovered is used.

The confusion that prevails here can be ascribed above all to the false idea that the order which the market brings about can be regarded as an *economy* in the strict sense of the word, and that the outcome must therefore be judged according to criteria that in reality are appropriate only for such an individual economy. But these criteria, which hold for a true economy in which all

effort is directed toward a uniform order of objectives, are to an extent completely irrelevant for the complex structure consisting of the many individual economies that we unfortunately designate with the same word “economy.” An economy in the strong sense of the word is an organization or an arrangement in which someone consciously uses means in the service of a uniform hierarchy of ends. The spontaneous order brought about by the market is something entirely different. But the fact that this market order does not in many ways behave like an economy in the proper sense of the word—in particular, the fact that it does not in general ensure that what most people regard as more important ends are always satisfied before less important ones—is one of the major reasons people rebel against it. It can be said, indeed, that all socialism has no other aim than to transform catallaxy (as I am pleased to call market order, to avoid using the expression “economy”) into a true economy in which a uniform scale of values determines which needs are satisfied and which are not.

This widely shared wish raises two problems, though. First, as far as the management decisions of a genuine economy or of any other organization are concerned, it is only the knowledge of the organizers or managers alone that can have any impact. Second, all members of such a genuine economy—conceived of as a consciously managed organization—must serve the uniform hierarchy of objectives in all their actions. Contrast this with the two advantages of a spontaneous market order or catallaxy: it can use the knowledge of all participants, and the objectives it serves are the particular objectives of all its participants in all their diversity and polarity.

The fact that catallaxy serves no uniform system of objectives gives rise to all the familiar difficulties that disturb not only socialists, but all economists endeavoring to evaluate the performance of the market order. For if the market order does not serve a particular rank ordering of objectives, and indeed if, like any spontaneously created order, it cannot legitimately be said to have definite objectives, neither is it then possible to represent the value of its outcome as a sum of individual outputs. What do we mean, then, when we claim that the market order in some sense produces a maximum or an optimum?

The point of departure for an answer must be the insight that, although the spontaneous order was not created for any particular individual objective, and in this sense cannot be said to serve a particular concrete objective, it can nonetheless contribute to the realization of a number of individual objectives which no one knows in their totality. Rational, successful action by an individual is possible only in a world that is to some extent orderly; and it obviously makes sense to try to create conditions under which any randomly selected individual has prospects of pursuing his goals as effectively as possible, even if we cannot predict which particular individuals will benefit thereby and which will not. As we have seen, the results of a discovery procedure are necessarily unpredictable, and all we can expect by employing an appropriate discovery procedure is that it will increase the prospects of unspecified persons, but not the prospects of any particular outcome for any

particular persons. The only common objective we can pursue in choosing this technique for the ordering of social reality is the abstract structure or order that will be created as a consequence.

#### IV.

We are accustomed to calling the order brought about by competition an equilibrium—a none-too-felicitous expression, since a true equilibrium presupposes that the relevant facts have already been discovered and that the process of competition has thus come to an end. The concept of order, which I prefer to that of equilibrium, at least in discussions of economic policy, has the advantage of allowing us to speak meaningfully about the fact that order can be realized to a greater or lesser degree, and that order can also be preserved as things change. Whereas an equilibrium never really exists, one can nonetheless justifiably claim that the kind of order of which the “equilibrium” of theory represents a sort of ideal type is realized to a great extent.

This order manifests itself first of all by virtue of the fact that the expectations of particular transactions with other persons, upon which the plans of all the economy’s participants are based, are to a considerable extent realized. This mutual adjustment of individual plans is brought about by a process that we have learned to call negative feedback ever since the natural sciences have also begun to concern themselves with spontaneous orders or “self-organizing systems.” Indeed, as even well-informed biologists are now aware,

long before Claude Bernard, Clark Maxwell, Walter B. Cannon or Norbert Wiener developed cybernetics, Adam Smith perceived the idea just as clearly in his *Wealth of Nations*. The “invisible hand” that regulates prices appears to express this idea. Smith says in essence that in a free market, prices are determined by negative feedback.<sup>5</sup>

It is precisely through the disappointment of expectations that a high degree of agreement of expectations is brought about. This fact, as we shall see later, is of fundamental importance in understanding the functioning of the market order. But the market’s accomplishments are not exhausted in bringing about a mutual adjustment of individual plans. It also provides that every product is produced by those who can produce it more cheaply (or at least as cheaply) as anyone who does not in fact produce it, and that goods are sold at prices that are lower than those at which anyone could offer the goods who does not offer them. This does not of course prevent some people from extracting large profits above their costs, as long as these costs are considerably lower than those of the next best potential producer of the good. It

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<sup>5</sup>G. Hardin, *Nature and Man’s Fate* (New York and London, 1959). Mentor Edition, 1961, p. 54.

means, however, that of the combination of different goods that is actually being produced, as much is produced as we can manufacture by any method that is known to us. That is of course not as much as we could produce if in fact all the knowledge that anyone possessed or could acquire were available at a central point and from there could be entered into a computer. The cost of the discovery procedure that we use is considerable. But it is unfair to judge the performance of the market in a certain sense “from the top down,” namely by comparing it with an ideal standard that we are unable to attain in any known way. If we judge the market’s performance “from the bottom up” (which seems to be the only permissible way), i.e., by comparison with what we could attain by means of any other method available to us, and in particular by comparison with what would be produced if competition were prevented—for example, if a good could be produced only by those the authorities allowed to do so—the market’s performance must be judged as most considerable. We need only recall how difficult it is in an economy with effective competition to discover ways of providing consumers with better or cheaper goods than is presently the case. If, for a moment, we believe we have discovered such unrealized opportunities, we generally find that government authority or a highly undesirable exercise of private power have hitherto prevented their exploitation.

Of course, we must also not forget that the market can provide no more than an approximation of any point on the n-dimensional surface by which pure theory describes the range of possibilities that could conceivably be attained in the production of any combination of goods and services; but the market allows the particular combination of various goods and their distribution among individuals to be decided essentially by unforeseeable circumstances and in this sense by chance. As Adam Smith realized,<sup>6</sup> the situation is somewhat like agreeing to play a game based partly on skill and partly on luck. The rules of the game ensure that at the price such that each individual’s share is left more or less to chance, the real equivalent of each individual’s share, depending partly on chance, becomes as large as possible. In modern terminology we can say that we are playing a non-zero-sum game whose rules have the objective of increasing the payoff but leave the share of the individuals partly to chance. A mind endowed with full information could of course choose every point on the n-dimensional surface that appeared desirable to him and then distribute as he saw fit the product of the combination he chose. But the only point on (or at least somewhere near) that surface we can reach using a procedure known to us is the one we reach when we leave its determination up to the market. The so-called “maximum” we achieve in this manner cannot of course be defined as a sum of certain quantities of goods, but only by the opportunity it affords unspecified persons to receive as large an equivalent as

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<sup>6</sup>See A. Smith, *Theorie der ethischen Gefühle*, W. Eckstein, trans. (Leipzig, 1926), vol. 2, pp. 396, 467.

possible for a share determined partly by chance. The fact that this outcome cannot be evaluated on the basis of a uniform value scale of desired concrete objectives is one of the main reasons it seems so misleading to me to consider the outcome of the market order or catallaxy as if it had anything to do with an economy in the proper sense.

## V.

The consequences of this erroneous interpretation of the market order as an economy whose task is to satisfy the various needs according to a given rank ordering are reflected in political efforts to correct prices and income in the service of so-called “social justice.” Notwithstanding the various meanings with which social philosophers attempted to invest this concept, in practice it has had virtually only one: protecting some groups of people from having to descend from the absolute or relative lifestyle they have heretofore enjoyed. Yet this is a principle that cannot be implemented in general without destroying the foundations of the market order. Not only continuous growth, but under certain circumstances even the preservation of the average income level attained depends on processes of adjustment that require a change not only of the relative shares but also of the absolute shares of individual persons and groups, even though such persons and groups are not responsible for the necessity of that change.

It is useful to recall at this point that all economic decisions are made necessary by unanticipated changes, and that the justification for using the price mechanism is solely that it shows individuals that what they have previously done, or can do now, has become more or less important, for reasons with which they have nothing to do. The adaptation of the total order of human action to changing circumstances is based on the fact that the compensation of the various services changes without taking into account of the merits or defects of those involved.

In this connection the term “incentives” is often used in a way that easily lends itself to misunderstanding, namely as though their primary purpose were to induce individuals to exert themselves sufficiently. The most important function of prices, however, is that they tell us *what* we should accomplish, *not how much*. In a constantly changing world, merely maintaining a given level of welfare requires constant adjustments in how the efforts of many individuals are directed; and these will only occur when the relative compensation of these activities changes. Under relatively stationary conditions, however, these adjustments—which are needed simply to maintain the income stream at its previous level—will not generate a surplus that could be used to compensate those who are disadvantaged by the price changes. Only in a rapidly growing economy can we hope to prevent an absolute decline in the material level of particular groups.

Today, customary treatments of these problems often overlook the fact that even the relative stability of the various aggregates that macroeconomics treats

as data is the result of microeconomic processes in which relative price changes play a decisive role. It is an outcome of the market mechanism that someone is induced to fill the gap that arises when someone else does not fulfill the expectations on the basis of which a third party has made plans. In this sense all the collective supply and demand curves that we use so happily are not really data, but rather outcomes of the constantly ongoing process of competition. Thus, statistical information can never disclose to us what price or income changes will be needed to bring about the necessary adjustment to an unavoidable change of the data.

The decisive point, however, is that in a democratic society it would be completely impossible, using commands that could not be regarded as just, to bring about those changes that are undoubtedly necessary, but the necessity of which could not be strictly demonstrated in a particular case. In such a system, a conscious direction of the economy would always have to aim for prices that are considered fair, and in practice that can only mean preservation of the existing price and income structure. An economic system in which everyone received what others felt he deserved could not help but be a highly inefficient system, quite apart from the fact that it would also be an unbearably tyrannical one. For the same reason, it is also to be feared that any "incomes policy" would tend more to prevent than to facilitate those adjustments in the price and income structure required by the adaptation to unanticipated changes in conditions.

It is one of the paradoxes of our age that the communist countries, in this regard, are probably less burdened by ideas of "social justice" than are the "capitalistic" and democratic countries, and are thereby more prone to allow those who are disadvantaged by development to suffer. In at least some of the Western countries the situation is as hopeless as it is precisely because the ideology that determines policy renders impossible those changes that would be necessary to improve the situation of the working class quickly enough to make that ideology disappear.

## VI.

If even in highly developed economies competition is important primarily as a discovery procedure whereby entrepreneurs constantly search for unexploited opportunities that can also be taken advantage of by others, then this is true of course to an even greater extent as far as underdeveloped societies are concerned. I have intentionally begun by considering the problems of maintaining an order in societies in which most techniques and productive forces are generally known, but also an order that requires continuous adjustment of activities to unavoidable small changes simply to maintain the previously attained level. At this point I do not wish to inquire into the role played by competition in the progress of available technology. I would like to emphasize, however, how much more important competition must be wherever the primary objective is to discover the still unknown possibilities in a society where

competition was previously limited. While for the most part false, it might not be completely absurd to expect that we can predict and control the development of the structure of a society that is already highly developed. But it seems incredible to me to hold that we can determine in advance the future structure of a society in which the major problem is still to find out what kinds of material and human productive forces are present, or that we should be in a position, in such a country, to predict the particular consequences of a given measure.

Quite apart from the fact that there is still so much more to discover in such a country, it seems to me that there is another consideration making the greatest possible freedom of competition much more important here than in more highly developed countries. The fact I have in mind is that the necessary changes in habits and customs will occur only when those who are ready and able to experiment with new procedures can make it necessary for the others to imitate them, with the former thereby showing the way; but if the majority is in a position to prevent the few from conducting experiments, the necessary discovery procedure will be frustrated. The fact that competition not only shows how things can be improved, but also forces all those whose income depends on the market to imitate the improvements, is of course one of the major reasons for the disinclination to compete. Competition represents a kind of impersonal coercion that will cause many individuals to change their behavior in a way that could not be brought about by any kind of instructions or commands. Central planning in the service of any some “social justice” may be a luxury that rich countries can afford, but it is certainly no method for poor countries to bring about the adjustment to rapidly changing circumstances on which growth depends.

It might also be worth mentioning in this connection that the more the available opportunities of a country remain unexploited, the greater its opportunities for growth; this often means that a high growth rate is more a sign of bad policies in the past than of good policies in the present. It also seems that one cannot in general expect a country that is already highly developed to have as high a growth rate as a country whose full use of its resources has long been rendered impossible by legal and institutional barriers.

Having seen what I have of the world, it appears to me that the proportion of people who are prepared to try out new possibilities that promise to improve their situation—as long as others do not prevent them from doing so—is more or less the same everywhere. It seems to me that the much-lamented lack of entrepreneurial spirit in many young countries is not an unchangeable attribute of individuals, but the consequence of limitations placed on individuals by the prevailing point of view. For precisely this reason, the effect would be fatal if, in such countries, the collective will of the majority were to control the efforts of individuals, rather than that public power limits itself to protecting the individual from the pressure of society—and only the institution of private property, and all the liberal institutions of the rule of law associated with it, can bring about the latter.

## VII.

Although competition is by and large a quite resilient specimen as far as private firms are concerned—one that continues to resurface in the most unexpected manner after efforts to suppress it—its usefulness with respect to the one omnipresent factor of production, namely human labor, has been rendered more or less ineffective throughout the entire Western world. It is a generally known fact that the most difficult and indeed the apparently insoluble problems of present-day economic policy, which have occupied economists more than all other problems, are the result of the so-called rigidity of wages. This means in essence that the wage structure as well as the wage level has become increasingly independent of market conditions. Most economists consider this situation as an irrevocable development that we cannot change and to which we must adapt our policies. It is hardly an exaggeration to say that for the past 30 years, discussions of monetary policy in particular have dealt almost exclusively with problems of circumventing the difficulties created by inflexible wages. I have long since had the impression that this was a mere treatment of symptoms. For the moment, we might thereby cover up the fundamental difficulties, but this is not only a mere postponement of the moment at which we must directly confront the primary problem, but it also makes the eventual solution of the latter increasingly difficult. This is because accepting these rigidities as unavoidable facts not only results in increasing them, but also confers an aura of legitimacy on the antisocial and destructive practices that they cause. I must confess that as a result, I myself have lost all interest in the ongoing discussions of monetary policy, which was once one of my major areas of research, because this avoidance of the central issue seems to me to load the burden onto the shoulders of our successors in a most irresponsible manner. In a certain sense, of course, we are harvesting here only what the founder of this fashion has sown, since we are naturally already in that “long run” in which he knew he would be dead.

It was a great misfortune for the world that these theories arose from the very unusual and, indeed, perhaps unique situation of Great Britain in the 1920s—a situation in which it appeared obvious that unemployment was the result of too high a real wage *level*, and that the problem of rigidity of the wage structure thus had limited significance. As a result of Great Britain’s return to the gold standard after years of war inflation at the parity of 1914, it could be claimed with some justification that all real wages in that country were too high relative to the rest of the world to achieve the necessary volume of exports. I am not convinced that this was really true even then. Even at that time, to be sure, Great Britain had the oldest, most deeply rooted, and most all-encompassing trade union movement, which through its wage policy had succeeded in conserving a wage structure that was determined much more by considerations of “justice” than of economic appropriateness. This meant by and large that the time-honored relationships between the different wages were maintained, and that any such change in the relative wages of the various groups as was required by changed circumstances had become effectively

impossible. As things stood then, full employment could doubtless have been attained only by bringing some real wages—possibly those of numerous groups of workers—down from the level they had reached as a result of deflation. It is not certain, however, that this would necessarily have meant a decrease in the average level of real wages. Perhaps the adjustment of the structure of the entire economy brought about by the wage changes would have made this unnecessary. In any event, the emphasis that was customary, then as now, on the average real wage *level* of all a country's workers prevented this possibility from even being considered seriously.

It is perhaps useful to consider the problem from a broader perspective. It seems to me impossible to doubt that the productivity of a country's labor, and thereby the wage level at which full employment is possible, depend on the distribution of workers among the various branches of industry, and that this distribution is in turn determined by the wage structure. But if this wage structure has become more or less rigid, this will prevent or delay the economy's adjustment to altered circumstances. It is thus to be assumed that, in a country where the relationships between the various wages have been kept rigid for a long period of time, the real wage level at which full employment can be attained will be considerably below what it would be if wages were flexible.

It appears to me that a completely rigid wage structure would prevent adjustment to changes in other conditions, particularly without the rapid technological progress we are used to today. This also concerns especially the adjustment to those changes that must occur simply in order to keep the income level constant. A completely rigid wage structure is therefore liable to lead to a gradual decrease in the level of real wages at which full employment can be realized. Unfortunately, I am not familiar with any empirical investigations of the relationship between wage flexibility and growth. I would expect such investigations to disclose a high positive correlation between these two variables—not so much because growth leads to changes in relative wages, but above all because such changes are the necessary preconditions for that adjustment to changed conditions that is required by growth.

But the main point, I believe, is that if it is correct that the real wage level at which full employment is possible depends on the wage structure, and if the ratios among the various wages remain unchanged as conditions change, then the real wage level at which full employment comes into existence will either fall continuously or will not rise as rapidly as would otherwise be possible. This means that manipulating the real wage level by monetary policy offers no way out of the difficulties caused by the rigidity of the wage *structure*. Nor can a way out be offered by any practically possible "incomes policy." Rather, as things turn out, it is precisely the rigidity of the wage structure brought about by the wage policy of the trade unions in the supposed interest of their members (or of any notion of "social justice") that has become one of the greatest obstacles to an increase in the real income of workers as a whole; in other words, if the real wages of individuals are prevented from

falling absolutely or at least relatively, the real wage level of workers as a whole will not rise as quickly as would otherwise be possible.

The classical ideal that John Stuart Mill described in his autobiography as “full employment at high wages to the whole labouring population” can be realized only by an economic use of labor, which in turn presupposes freely fluctuating relative wages. In the place of this ideal, the great man whose name will probably go down in history as the gravedigger of the British economy has popularized decreasing the level of real wages through a decrease of the value of money as a method of attaining full employment while recognizing the rigidity of the nominal wage structure. In my view, however, the experience of recent years clearly shows that this method offers only temporary relief. I believe we should no longer delay attacking the root cause of the problem. We cannot go on much longer closing our eyes to the fact that the interest of labor as a whole demands that the power of individual trade unions to maintain the relative position of their members against other workers be removed. The most important task at present appears to be convincing labor as a whole that removing the protection of the relative position of individual groups not only does not threaten the prospects for a rapid increase in the real wages of labor as a whole, but in fact enhances those prospects.

I will certainly not dispute here that for the foreseeable future it will remain politically impossible to restore a truly free labor market. Any such attempt would probably lead to such great conflicts that it could not be seriously considered—at least as long as employers do not collectively guarantee to maintain their employees’ average real income. But precisely such a guarantee, I believe, is the only way of restoring the market to its function of determining the relative wages of the various groups. Only in this way, it seems to me, could we hope to induce individual groups of workers to give up the security of their particular wage rates, which has become the main obstacle to a flexible wage structure. Such a collective agreement between employers as a whole and employees as a whole seems to me a transitional measure deserving serious consideration, because the outcome would probably show workers how much they could gain from a truly functioning labor market. This would in turn create the prospect of subsequently eliminating the tedious and complicated apparatus that would initially have to be created.

What I have in mind is a general contract in which employers as a whole would promise workers as a whole, initially for a year, their previous real wage total plus a share of increased profits. Each individual group or individual worker, however, would receive in his monthly paycheck only a certain part, say five-sixths, of his previous wage. The rest (together with the agreed-upon share of the increased total profits of all enterprises) would be distributed in two additional monthly payments—at the end of the year and after the books are closed—to the employees of the various firms and branches of the economy, in proportion to the change in profits that results on the basis on the five-sixths of wages distributed. I have proposed five-sixths as the share of continuous payments, since this would make possible the payment of a Christmas

bonus at the average level of a month's income on the basis of a preliminary estimate of profits, and of a second vacation bonus of approximately the same amount when the books are closed for the calendar year. For the subsequent year the average wages of the first year would again be guaranteed, but by the end of the year every group would be paid only five-sixths of the total amount paid in the previous year, plus a supplement at the end of the year for each group based on profits realized in the corresponding industry or firm, and so on.

Such a procedure would have somewhat the same effect as a restoration of the free labor market, except that labor would know that its average real wages could not decrease, but only increase. I would expect that such an indirect re-introduction of the market mechanism for determining the distribution of workers among industries and firms would bring with it a considerable acceleration of the increase of the level of average real wages, along with a stepwise decrease in the real wages of individual groups.

You will believe me when I say that I do not make so unusual a proposal lightly. But some measure of this kind, I believe, is today the only remaining way out of the increasing rigidity of the wage structure. This rigidity seems to me not only the major cause of the increasing economic difficulties of countries like Great Britain. It also drives such countries deeper and deeper into a planned and thereby still more rigid economic structure by misleading them into dabbling with the symptoms through "incomes policies" and the like. It seems that labor can only gain from such a solution, but I realize of course that trade union officials would lose through it a large part of their power and would therefore reject it completely.

### **3. Competition and Monopoly: Theory and Evidence**

Much of the support for antitrust policy depends upon the correctness of the standard theories of competition and monopoly. These can be briefly summarized as follows.

#### **The Theories**

Some economists define competition as a state of affairs in which rival sellers of some homogeneous product are so small—relative to the total market supply—that they individually have no control over the market price of the product.<sup>1</sup> These atomistic sellers take the market price as given and then attempt to generate an output that maximizes their own profit. The final outcome (equilibrium) of such a market organization of firms is that consumers obtain the product at the lowest possible cost and price. Such markets are said to be “purely” competitive (“perfectly” competitive if there is perfect information), and resources are said to be allocated efficiently.

Free-market monopoly involves some voluntary restriction of market output relative to the output forthcoming under competitive conditions. Economists usually assume that monopoly means that there is only one supplier of a

<sup>1</sup>The standard theoretical analysis of competition, monopoly, and resource misallocation can be found in any microeconomics text and in most texts on antitrust policy. See, for instance, William F. Shughart II, *The Organization of Industry*, 2nd ed. (Houston, Texas: Dame Publications, 1997).

product with no reasonable substitutes or that several major suppliers of a product collude to restrict production. The economic effect of such monopolization is that market outputs are restricted—the monopoly restrains trade—and prices are increased to consumers. Such restrictions of production are also said to misallocate resources and reduce social welfare.

The expression “misallocation of resources” is a powerful one in economics. It signifies that scarce economic resources are not being put to their greatest economic advantage. The implication is that some alternative allocation of these resources could improve overall economic performance.

Monopoly is said to misallocate resources in two fundamental ways. The first is termed “allocative inefficiency.” It implies that the price consumers pay for a product under monopoly—the monopoly price—exceeds the marginal cost of producing that product. Consumers indicate their willingness to have suppliers produce more of some product by paying a price that exceeds the marginal cost of producing it. Firms with monopoly power, however, can maximize their profits by restricting their production and keeping their prices up. Suppliers with monopoly power are said to have no incentive to expand production to the point where market price and marginal cost are equal. The consequence of such supply decisions is that resources are at least somewhat misallocated and social welfare is reduced.

Monopolists are also said to be likely to expend resources to obtain monopoly positions and then expend additional resources to retain them. Further, in the absence of direct seller rivalry, monopoly suppliers can afford to be less efficient than competitive firms with respect to their own use of resources. All of these extra expenses and inefficiencies can increase the cost function under monopoly relative to competition and contribute to what is termed “technical inefficiency.” In short, firms with monopoly

power can produce less, charge more, and misallocate economic resources. Society would be clearly better off under conditions of competition, and the rationale for antitrust enforcement against monopoly is said to be obvious.

### *The Problem with Competition Theory*

Although the standard theories of competition and monopoly seem reasonable and would appear to rationalize some antitrust enforcement, they pose some very serious difficulties. Resource allocation under atomistic competition might well be efficient if perfect information existed or if tastes and preferences never changed, but it is difficult to understand the relevance of such a theory in a real world of differentiated preferences, economic uncertainty, and dynamic change. The economic problem to be solved by competition is emphatically *not* one of how resources would be allocated if information were perfect and consumer tastes constant; with everything known and constant, the solution to a resource-allocation problem would be trivial. Rather, the economic problem lies in understanding how the competitive market process of discovery and adjustment works to coordinate anticipated demand with supply in a world of imperfect information. To assume away divergent expectations and change, therefore, is to assume away all the real problems associated with competition and the resource-allocation process. Thus, although the standard efficiency criteria may be technically correct for a static world, they are irrelevant to actual market situations.

Market uncertainty and change may require differentiated products. They may also require some interfirm coordination, instead of independent rivalry, and even some price cooperation. They may require some product and service advertising, although none is required in the atomistic equilibrium. These variables do not indicate that competition does not exist or that the competitive process is

defective or inefficient. They mean, simply, that the competitive process is in a necessary state of disequilibrium. The market process may, in the abstract, tend toward some theoretical equilibrium, but it never reaches one.

Much of traditional antitrust enforcement has been based on erroneous notions of efficiency under static equilibrium conditions. Outputs falling short of the purely competitive—theoretical—output were said to have been “restricted.” Market advertising, product differentiation, and innovation were often said to be elements of monopoly power—not elements of a competitive process—that could misallocate resources and lower social efficiency. Any control over market price was termed “monopoly power,” and interfirm cooperative agreements were regarded by economists and the antitrust authorities with great suspicion. Yet, if the purely competitive equilibrium is not an appropriate welfare benchmark, none of these traditional conclusions makes any sense.

An alternative perspective on competition is to see it as an entrepreneurial process of discovery and adjustment under conditions of uncertainty.<sup>2</sup> A competitive process implies that business organizations of various sizes continually strive to discover which products and services consumers desire, and at what prices, and continually strive to supply those products and services at a profit to themselves and at the lowest cost.

This process of discovery and adjustment may encompass explicitly rivalrous behavior in the usual sense—direct price and nonprice competition—and it may also include various degrees of interfirm cooperation, such as joint ventures

<sup>2</sup>F.A. Hayek, “The Meaning of Competition,” in *Individualism and Economic Order* (Chicago: Henry Regnery, 1972), pp. 92–106. On the historical development of the distinction between the competitive process and the competitive equilibrium, see Paul J. McNulty, “Economic Theory and the Meaning of Competition,” *Quarterly Journal of Economics* 82 (November 1968): 639–56. Ludwig von Mises termed the competitive process “catallactic competition.” Ludwig von Mises, *Human Action: A Treatise on Economics* (New Haven, Conn.: Yale University Press, 1963), pp. 274–94.

and mergers. Interfirm cooperation and rivalry are not opposing paradigms from a market-process perspective. There is no *a priori* way, for example, to define the optimal size of a cooperative business unit or, alternatively, the optimal number of rival firms for efficient market coordination. Even price agreements between firms may serve to reduce risk and uncertainty—during a recession, for example—and lead to an increase in market efficiency. (See chapter 6.) Cooperation and rivalry are voluntary alternative institutional arrangements by which entrepreneurs, under conditions of uncertainty, strive to discover opportunities and coordinate plans in a continuous search for profits. Public policy should not hinder the development, or collapse, of these arrangements.

In competition, profits and losses serve to provide the necessary information and incentive for continuous entrepreneurial alertness. Some business organizations may be more successful than others in this process and may earn significant market share; other organizations may do poorly, lose market share, and even fail. Both the growth and decline of companies is a necessary part of the discovery procedure. Finally, while individual markets may tend to clear during this process, error and changing information, among other things, must prevent the realization of any final equilibrium condition.

### *The Problem with Free-Market Monopoly Theory*

Similar theoretical difficulties discredit free-market monopoly theory as well. The primary one concerns the actual ability of a monopoly firm, or a group of colluding firms, to restrict the market supply and realize monopoly prices and profits. Although a firm may intend to restrict market supply and garner monopoly profits, the ability of free-market monopoly to achieve that result is questionable.

The standard textbook treatment often *assumes* a monopoly output restriction and then proceeds to compare that restricted output, unfavorably, with an atomistic equilibrium output level.<sup>3</sup> But both the assumption and the comparison are entirely misleading, for the atomistic equilibrium output level is neither possible nor relevant and cannot serve as the welfare benchmark for any comparison. Moreover, it is difficult to understand how any output level that is inefficient or generates substantial profits can be sustained in an open market in the face of strong incentives to expand production.

Free-market monopoly power created through merger or collusion is presumably the primary concern of the antitrust authorities. But if the economic effect of monopolization is to raise prices above costs—marginal and average—strong economic incentives then exist to expand current production and to encourage output by new firms. If production increases, prices will fall and the market will tend, other things being equal, toward a situation in which prices and costs are equal.

What happens if a free-market monopolist attempts to subvert this competitive process and discourage rivalrous entry by lowering prices? The reduced prices would induce additional sales, and the market situation would then tend toward the traditional competitive equilibrium. What happens if a monopolist discriminates in price? Indeed, there might be strong economic incentives to do so, but a monopolist that price discriminates will end up selling additional output at some lower price, and, again, the market will tend toward the traditional competitive output. Certainly a monopolist that is inefficient cannot deter market entry;

<sup>3</sup>See, for instance, Edwin Mansfield, *Microeconomics: Theory and Applications*, 5th ed. (New York: W.W. Norton, 1985), p. 294. The entire notion of a free-market monopoly price and output may be untenable. See Murray N. Rothbard, *Man, Economy, and State* (Princeton, N.J.: D. Van Nostrand, 1962), Vol. 2, pp. 586–615. Also see the Appendix in this chapter for an explanation of Rothbard's monopoly theory.

inefficiency will act as an invitation to entry and additional output. On the other hand, a monopolist that is clearly *more* efficient than potential rivals can deter entry, but it would be the efficiency of the monopolist that would keep competitors out. Resources are not misallocated and the competitive process is not subverted when high-cost firms are restrained from entering markets by the superior product or efficiency of existing suppliers.

Firms may intend to restrict market output through collusion and cartel agreements, but the realization would be even more tenuous than that possible through a one-firm monopoly. Not only would a cartel of suppliers encounter the same incentives to expand production reviewed above, it would also face such difficulties as coordinating and policing its own supply-restriction schemes.<sup>4</sup> Interfirm agreements to restrict rivalry could exist in a free market, as they did occasionally under common law prior to the Sherman Act, and they might even be able to stabilize temporarily some price fluctuations, but there is little reliable evidence that free-market collusion can allow conspiring firms to capture monopoly profits.<sup>5</sup> Moreover, interfirm cooperation may well have significant benefits that could overwhelm any possible negative output restriction. (See discussion in chapter 6.)

Likewise, the usual textbook discussions of inefficiency under monopoly are unconvincing. The standard argument of allocative inefficiency is, in fact, contrived and misleading. With new entry and output blocked by definition, a

<sup>4</sup>The difficulties of effective collusion are reviewed in Dominick T. Armentano, *Antitrust and Monopoly: Anatomy of a Policy Failure*, 2nd ed. (Oakland, Calif.: Independent Institute, 1990), pp. 133-37. See also George J. Stigler, "A Theory of Oligopoly," *Journal of Political Economy* 72, no. 11 (February 1964): 44-61.

<sup>5</sup>A negative relationship between collusion and profitability is found by Peter Asch and Joseph J. Seneca in "Is Collusion Profitable?" *Review of Economics and Statistics* 58 (February 1976): 1-12. See also Howard Marvel, Jeffrey Netter, and Anthony Robinson, "Price Fixing and Civil Damages: An Economic Analysis," *Stanford Law Review* 40 (1988): 561-78.

monopolist is said to misallocate economic resources relative to their allocation under conditions of pure competition. But this "misallocation" occurs only because the competitive process is assumed to be ended in atomistic competition (price, marginal cost, and minimum average cost are all assumed to be equal) and because no competitive market process is allowed to begin under monopoly. If, on the other hand, a competitive process always operates under free-market monopoly, and if it is assumed that no final atomistic equilibrium condition can ever exist, then resource misallocation under free-market monopoly, as some unique social problem, simply disappears. Allocative inefficiency would tend to disappear from the free-market monopoly model, just as it would tend to disappear from the competitive disequilibrium model, and for exactly the same reasons.

Also debatable are the standard assumptions concerning technical inefficiency under monopoly. In any serious attempt to monopolize some free market, businesses are far more likely to lower costs than they are to raise them, and to expand rather than decrease production. The most effective way to gain and hold a free-market monopoly position is to be more efficient than rivals or potential rivals. In addition, larger firms may simply have lower costs than smaller firms, due to scale economies associated with manufacturing, financing, and marketing, or due to innovation. Thus, overall business costs are just as likely to be lower, not higher, as firms seek a monopoly position in a free market. (By contrast, the costs of obtaining and securing *legal* monopoly are socially wasteful; this matter is discussed later.)

Occasionally the issue of technical inefficiency is confused by allowing the costs of product differentiation to slip into an analysis of increased costs under monopoly. Firms producing differentiated products often incur extra costs, and these costs are sometimes compared unfavorably with

the costs incurred by firms under conditions of atomistic competition. But this comparison is not valid, for once goods are differentiated, their costs cannot be compared directly with the costs of homogeneous goods. That consumers choose to pay higher prices to cover the higher costs of differentiated products proves nothing about inefficiency or waste, nor does it misallocate resources. (See chapter 4.)

In summary, the legitimacy of antitrust regulation in the public interest must depend upon a reasonably sound theory of how free-market monopoly can continue to restrict production and increase prices and how it can make the economy less efficient and misallocate resources. Yet, as has been argued here, the standard theoretical approach suffers from serious shortcomings. In the first place, monopoly output is often compared with an impossible atomistic output, hardly a meaningful comparison. In addition, it is difficult to understand how free-market monopoly power can continue to restrict production and sustain prices while allowing firms to earn monopoly profits. (Barriers to entry, including so-called predatory practices, will be discussed in chapter 4.) The inefficiencies alleged to exist under free-market monopoly are, similarly, either contrived or irrelevant. In short, *all* firms in free markets are engaged in a competitive market process. Standard free-market monopoly theory cannot support its own conclusions in any reasonable fashion, much less support government antitrust intervention into private markets in the "public interest."

## The Evidence

There are two fundamental kinds of evidence concerning monopoly. The first is case-study evidence, much of it taken from classic antitrust cases. The *Standard Oil* antitrust case of 1911<sup>6</sup>—perhaps the most famous and misunderstood

<sup>6</sup>*Standard Oil Company of New Jersey v. United States*, 221, US. 1 (1911).

anti-monopoly case in all of business history—illustrates the difficulties associated with free-market monopoly theory.

### *The Standard Oil Case*

The conventional account of the *Standard Oil* case goes something like this. The Standard Oil Company employed ruthless business practices to monopolize the petroleum industry in the nineteenth century. After achieving its monopoly, Standard reduced market output and raised the market price of kerosene, the industry's major product. The federal government indicted Standard under the Sherman Act at the very pinnacle of its monopolistic power, proved in court that it had acted unreasonably toward consumers and competitors, and obtained a divestiture of the company that helped to restore competition in the petroleum industry.

This account has almost nothing in common with the actual facts. It is not possible to review the entire history of the case here, but a summary of the government findings against and actual conduct of Standard Oil will serve to make the point.

The Standard Oil Company was a major force in the development of the petroleum industry in the nineteenth century. It grew from being a small Ohio corporation in 1870, with perhaps a 4-percent market share, to become a giant, multidivisional conglomerate company by 1890, when it enjoyed as much as 85 percent of the domestic petroleum refining market. This growth was the result of shrewd bargaining for crude oil, intelligent investments in research and development, rebates from railroads, strict financial accounting, vertical and horizontal integration to realize specific efficiencies, investments in tank cars and pipelines to more effectively control the transportation of crude oil and refined product, and a host of other managerial innovations. Internally-generated efficiency allowed

the company to purchase other businesses and manage additional assets with the same commitment to efficiency and even to expand its corporate operations abroad.

Standard Oil's efficiency made the company extremely successful: it kept its costs low and was able to sell more and more of its refined product, usually at a lower and lower price, in the open marketplace.<sup>7</sup> Prices for kerosene fell from 30 cents a gallon in 1869 to 9 cents in 1880, 7.4 cents in 1890, and 5.9 cents in 1897. Most important, this feat was accomplished in a market open to competitors, the number and organizational size of which increased greatly after 1890. Indeed, competitors grew so quickly in the years preceding the federal antitrust case that Standard's market share in petroleum refining declined from roughly 85 percent in 1890 to 64 percent in 1911. In 1911, at least 147 refining companies were competing with Standard, including such large firms as Gulf, Texaco, Union, Pure, Associated Oil and Gas, and Shell.

This rivalrous development is not surprising, given the enormous changes in the petroleum industry that took place after 1890. Standard Oil, which had dominated the Pennsylvania-crude oil markets and the national manufacture of kerosene, had its market position challenged by the development of crude oil production in the southwestern United States and by a product demand shift away from kerosene. The increasing popularity of fuel oil, and eventually gasoline, and Standard's inability to control the market availability of crude (Standard Oil itself produced only 9 percent of the nation's supply in 1907) practically guaranteed that the petroleum industry would not be monopolized by any one business organization.

Conventional wisdom holds that the government antitrust suit against Standard Oil proved that the firm had

<sup>7</sup> See Armentano, *Antitrust and Monopoly*, pp. 55-73. See also Ron Chernow, *Titan: The Life of John D. Rockefeller, Sr.* (New York: Random House, 1998).

reduced outputs and increased prices and employed ruthless business practices toward its suppliers and competitors. But the facts are otherwise. The lower-court judges who convicted Standard Oil in 1909 found only that the formation of its holding company, Standard Oil of New Jersey in 1899, was a "contract or combination in restraint of trade," forbidden explicitly by the Sherman Antitrust Act.<sup>8</sup> Dissolution of that company was held to be the appropriate—and sufficient—judicial remedy to restore competition.

This fact is extremely important. The lower court did *not* find that prices for kerosene were higher because Standard Oil had reduced outputs or that the rebates it had secured from the railroads were unfair. The lower court did *not* rule on any of the substantive economic issues; although it had, of course, heard the government's argument and Standard's defense on various charges.

It is also generally assumed that, since the famous Standard Oil decision of 1911 established the "rule of reason" principle, the Supreme Court must have applied it to Standard's business practices and determined that it had indeed restrained market output and raised market price. It is true that Justice White, writing for a unanimous court, argued that the rule of reason had existed under the common law and ought to be employed in antitrust cases. And it is true that White wrote that "no reasonable mind" could but conclude that Standard had, indeed, acted unreasonably under this legal principle.

But it is emphatically *not* true that the High Court presented any specific finding of guilt with respect to the charges of misconduct and monopolistic performance brought against them by the government. That sort of determination is the job of a lower or trial court anyway, and, as already noted, the trial court had found Standard Oil guilty of no specific illegality with respect to the important substantive issues. All that the Supreme Court did—contrary to

<sup>8</sup>*United States v. Standard Oil Company of New Jersey*, 173, F. Rep. 179 (1909).

overwhelming conventional wisdom—was conclude that some of Standard's practices, such as merger, evidenced an unmistakable intent to monopolize and that these practices were unreasonable. Why were they unreasonable? Because the Court said that it was obvious that they were. Certainly no detailed analysis of Standard Oil's market performance—as would be common practice in subsequent rule-of-reason monopoly cases—was ever conducted by either the trial court or the Supreme Court.

Since subsequent research has shown that petroleum outputs expanded and prices declined throughout the nineteenth century and that Standard had not engaged in ruthless business practices, like predatory price cutting, the *Standard Oil* case can hardly be cited by antitrust enthusiasts as evidence that monopoly is a free-market problem or that antitrust is necessary to protect the consuming public from private economic power.

### *Empirical Studies*

The second kind of evidence concerning monopoly consists of empirical studies of market concentration, profitability, and the welfare losses associated with monopoly power. In these studies, profitability often serves as the measure of monopoly power and resource misallocation.

The thinking behind profitability as the measure of monopoly power is that economic profits would tend to be dispersed under competitive conditions; hence, the existence of economic profits in the long run could be an indication that the competitive process has been restricted. Some empirical studies argue that certain business expenses, such as advertising and even product differentiation, should be included with profits in any measurement of the overall social costs associated with monopoly power.<sup>9</sup>

<sup>9</sup>There have been various attempts to measure the social cost of monopoly. See, for example, Keith Cowling and Dennis C. Mueller, "The Social Cost of Monopoly Power," *Economic Journal* 88 (December 1978): 727-48.

There are, however, some very serious methodological difficulties associated with these studies, including the concentration-profit studies discussed earlier.<sup>10</sup> In the first place, most empirical studies use accounting profit data to draw conclusions about economic profit, a debatable procedure at best. Second, legal monopoly and free-market monopoly might well be inexorably intertwined in the actual business world: tariffs, quotas, licensing, and other legal restrictions always tend to generate economic rents in markets that are otherwise openly competitive. Third, empirical studies almost always take the atomistically competitive equilibrium condition as a welfare benchmark. While economic profits might well be dispersed in some imaginary equilibrium world, that is irrelevant in any actual resource allocation problem. Profits (and losses) are always essential in providing the information and incentives required to ensure that resources are being allocated from less valuable uses to more valuable uses. Long-run profits may imply that some organizations are relatively more efficient than others over long periods of time and that the competitive process has not yet reached any final equilibrium.

Such economic factors as uncertainty, risk, price expectations, and innovation are not short-run market disturbances that disappear if only we wait long enough. They are a continuous part of the competitive market process. Moreover, advertising and product differentiation in a disequilibrium world cannot simply be treated as some unwelcome welfare burden or social cost. (See chapter 4.) In short, profits need not evidence any extraordinary social inefficiency or burden; nor can empirical regression studies of profit and concentration ever serve as a reliable guide for rational antitrust regulation.

<sup>10</sup>For an excellent criticism of all such studies and measurements, see Stephen C. Littlechild, "Misleading Calculations of the Social Costs of Monopoly Power," *Economic Journal* 91 (June 1983): 348-63. For a statistical criticism of concentration-profit studies see Eugene M. Singer, *Antitrust Economics and Legal Analysis* (Columbus, Ohio: Grid Publishing, 1981), pp. 31-33.

## **Legal Monopoly and Consumer Welfare**

While free-market monopoly theory is seriously flawed, it is true that legal barriers to competition can create resource-misallocating monopoly power. Government, usually at the behest of some business interest, may decide to legally restrict entry into certain markets. Government licensing, certificates of public convenience, legal franchise, and quotas both foreign and domestic—each can tend to restrict entry, reduce the supply of available output, or raise the market price of a product to consumers. Firms and suppliers that would have voluntarily entered into trade and exchange with willing consumer-buyers are legally prevented from doing so; consumers who would have willingly purchased additional output at lower prices cannot; and innovations that would have been introduced by new suppliers are delayed or lost altogether. The competitive market process has been undercut and artificially shortcircuited—by law.

The government power of monopoly—of legally restraining trade—can have the effect of reducing market supply and raising market price. This restriction of output is not voluntary; nor is it due to disequilibrium. There has been no voluntary refusal to deal or trade; prospective buyers and sellers are, presumably, anxious to trade and thereby to improve their relative welfare, but they are prevented from doing so by law. Potential suppliers are not excluded because they are less efficient users of capital or cannot realize economies of scale; they are excluded arbitrarily by government power. Indeed, a reasonable guess is that some of the potential entrants are more efficient than existing producers—else why the necessity of legal restrictions?

Moreover, there are no economic incentives that tend to offset legal output reductions. The economic incentives for protected business organizations are, as explained earlier, to maintain or expand existing monopoly restrictions that legally exclude potential competitors. Firms will waste

additional resources to retain legal privileges and their monopoly rents. Indeed, all of the conventional criticisms of monopoly actually *do* apply to legal monopoly and rationalize the repeal of such restrictions.

## Conclusions

This chapter has argued that the theory of free-market monopoly is flawed. Neither theory nor evidence can rationalize antitrust policy. But if legal barriers restrain trade, can antitrust regulation be justifiably used against them?

Employing antitrust against legal barriers to entry enacted by state and local governments may create incentives to dismantle those barriers. In fact, some antitrust critics are sympathetic to using antitrust in an already regulated society *solely* to remove legal restrictions on competition or cooperation.<sup>11</sup> Some important caveats are in order, however. First, employing antitrust against legal barriers to entry is the only application of antitrust that can be rationalized. Second, the possible dangers from antitrust misuse—prosecuting cooperative agreements between suppliers instead of strictly legal barriers to trade, for example, and the continuation of private antitrust—are likely to be so great as to overwhelm the marginal benefits that could arise from prosecuting legal monopoly. If the political choice were to retain antitrust regulation or abolish it completely, total abolition would still be the better course. Finally, should Congress or the courts move to block further the application of antitrust to legal monopolies, there would again be no rationalization for any antitrust policy.<sup>12</sup>

<sup>11</sup>See Dominick T. Armentano, "Towards a Rational Antitrust Policy," hearings before the Joint Economic Committee, November 14, 1983, in *Antitrust Policy and Competition* (Washington, D.C.: U.S. Government Printing Office, 1984), pp. 23-33.

<sup>12</sup>The so-called *Parker* doctrine (*Parker v. Brown*, 317 U.S. 341 [1943]) already makes explicitly authorized state-government regulation exempt from antitrust law. The Local Government Antitrust Act of 1984 eliminates personal antitrust liability for municipal officials. See *Antitrust and Trade Regulation Reporter* 47, no. 1178 (August 16, 1984): 345-52.

## Appendix

### Rothbardian Monopoly Theory

Economist Murray N. Rothbard (1926–1995) made several important contributions to monopoly theory that have been ignored by mainstream industrial organization theorists. His views on monopoly and on the impossibility of “competitive prices” and “monopoly prices” (in a free market) challenge the mainstream neoclassical position and are at variance with those of his fellow Austrian economists as well.

Rothbard argues that it may be confusing (and even absurd) to define monopoly as “the control over the entire supply of some commodity or resource,” a common definitional approach in neoclassical and Austrian circles. This definition is inappropriate since the slightest consumer-perceived difference between different units of some commodity or resource (with respect to location for example), would then mean that each seller is a “monopolist.”<sup>1</sup> But even *if* this were an appropriate definitional approach, the entire notion of monopoly price in a free market is untenable according to Rothbard. He argues that any acceptable theory of monopoly price is itself conditional on an independent determination of a competitive price against which the monopoly price might be compared. For Rothbard, however, any independent determination of a competitive price in a free market is impossible. Free markets contain *only* free-market prices.<sup>2</sup>

<sup>1</sup>Rothbard, *Man, Economy, and State*, pp. 590–91.

<sup>2</sup>*Ibid.*, pp. 604–05.

Competitive prices in the orthodox literature have usually been associated with marginal cost pricing, particularly under conditions of long-run equilibrium. For Rothbard, however, such prices are meaningless and irrelevant since they are associated with a static equilibrium condition that could never actually exist, and would not necessarily be optimal even if it did exist. In any actual market situation, all sellers have some influence over price, and market information is never perfect. In all real markets, sellers face a sloped demand curve, not the perfectly elastic demand curve associated with atomistic competition. Thus, all market pricing is free-market pricing whether it is accomplished by many small sellers or by a few firms with significant market share. Competitive prices are as fictitious as the medieval notion of the "just" price.

It has been common to define a monopoly price as that price accomplished when output is restricted under conditions of inelastic demand, thus increasing the net income of the supplier. Rothbard argues, however, that there is no objective way to determine that such a price is a monopoly price or that such a restriction is antisocial. All we can know is that *all* firms attempt to produce a stock of goods that maximizes their net income given their estimation of demand. They attempt to set the price (other things being equal) such that the range of demand above their asking price is elastic. If they discover that they can increase their monetary income by producing less in the next selling period, then they do so.

Rothbard maintains that to speak of the initial price as the competitive price, and the second-period price as the monopoly price makes no objective sense. How, he asks, is it to be objectively determined that the first price is actually a competitive price? Could it, in fact, have been a "sub-competitive" price? Presumably even atomistic firms can make mistakes and produce too much.<sup>3</sup> If they do they

<sup>3</sup>*Ibid.*, p. 607.

must restrict production in the next period and market price may increase; but this does not mean that the second price is a monopoly price. Indeed, the entire discussion makes no rational sense since there are no *independent* criteria that would allow such determinations. All that can be known for sure, Rothbard argues, is that the prices both before and after any supply change are free-market prices.

In addition, the negative welfare implications concerning alleged monopoly prices would not follow even if such prices could exist. Since the inelasticity of demand for Rothbard is "purely the result of the voluntary demands" of the consumers, and since the exchange (at the higher price) is completely voluntary anyway, there is no unambiguous way to conclude that any supply restriction reduced social welfare.

Rothbard has been severely critical of orthodox utility and welfare analysis.<sup>4</sup> The conventional wisdom in antitrust, among both reformers and traditionalists, has been to assert that business agreements such as price-fixing ought to be prohibited since they tend to reduce consumer welfare and lower social efficiency. For Rothbard, however, the costs and benefits associated with exchange are personal and subjective, and do not lend themselves to any cardinal measurement or aggregation. He holds that there is no unambiguous manner by which the costs for consumers and the benefits for producers (or *vice versa*) might be totaled up across various markets, and then compared to make a determination as to whether a business agreement is *socially* efficient or not. Indeed, the entire notion of social efficiency is a myth for Rothbard.<sup>5</sup> Individual consumer and producer utility and surplus may exist, but these notions

<sup>4</sup>Murray N. Rothbard, *Toward a Reconstruction of Utility and Welfare Economics* (New York: Center for Libertarian Studies, 1977).

<sup>5</sup>Murray N. Rothbard, "The Myth of Efficiency," in Mario Rizzo, ed., *Time, Uncertainty, and Disequilibrium* (Boston: D.C. Heath, 1979), pp. 90-95.

cannot be mathematically manipulated to allow any regulatory rule-of-reason judgments.

Rothbard's criticism of conventional and Austrian monopoly theory allows him to conclude that monopoly can be best defined as a grant of special privilege from government that legally reserves "a certain area of production to one particular individual or group."<sup>6</sup> This definition of monopoly is historically relevant and unambiguous in Rothbard's judgment. It is historically relevant since it is the original meaning of the term in English common law, and much of this sort of monopoly still survives today. It is unambiguous since such an approach allows a clear distinction to be made between free-market prices and monopoly prices. Free markets—that are either rivalrous or cooperative in varying degrees—can only give rise to free-market prices. On the other hand, monopoly prices can arise whenever government legally restrains trade. Presumably an unambiguous antimonopoly policy would conclude that all such privileges, including orthodox antitrust policy itself which restrains free trade, be abolished.

<sup>6</sup>Rothbard, *Man, Economy, and State*, p. 591.

*Session V*  
*Business Cycles*

# 1

## The Positive Theory of the Cycle

**S**tudy of business cycles must be based upon a satisfactory cycle theory. Gazing at sheaves of statistics without “pre-judgment” is futile. A cycle takes place in the economic world, and therefore a usable cycle theory must be integrated with general economic theory. And yet, remarkably, such integration, even attempted integration, is the exception, not the rule. Economics, in the last two decades, has fissured badly into a host of airtight compartments—each sphere hardly related to the others. Only in the theories of Schumpeter and Mises has cycle theory been integrated into general economics.<sup>1</sup>

The bulk of cycle specialists, who spurn any systematic integration as impossibly deductive and overly simplified, are thereby (wittingly or unwittingly) rejecting economics itself. For if one may forge a theory of the cycle with little or no relation to general economics, then general economics must be incorrect, failing as it does to account for such a vital economic phenomenon. For institutionalists—the pure data collectors—if not for others, this is a welcome conclusion. Even institutionalists, however, must use theory sometimes, in analysis and recommendation; in fact, they end by using a concoction of *ad hoc* hunches, insights, etc.,

<sup>1</sup>Various neo-Keynesians have advanced cycle theories. They are integrated, however, not with *general* economic theory, but with holistic Keynesian systems—systems which are very *partial* indeed.

plucked unsystematically from various theoretical gardens. Few, if any, economists have realized that the Mises theory of the trade cycle is not just another theory: that, in fact, it meshes closely with a general theory of the economic system.<sup>2</sup> The Mises theory *is*, in fact, the economic analysis of the necessary consequences of *intervention* in the free market by bank credit expansion. Followers of the Misesian theory have often displayed excessive modesty in pressing its claims; they have widely protested that the theory is “only one of many possible explanations of business cycles,” and that each cycle may fit a different causal theory. In this, as in so many other realms, eclecticism is misplaced. Since the Mises theory is the only one that stems from a general economic theory, it is the only one that can provide a correct explanation. Unless we are prepared to abandon general theory, we must reject all proposed explanations that do not mesh with general economics.

### **BUSINESS CYCLES AND BUSINESS FLUCTUATIONS**

It is important, first, to distinguish between *business cycles* and ordinary *business fluctuations*. We live necessarily in a society of continual and unending change, change that can never be precisely charted in advance. People try to forecast and anticipate changes as best they can, but such forecasting can never be reduced to an exact science. Entrepreneurs are in the business of forecasting changes on the market, both for conditions of demand and of supply. The more successful ones make profits *pari passu* with their accuracy of judgment, while the unsuccessful forecasters fall by the wayside. As a result, the successful entrepreneurs on the free market will be the ones most adept at anticipating future business conditions. Yet, the forecasting can never be perfect, and entrepreneurs will continue to differ in the success of their judgments. If this were not so, no profits or losses would ever be made in business.

<sup>2</sup>There is, for example, not a hint of such knowledge in Haberler's well-known discussion. See Gottfried Haberler, *Prosperity and Depression* (2nd ed., Geneva, Switzerland: League of Nations, 1939).

Changes, then, take place continually in all spheres of the economy. Consumer tastes shift; time preferences and consequent proportions of investment and consumption change; the labor force changes in quantity, quality, and location; natural resources are discovered and others are used up; technological changes alter production possibilities; vagaries of climate alter crops, etc. All these changes are typical features of any economic system. In fact, we could not truly conceive of a changeless society, in which everyone did exactly the same things day after day, and no economic data ever changed. And even if we could conceive of such a society, it is doubtful whether many people would wish to bring it about.

It is, therefore, absurd to expect every business activity to be “stabilized” as if these changes were not taking place. To stabilize and “iron out” these fluctuations would, in effect, eradicate any rational productive activity. To take a simple, hypothetical case, suppose that a community is visited every seven years by the seven-year locust. Every seven years, therefore, many people launch preparations to deal with the locusts: produce anti-locust equipment, hire trained locust specialists, etc. Obviously, every seven years there is a “boom” in the locust-fighting industry, which, happily, is “depressed” the other six years. Would it help or harm matters if everyone decided to “stabilize” the locust-fighting industry by insisting on producing the machinery evenly every year, only to have it rust and become obsolete? Must people be forced to build machines before they want them; or to hire people before they are needed; or, conversely, to delay building machines they want—all in the name of “stabilization”? If people desire more autos and fewer houses than formerly, should they be forced to keep buying houses and be prevented from buying the autos, all for the sake of stabilization? As Dr. F.A. Harper has stated:

This sort of business fluctuation runs all through our daily lives. There is a violent fluctuation, for instance, in the harvest of strawberries at different times during the year. Should we grow enough strawberries in greenhouses so as to stabilize that part of our economy throughout the year.<sup>3</sup>

<sup>3</sup>F.A. Harper, *Why Wages Rise* (Irvington-on-Hudson, N.Y.: Foundation for Economic Education, 1957), pp. 118–19.

We may, therefore, expect *specific* business fluctuations all the time. There is no need for any special “cycle theory” to account for them. They are simply the results of changes in economic data and are fully explained by economic theory. Many economists, however, attribute general business depression to “weaknesses” caused by a “depression in building” or a “farm depression.” But declines in specific industries can never ignite a general depression. Shifts in data will cause increases in activity in one field, declines in another. There is nothing here to account for a *general* business depression—a phenomenon of the true “business cycle.” Suppose, for example, that a shift in consumer tastes, and technologies, causes a shift in demand from farm products to *other* goods. It is pointless to say, as many people do, that a farm depression will ignite a general depression, because farmers will buy less goods, the people in industries selling to farmers will buy less, etc. This ignores the fact that people producing the *other* goods now favored by consumers will prosper; *their* demands will increase.

The problem of the business cycle is one of general boom and depression; it is not a problem of exploring specific industries and wondering what factors make each one of them relatively prosperous or depressed. Some economists—such as Warren and Pearson or Dewey and Dakin—have believed that there are no such things as general business fluctuations—that general movements are but the results of different cycles that take place, at different specific time-lengths, in the various economic activities. To the extent that such varying cycles (such as the 20-year “building cycle” or the seven-year locust cycle) may exist, however, they are irrelevant to a study of business cycles in *general* or to business depressions in particular. What we are trying to explain are *general* booms and busts in business.

In considering general movements in business, then, it is immediately evident that such movements must be transmitted through the general medium of exchange—money. Money forges the connecting link between all economic activities. If one price goes up and another down, we may conclude that demand has shifted from one industry to another; but if *all* prices move up or down together, some change must have occurred in the *monetary* sphere. Only

changes in the demand for, and/or the supply of, money will cause general price changes. An increase in the supply of money, the demand for money remaining the same, will cause a fall in the purchasing power of each dollar, i.e., a general rise in prices; conversely, a drop in the money supply will cause a general decline in prices. On the other hand, an increase in the general demand for money, the supply remaining given, will bring about a rise in the purchasing power of the dollar (a general fall in prices); while a fall in demand will lead to a general rise in prices. Changes in prices in general, then, are determined by changes in the supply of and demand for money. The supply of money consists of the stock of money existing in the society. The demand for money is, in the final analysis, the willingness of people to hold cash balances, and this can be expressed as eagerness to acquire money in exchange, and as eagerness to retain money in cash balance. The supply of goods in the economy is one component in the social demand for money; an increased supply of goods will, *other things being equal*, increase the demand for money and therefore tend to lower prices. Demand for money will tend to be lower when the purchasing power of the money-unit is higher, for then each dollar is more effective in cash balance. Conversely, a lower purchasing power (higher prices) means that each dollar is less effective, and more dollars will be needed to carry on the same work.

The purchasing power of the dollar, then, will remain constant when the stock of, and demand for, money are in equilibrium with each other: i.e., when people are willing to hold in their cash balances the exact amount of money in existence. If the demand for money exceeds the stock, the purchasing power of money will rise until the demand is no longer excessive and the market is cleared; conversely, a demand lower than supply will lower the purchasing power of the dollar, i.e., raise prices.

Yet, fluctuations in general business, in the "money relation," do not by themselves provide the clue to the mysterious business cycle. It is true that any cycle in general business must be transmitted through this money relation: the relation between the stock of, and the demand for, money. But these changes in themselves explain little. If the money supply increases or demand falls, for

example, prices will rise; but why should this generate a “business cycle”? Specifically, why should it bring about a depression? The early business cycle theorists were correct in focusing their attention on the *crisis* and *depression*: for these are the phases that puzzle and shock economists and laymen alike, and these are the phases that most need to be explained.

### **THE PROBLEM: THE CLUSTER OF ERROR**

The explanation of depressions, then, will not be found by referring to specific or even general business fluctuations *per se*. The main problem that a theory of depression must explain is: *why is there a sudden general cluster of business errors?* This is the first question for any cycle theory. Business activity moves along nicely with most business firms making handsome profits. Suddenly, without warning, conditions change and the bulk of business firms are experiencing losses; they are suddenly revealed to have made grievous errors in forecasting.

A general review of entrepreneurship is now in order. Entrepreneurs are largely in the business of forecasting. They must invest and pay costs in the present, in the expectation of recouping a profit by sale either to consumers or to other entrepreneurs further down in the economy's structure of production. The better entrepreneurs, with better judgment in forecasting consumer or other producer demands, make profits; the inefficient entrepreneurs suffer losses. The market, therefore, provides a training ground for the reward and expansion of successful, far-sighted entrepreneurs and the weeding out of inefficient businessmen. As a rule only some businessmen suffer losses at any one time; the bulk either break even or earn profits. How, then, do we explain the curious phenomenon of the crisis when almost all entrepreneurs suffer sudden losses? In short, how did all the country's astute businessmen come to make such errors together, and why were they all suddenly revealed at this particular time? This is the great problem of cycle theory.

It is not legitimate to reply that sudden changes in the data are responsible. It is, after all, the business of entrepreneurs to forecast

future changes, some of which are sudden. Why did their forecasts fail so abysmally?

Another common feature of the business cycle also calls for an explanation. It is the well-known fact that *capital-goods industries fluctuate more widely than do the consumer-goods industries*. The capital-goods industries—especially the industries supplying raw materials, construction, and equipment to other industries—expand much further in the boom, and are hit far more severely in the depression.

A third feature of every boom that needs explaining is the increase in the quantity of money in the economy. Conversely, there is generally, though not universally, a fall in the money supply during the depression.

### **THE EXPLANATION: BOOM AND DEPRESSION**

In the purely free and unhampered market, there will be no cluster of errors, since trained entrepreneurs will not all make errors at the same time.<sup>4</sup> The “boom-bust” cycle is generated by monetary intervention in the market, specifically bank credit expansion to business. Let us suppose an economy with a given supply of money. Some of the money is spent in consumption; the rest is saved and invested in a mighty structure of capital, in various orders of production. The proportion of consumption to saving or investment is determined by people’s *time preferences*—the degree to which they prefer present to future satisfactions. The less they prefer them in the present, the lower will their time preference

<sup>4</sup>Siegfried Budge, *Grundzüge der Theoretische Nationalökonomie* (Jena, 1925), quoted in Simon S. Kuznets, “Monetary Business Cycle Theory in Germany,” *Journal of Political Economy* (April, 1930): 127–28.

Under conditions of free competition . . . the market is . . . dependent upon supply and demand . . . there could [not] develop a disproportionality in the production of goods, which could draw in the whole economic system . . . such a disproportionality can arise only when, at some decisive point, the price structure does not base itself upon the play of only free competition, so that some arbitrary influence becomes possible.

Kuznets himself criticizes the Austrian theory from his empiricist, anti-cause and effect-standpoint, and also erroneously considers this theory to be “static.”

rate be, and the lower therefore will be the *pure interest rate*, which is determined by the time preferences of the individuals in society. A lower time-preference rate will be reflected in greater proportions of investment to consumption, a lengthening of the structure of production, and a building-up of capital. Higher time preferences, on the other hand, will be reflected in higher pure interest rates and a lower proportion of investment to consumption. The final market rates of interest reflect the pure interest rate plus or minus entrepreneurial risk and purchasing power components. Varying degrees of entrepreneurial risk bring about a *structure* of interest rates instead of a single uniform one, and purchasing-power components reflect changes in the purchasing power of the dollar, as well as in the specific position of an entrepreneur in relation to price changes. The crucial factor, however, is the pure interest rate. This interest rate first manifests itself in the "natural rate" or what is generally called the going "rate of profit." This going rate is reflected in the interest rate on the loan market, a rate which is determined by the going profit rate.<sup>5</sup>

Now what happens when banks print new money (whether as bank notes or bank deposits) and lend it to business?<sup>6</sup> The new money pours forth on the loan market and lowers the loan rate of interest. It *looks as if* the supply of saved funds for investment has increased, for the effect is the same: the supply of funds for investment apparently increases, and the interest rate is lowered. Businessmen, in short, are misled by the bank inflation into believing that the supply of saved funds is greater than it really is. Now, when saved funds increase, businessmen invest in "longer processes of production," i.e., the capital structure is lengthened, especially in the "higher orders" most remote from the consumer.

<sup>5</sup>This is the "pure time preference theory" of the rate of interest; it can be found in Ludwig von Mises, *Human Action* (New Haven, Conn.: Yale University Press, 1949); in Frank A. Fetter, *Economic Principles* (New York: Century, 1915), and idem, "Interest Theories Old and New," *American Economic Review* (March, 1914): 68–92.

<sup>6</sup>"Banks," for many purposes, include also savings and loan associations, and life insurance companies, both of which create new money via credit expansion to business. See below for further discussion of the money and banking question.

Businessmen take their newly acquired funds and bid up the prices of capital and other producers' goods, and this stimulates a shift of investment from the "lower" (near the consumer) to the "higher" orders of production (furthest from the consumer)—from consumer goods to capital goods industries.<sup>7</sup>

If this were the effect of a genuine fall in time preferences and an increase in saving, all would be well and good, and the new lengthened structure of production could be indefinitely sustained. But this shift is the product of bank credit expansion. Soon the new money percolates downward from the business borrowers to the factors of production: in wages, rents, interest. Now, unless time preferences have changed, and there is no reason to think that they have, people will rush to spend the higher incomes in the *old* consumption–investment proportions. In short, people will rush to reestablish the old proportions, and demand will shift back from the higher to the lower orders. Capital goods industries will find that their investments have been in error: that what they thought profitable really fails for lack of demand by their entrepreneurial customers. Higher orders of production have turned out to be wasteful, and the malinvestment must be liquidated.

A favorite explanation of the crisis is that it stems from "under-consumption"—from a failure of consumer demand for goods at prices that could be profitable. But this runs contrary to the commonly known fact that it is *capital goods*, and not consumer goods, industries that really suffer in a depression. The failure is one of *entrepreneurial demand* for the higher order goods, and this in turn is caused by the shift of demand back to the old proportions.

In sum, businessmen were misled by bank credit inflation to invest too much in higher-order capital goods, which could only be prosperously sustained through lower time preferences and greater savings and investment; as soon as the inflation permeates to the mass

<sup>7</sup>On the structure of production, and its relation to investment and bank credit, see F.A. Hayek, *Prices and Production* (2nd ed., London: Routledge and Kegan Paul, 1935); Mises, *Human Action*; and Eugen von Böhm-Bawerk, "Positive Theory of Capital," in *Capital and Interest* (South Holland, Ill.: Libertarian Press, 1959), vol. 2.

of the people, the old consumption–investment proportion is reestablished, and business investments in the higher orders are seen to have been wasteful.<sup>8</sup> Businessmen were led to this error by the credit expansion and its tampering with the free-market rate of interest.

The “boom,” then, is actually a period of wasteful misinvestment. It is the time when errors are made, due to bank credit’s tampering with the free market. The “crisis” arrives when the consumers come to reestablish their desired proportions. The “depression” is actually the process by which the economy *adjusts* to the wastes and errors of the boom, and *reestablishes* efficient service of consumer desires. The adjustment process consists in rapid *liquidation* of the wasteful investments. Some of these will be abandoned altogether (like the Western ghost towns constructed in the boom of 1816–1818 and deserted during the Panic of 1819); others will be shifted to other uses. Always the principle will be not to mourn past errors, but to make most efficient use of the existing stock of capital. In sum, the free market tends to satisfy voluntarily-expressed consumer desires with maximum efficiency, and this includes the public’s relative desires for present and future consumption. The inflationary boom hobbles this efficiency, and distorts the structure of production, which no longer serves consumers properly. The crisis signals the end of this inflationary distortion, and the depression is the process by which the economy returns to the efficient service of consumers. In short, and this is a highly important point to grasp, the depression is the “recovery” process, and the end of the depression heralds the return to normal, and to optimum efficiency. The depression, then, far from being an evil scourge, is the *necessary* and beneficial return of the economy to normal after the distortions imposed by the boom. The boom, then, *requires* a “bust.”

Since it clearly takes very little time for the new money to filter down from business to factors of production, why don’t all booms come quickly to an end? The reason is that the banks come to the rescue. Seeing factors bid away from them by consumer goods

<sup>8</sup>“Inflation” is here defined as an *increase in the money supply not consisting of an increase in the money metal.*

industries, finding their costs rising and themselves short of funds, the borrowing firms turn once again to the banks. If the banks expand credit further, they can again keep the borrowers afloat. The new money again pours into business, and they can again bid factors away from the consumer goods industries. In short, continually expanded bank credit can keep the borrowers one step ahead of consumer retribution. For this, we have seen, is what the crisis and depression are: the restoration by consumers of an efficient economy, and the ending of the distortions of the boom. Clearly, the greater the credit expansion and the longer it lasts, the longer will the boom last. The boom will end when bank credit expansion finally stops. Evidently, the longer the boom goes on the more wasteful the errors committed, and the longer and more severe will be the necessary depression readjustment.

Thus, bank credit expansion sets into motion the business cycle in all its phases: the inflationary boom, marked by expansion of the money supply and by malinvestment; the crisis, which arrives when credit expansion ceases and malinvestments become evident; and the depression recovery, the necessary adjustment process by which the economy returns to the most efficient ways of satisfying consumer desires.<sup>9</sup>

What, specifically, are the essential features of the depression-recovery phase? Wasteful projects, as we have said, must either be abandoned or used as best they can be. Inefficient firms, buoyed up by the artificial boom, must be liquidated or have their debts scaled down or be turned over to their creditors. Prices of producers' goods must fall, particularly in the higher orders of production—this includes capital goods, lands, and wage rates. Just as the boom was marked by a fall in the rate of interest, i.e., of price differentials between stages of production (the “natural rate” or going rate of

<sup>9</sup>This “Austrian” cycle theory settles the ancient economic controversy on whether or not changes in the quantity of money can affect the rate of interest. It supports the “modern” doctrine that an increase in the quantity of money lowers the rate of interest (if it first enters the loan market); on the other hand, it supports the classical view that, in the long run, quantity of money does not affect the interest rate (or can only do so if time preferences change). In fact, the depression-readjustment is the market's return to the desired free-market rate of interest.

profit) as well as the loan rate, so the depression-recovery consists of a rise in this interest differential. In practice, this means a fall in the prices of the higher-order goods relative to prices in the consumer goods industries. Not only prices of particular machines must fall, but also the prices of whole aggregates of capital, e.g., stock market and real estate values. In fact, these values must fall more than the earnings from the assets, through reflecting the general rise in the rate of interest return.

Since factors must shift from the higher to the lower orders of production, there is inevitable "frictional" unemployment in a depression, but it need not be greater than unemployment attending any other large shift in production. In practice, unemployment will be aggravated by the numerous bankruptcies, and the large errors revealed, but it still need only be temporary. The speedier the adjustment, the more fleeting will the unemployment be. Unemployment will progress beyond the "frictional" stage and become really severe and lasting only if wage rates are kept artificially high and are prevented from falling. If wage rates are kept above the free-market level that clears the demand for and supply of labor, laborers will remain permanently unemployed. The greater the degree of discrepancy, the more severe will the unemployment be.

### **SECONDARY FEATURES OF DEPRESSION: DEFLATIONARY CREDIT CONTRACTION**

The above are the essential features of a depression. Other secondary features may also develop. There is no need, for example, for *deflation* (lowering of the money supply) during a depression. The depression phase begins with the end of inflation, and can proceed without any further changes from the side of money. Deflation has almost always set in, however. In the first place, the inflation took place as an expansion of bank credit; now, the financial difficulties and bankruptcies among borrowers cause banks to pull in their horns and contract credit.<sup>10</sup> Under the gold standard,

<sup>10</sup>It is often maintained that since business firms can find few profitable opportunities in a depression, business demand for loans falls off, and hence loans

banks have another reason for contracting credit—if they had ended inflation because of a gold drain to foreign countries. The threat of this drain forces them to contract their outstanding loans. Furthermore the rash of business failures may cause questions to be raised about the banks; and banks, being inherently bankrupt anyway, can ill afford such questions.<sup>11</sup> Hence, the money supply will contract because of actual bank runs, and because banks will tighten their position in fear of such runs.

Another common secondary feature of depressions is *an increase in the demand for money*. This “scramble for liquidity” is the result of several factors: (1) people expect falling prices, due to the depression and deflation, and will therefore hold more money and spend less on goods, awaiting the price fall; (2) borrowers will try to pay off their debts, now being called by banks and by business creditors, by liquidating other assets in exchange for money; (3) the rash of business losses and bankruptcies makes businessmen cautious about investing until the liquidation process is over.

With the supply of money falling, and the demand for money increasing, *generally falling prices* are a consequent feature of most

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and money supply will contract. But this argument overlooks the fact that the banks, if they want to, can purchase securities, and thereby sustain the money supply by increasing their investments to compensate for dwindling loans. Contractionist pressure therefore always stems from banks and not from business borrowers.

<sup>11</sup>Banks are “inherently bankrupt” because they issue far more warehouse receipts to cash (nowadays in the form of “deposits” redeemable in cash on demand) than they have cash available. Hence, they are always vulnerable to bank runs. These runs are not like any other business failures, because they simply consist of depositors claiming their own rightful property, which the banks do not have. “Inherent bankruptcy,” then, is an essential feature of any “fractional reserve” banking system. As Frank Graham stated:

The attempt of the banks to realize the inconsistent aims of lending cash, or merely multiplied claims to cash, and still to represent that cash is available on demand is even more preposterous than . . . eating one’s cake and counting on it for future consumption. . . . The alleged convertibility is a delusion dependent upon the right’s not being unduly exercised.

Frank D. Graham, “Partial Reserve Money and the 100% Proposal,” *American Economic Review* (September, 1936): 436.

depressions. A general price fall, however, is caused by the secondary, rather than by the inherent, features of depressions. Almost all economists, even those who see that the depression adjustment process should be permitted to function unhampered, take a very gloomy view of the secondary deflation and price fall, and assert that they unnecessarily aggravate the severity of depressions. This view, however, is incorrect. These processes not only do not aggravate the depression, they have positively beneficial effects.

There is, for example, no warrant whatever for the common hostility toward "hoarding." There is no criterion, first of all, to define "hoarding"; the charge inevitably boils down to mean that A thinks that B is keeping more cash balances than A deems appropriate for B. Certainly there is no objective criterion to decide when an increase in cash balance becomes a "hoard." Second, we have seen that the demand for money increases as a result of certain needs and values of the people; in a depression, fears of business liquidation and expectations of price declines particularly spur this rise. By what standards can these valuations be called "illegitimate"? A general price fall is the way that an increase in the demand for money can be satisfied; for lower prices mean that the same total cash balances have greater effectiveness, greater "real" command over goods and services. In short, the desire for increased real cash balances has now been satisfied.

Furthermore, the demand for money will decline again as soon as the liquidation and adjustment processes are finished. For the completion of liquidation removes the uncertainties of impending bankruptcy and ends the borrowers' scramble for cash. A rapid unhampered fall in prices, both in general (adjusting to the changed money-relation), and particularly in goods of higher orders (adjusting to the malinvestments of the boom) will speedily end the realignment processes and remove expectations of further declines. Thus, the sooner the various adjustments, primary and secondary, are carried out, the sooner will the demand for money fall once again. This, of course, is just one part of the general economic "return to normal."

Neither does the increased "hoarding" nor the fall of prices at all interfere with the primary depression-adjustment. The important

feature of the primary adjustment is that the prices of producers' goods fall more rapidly than do consumer good prices (or, more accurately, that higher order prices *fall more rapidly* than do those of lower order goods); it does not interfere with the primary adjustment if all prices are falling to some degree. It is, moreover, a common myth among laymen and economists alike, that falling prices have a depressing effect on business. This is not necessarily true. What matters for business is not the general behavior of prices, but the price differentials between selling prices and costs (the "natural rate of interest"). If wage rates, for example, fall more rapidly than product prices, this stimulates business activity and employment.

*Deflation* of the money supply (via credit contraction) has fared as badly as hoarding in the eyes of economists. Even the Misesian theorists deplore deflation and have seen no benefits accruing from it.<sup>12</sup> Yet, deflationary credit contraction greatly *helps* to speed up the adjustment process, and hence the completion of business recovery, in ways as yet unrecognized. The adjustment consists, as we know, of a return to the desired consumption-saving pattern. Less adjustment is needed, however, if time preferences *themselves* change: i.e., if *savings* increase and consumption relatively declines. In short, what can help a depression is not more consumption, but, on the contrary, less consumption and more *savings* (and, concomitantly, more investment). Falling prices encourage greater savings and decreased consumption by fostering an accounting illusion. Business accounting records the value of assets at their original cost. It is well known that general price increases distort the accounting-record: what seems to be a large "profit" may only be just sufficient to replace the now higher-priced assets. During an inflation, therefore, business "profits" are greatly overstated, and consumption is greater than it would be if the accounting illusion were not operating—perhaps capital is even consumed without the individual's knowledge. In a time of deflation, the accounting illusion is reversed: what seem like losses and capital consumption,

<sup>12</sup>In a gold standard country (such as America during the 1929 depression), Austrian economists accepted credit contraction as a perhaps necessary price to pay for remaining on gold. But few saw any remedial virtues in the deflation process itself.

may actually mean profits for the firm, since assets now cost much less to be replaced. This overstatement of losses, however, restricts consumption and encourages saving; a man may merely think he is replacing capital, when he is actually making an added investment in the business.

Credit contraction will have another beneficial effect in promoting recovery. For bank credit expansion, we have seen, distorts the free market by lowering price differentials (the "natural rate of interest" or going rate of profit) on the market. Credit contraction, on the other hand, distorts the free market in the reverse direction. Deflationary credit contraction's first effect is to lower the money supply in the hands of business, particularly in the higher stages of production. This reduces the demand for factors in the higher stages, lowers factor prices and incomes, and increases price differentials and the interest rate. It *spurs* the shift of factors, in short, from the higher to the lower stages. But this means that credit contraction, when it follows upon credit expansion, speeds the market's adjustment process. Credit contraction returns the economy to free-market proportions much sooner than otherwise.

But, it may be objected, may not credit contraction overcompensate the errors of the boom and itself cause distortions that need correction? It is true that credit contraction may overcompensate, and, while contraction proceeds, it may cause interest rates to be higher than free-market levels, and investment lower than in the free market. But since contraction causes no positive *mal*-investments, it will not lead to any painful period of depression and adjustment. If businessmen are misled into thinking that less capital is available for investment than is really the case, no lasting damage in the form of wasted investments will ensue.<sup>13</sup> Furthermore, in

<sup>13</sup>Some readers may ask: why doesn't credit contraction lead to malinvestment, by causing overinvestment in lower-order goods and underinvestment in higher-order goods, thus reversing the consequences of credit expansion? The answer stems from the Austrian analysis of the structure of production. There is no arbitrary choice of investing in lower or higher-order goods. Any increased investment *must* be made in the higher-order goods, must lengthen the structure of production. A decreased amount of investment in the economy simply reduces higher-order capital. Thus, credit contraction will cause *not* excess of investment

the nature of things, credit contraction is severely limited—it cannot progress beyond the extent of the preceding inflation.<sup>14</sup> Credit expansion faces no such limit.

### **GOVERNMENT DEPRESSION POLICY: LAISSEZ-FAIRE**

If government wishes to see a depression ended as quickly as possible, and the economy returned to normal prosperity, what course should it adopt? The first and clearest injunction is: *don't interfere with the market's adjustment process*. The more the government intervenes to delay the market's adjustment, the longer and more grueling the depression will be, and the more difficult will be the road to complete recovery. Government hampering aggravates and perpetuates the depression. Yet, government depression policy has always (and would have even more today) aggravated the very evils it has loudly tried to cure. If, in fact, we list logically the various ways that government could *hamper* market adjustment, we will find that we have precisely listed the favorite “anti-depression” arsenal of government policy. Thus, here are the ways the adjustment process can be hobbled:

(1) *Prevent or delay liquidation*. Lend money to shaky businesses, call on banks to lend further, etc.

(2) *Inflate further*. Further inflation blocks the necessary fall in prices, thus delaying adjustment and prolonging depression. Further credit expansion creates more malinvestments, which, in their turn, will have to be liquidated in some later depression. A government “easy money” policy prevents the market's return to the necessary higher interest rates.

(3) *Keep wage rates up*. Artificial maintenance of wage rates in a depression insures permanent mass unemployment. Furthermore, in a deflation, when prices are falling, keeping the same rate of

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in the lower orders, but simply a shorter structure than would otherwise have been established.

<sup>14</sup>In a gold standard economy, credit contraction is limited by the total size of the gold stock.

money wages means that real wage rates have been pushed higher. In the face of falling business demand, this greatly aggravates the unemployment problem.

(4) *Keep prices up.* Keeping prices above their free-market levels will create unsalable surpluses, and prevent a return to prosperity.

(5) *Stimulate consumption and discourage saving.* We have seen that more saving and less consumption would speed recovery; more consumption and less saving aggravate the shortage of saved-capital even further. Government can encourage consumption by "food stamp plans" and relief payments. It can discourage savings and investment by higher taxes, particularly on the wealthy and on corporations and estates. As a matter of fact, any increase of taxes and government spending will discourage saving and investment and stimulate consumption, since government spending is *all consumption*. Some of the private funds would have been saved and invested; *all* of the government funds are consumed.<sup>15</sup> Any increase in the relative size of government in the economy, therefore, shifts the societal consumption–investment ratio in favor of consumption, and prolongs the depression.

(6) *Subsidize unemployment.* Any subsidization of unemployment (via unemployment "insurance," relief, etc.) will prolong unemployment indefinitely, and delay the shift of workers to the fields where jobs are available.

<sup>15</sup>In recent years, particularly in the literature on the "under-developed countries," there has been a great deal of discussion of government "investment." There can be no such investment, however. "Investment" is defined as expenditures made not for the direct satisfaction of those who make it, but for other, ultimate consumers. Machines are produced not to serve the entrepreneur, but to serve the ultimate consumers, who in turn remunerate the entrepreneurs. But government acquires its funds by seizing them from private individuals; the spending of the funds, therefore, gratifies the desires of *government officials*. Government officials have forcibly shifted production from satisfying private consumers to satisfying themselves; their spending is therefore pure consumption and can by no stretch of the term be called "investment." (Of course, to the extent that government officials do not realize this, their "consumption" is really *waste-spending*.)

These, then, are the measures which will delay the recovery process and aggravate the depression. Yet, they are the time-honored favorites of government policy, and, as we shall see, they were the policies adopted in the 1929–1933 depression, by a government known to many historians as a “laissez-faire” administration.

Since deflation also speeds recovery, the government should encourage, rather than interfere with, a credit contraction. In a gold-standard economy, such as we had in 1929, blocking deflation has further unfortunate consequences. For a deflation increases the reserve ratios of the banking system, and generates more confidence in citizen and foreigner alike that the gold standard will be retained. Fear for the gold standard will precipitate the very bank runs that the government is anxious to avoid. There are other values in deflation, even in bank runs, which should not be overlooked. Banks should no more be exempt from paying their obligations than is any other business. Any interference with their comeuppance via bank runs will establish banks as a specially privileged group, not obligated to pay their debts, and will lead to later inflations, credit expansions, and depressions. And if, as we contend, banks are inherently bankrupt and “runs” simply reveal that bankruptcy, it is beneficial for the economy for the banking system to be reformed, once and for all, by a thorough purge of the fractional-reserve banking system. Such a purge would bring home forcefully to the public the dangers of fractional-reserve banking, and, more than any academic theorizing, insure against such banking evils in the future.<sup>16</sup>

The most important canon of sound government policy in a depression, then, is to keep itself from interfering in the adjustment process. Can it do anything more positive to aid the adjustment? Some economists have advocated a government-decreed wage cut to spur employment, e.g., a 10 percent across-the-board reduction. But free-market adjustment is the reverse of any “across-the-board” policy. Not all wages need to be cut; the degree of required adjustments of prices and wages differs from case to

<sup>16</sup>For more on the problems of fractional-reserve banking, see below.

case, and can only be determined on the processes of the free and unhampered market.<sup>17</sup> Government intervention can only distort the market further.

There is one thing the government can do positively, however: it can drastically *lower* its relative role in the economy, slashing its own expenditures and taxes, particularly taxes that interfere with saving and investment. Reducing its tax-spending level will automatically shift the societal saving–investment–consumption ratio in favor of saving and investment, thus greatly lowering the time required for returning to a prosperous economy.<sup>18</sup> Reducing taxes that bear most heavily on savings and investment will further lower social time preferences.<sup>19</sup> Furthermore, depression is a time of economic strain. Any reduction of taxes, or of any regulations interfering with the free market, will stimulate healthy economic activity; any increase in taxes or other intervention will depress the economy further.

In sum, the proper governmental policy in a depression is strict *laissez-faire*, including stringent budget slashing, and coupled perhaps with positive encouragement for credit contraction. For

<sup>17</sup>See W.H. Hutt, "The Significance of Price Flexibility," in Henry Hazlitt, ed., *The Critics of Keynesian Economics* (Princeton, N.J.: D. Van Nostrand, 1960), pp. 390–92.

<sup>18</sup>I am indebted to Mr. Rae C. Heiple, II, for pointing this out to me.

<sup>19</sup>Could government increase the investment–consumption ratio by *raising* taxes in any way? It could not tax *only* consumption even if it tried; it can be shown (and Prof. Harry Gunnison Brown has gone a long way to show) that any ostensible tax on "consumption" becomes, on the market, a tax on incomes, hurting saving as well as consumption. If we assume that the poor consume a greater proportion of their income than the rich, we might say that a tax on the poor used to subsidize the rich will raise the saving–consumption ratio and thereby help cure a depression. On the other hand, the poor do not necessarily have higher time preferences than the rich, and the rich might well treat government subsidies as special windfalls to be consumed. Furthermore, Harold Lubell has maintained that the effects of a *change* in income distribution on social consumption would be negligible, even though the absolute proportion of consumption is greater among the poor. See Harry Gunnison Brown, "The Incidence of a General Output or a General Sales Tax," *Journal of Political Economy* (April, 1939): 254–62; Harold Lubell, "Effects of Redistribution of Income on Consumers' Expenditures," *American Economic Review* (March, 1947): 157–70.

decades such a program has been labelled “ignorant,” “reactionary,” or “Neanderthal” by conventional economists. On the contrary, it is the policy clearly dictated by economic science to those who wish to end the depression as quickly and as cleanly as possible.<sup>20</sup>

It might be objected that depression only began when credit expansion ceased. Why shouldn't the government continue credit expansion indefinitely? In the first place, the longer the inflationary boom continues, the more painful and severe will be the necessary adjustment process. Second, the boom cannot continue indefinitely, because eventually the public awakens to the governmental policy of permanent inflation, and flees from money into goods, making its purchases while the dollar is worth more than it will be in future. The result will be a “runaway” or *hyperinflation*, so familiar to history, and particularly to the modern world.<sup>21</sup> Hyperinflation, on any count, is far worse than any depression: it destroys the currency—the lifeblood of the economy; it ruins and shatters the middle class and all “fixed income groups”; it wreaks havoc unbounded. And furthermore, it leads finally to unemployment and lower living standards, since there is little point in working when earned income depreciates by the hour. More time is spent hunting goods to buy. To avoid such a calamity, then, credit expansion must stop sometime, and this will bring a depression into being.

### PREVENTING DEPRESSIONS

Preventing a depression is clearly better than having to suffer it. If the government's proper policy during a depression is *laissez-faire*, what should it do to prevent a depression from beginning?

<sup>20</sup>Advocacy of any governmental policy must rest, in the final analysis, on a system of ethical principles. We do not attempt to discuss ethics in this book. Those who *wish* to prolong a depression, for whatever reason, will, of course, enthusiastically support these government interventions, as will those whose prime aim is the accretion of power in the hands of the state.

<sup>21</sup>For the classic treatment of hyperinflation, see Costantino Bresciani-Turroni, *The Economics of Inflation* (London: George Allen and Unwin, 1937).

Obviously, since credit expansion necessarily sows the seeds of later depression, the proper course for the government is to stop any inflationary credit expansion from getting under way. This is not a very difficult injunction, for government's most important task is to *keep itself* from generating inflation. For government is an *inherently inflationary institution*, and consequently has almost always triggered, encouraged, and directed the inflationary boom. Government is inherently inflationary because it has, over the centuries, acquired control over the monetary system. Having the power to print money (including the "printing" of bank deposits) gives it the power to tap a ready source of revenue. Inflation is a form of taxation, since the government can create new money out of thin air and use it to bid away resources from private individuals, who are barred by heavy penalty from similar "counterfeiting." Inflation therefore makes a pleasant substitute for taxation for the government officials and their favored groups, and it is a subtle substitute which the general public can easily—and can be encouraged to—overlook. The government can also pin the blame for the rising prices, which are the inevitable consequence of inflation, upon the general public or some disliked segments of the public, e.g., business, speculators, foreigners. Only the unlikely adoption of sound economic doctrine could lead the public to pin the responsibility where it belongs: on the government itself.

Private banks, it is true, can themselves inflate the money supply by issuing more claims to standard money (whether gold or government paper) than they could possibly redeem. A bank deposit is equivalent to a warehouse receipt for cash, a receipt which the bank pledges to redeem at any time the customer wishes to take his money out of the bank's vaults. The whole system of "fractional-reserve banking" involves the issuance of receipts which cannot possibly be redeemed. But Mises has shown that, by themselves, private banks could not inflate the money supply by a great deal.<sup>22</sup> In the first place, each bank would find its newly

<sup>22</sup>See Mises, *Human Action*, pp. 429–45, and *Theory of Money and Credit* (New Haven, Conn.: Yale University Press, 1953).

issued *uncovered*, or “pseudo,” receipts (uncovered by cash) soon transferred to the clients of other banks, who would call on the bank for redemption. The narrower the clientele of each bank, then, the less scope for its issue of pseudo-receipts. All the banks could join together and agree to expand at the same rate, but such agreement would be difficult to achieve. Second, the banks would be limited by the degree to which the public used bank deposits or notes as against standard cash; and third, they would be limited by the confidence of the clients in their banks, which could be wrecked by runs at any time.

Instead of preventing inflation by prohibiting fractional-reserve banking as fraudulent, governments have uniformly moved in the opposite direction, and have step-by-step removed these free-market checks to bank credit expansion, at the same time putting themselves in a position to direct the inflation. In various ways, they have artificially bolstered public confidence in the banks, encouraged public use of paper and deposits instead of gold (finally outlawing gold), and shepherded all the banks under one roof so that they can all expand together. The main device for accomplishing these aims has been Central Banking, an institution which America finally acquired as the Federal Reserve System in 1913. Central Banking permitted the centralization and absorption of gold into government vaults, greatly enlarging the national base for credit expansion:<sup>23</sup> it also insured uniform action by the banks through basing their reserves on deposit accounts at the Central Bank instead of on gold. Upon establishment of a Central Bank, each private bank no longer gauges its policy according to its particular gold reserve; all banks are now tied together and regulated by Central Bank action. The Central Bank, furthermore, by proclaiming its function to be a “lender of last resort” to banks in trouble, enormously increases public confidence in the banking system.

<sup>23</sup>When gold—formerly the banks’ reserves—is transferred to a newly established Central Bank, the latter keeps only a fractional reserve, and thus the total credit base and potential monetary supply are enlarged. See C.A. Phillips, T.F. McManus, and R.W. Nelson, *Banking and the Business Cycle* (New York: Macmillan, 1937), pp. 24ff.

For it is tacitly assumed by everyone that the government would never permit its own organ—the Central Bank—to fail. A Central Bank, even when on the gold standard, has little need to worry about demands for gold from its own citizens. Only possible drains of gold to foreign countries (i.e., by non-clients of the Central Bank) may cause worry.

The government assured Federal Reserve control over the banks by (1) granting to the Federal Reserve System (FRS) a monopoly over note issue; (2) compelling all the existing “national banks” to join the Federal Reserve System, and to keep all their legal reserves as deposits at the Federal Reserve<sup>24</sup>; and (3) fixing the minimum reserve ratio of deposits at the Reserve to bank deposits (money owned by the public). The establishment of the FRS was furthermore inflationary in directly reducing existing reserve-ratio requirements.<sup>25</sup> The Reserve could then control the volume of money by governing two things: the volume of bank reserves, and the legal reserve requirements. The Reserve can govern the volume of bank reserves (in ways which will be explained below), and the government sets the legal ratio, but admittedly control over the money supply is not perfect, as banks can keep “excess reserves.” Normally, however, reassured by the existence of a lender of last resort, and making profits by maximizing its assets and deposits, a bank will keep fully “loaned up” to its legal ratio.

While unregulated private banking would be checked within narrow limits and would be far less inflationary than Central Bank

<sup>24</sup>Many “state banks” were induced to join the FRS by patriotic appeals and offers of free services. Even the banks that did not join, however, are effectively controlled by the System, for, in order to obtain paper money, they must keep reserves in some member bank.

<sup>25</sup>The average reserve requirements of all banks before 1913 was estimated at approximately 21 percent. By mid-1917, when the FRS had fully taken shape, the average required ratio was 10 percent. Phillips et al. estimate that the inherent inflationary impact of the FRS (pointed out in footnote 23) increased the expansive power of the banking system three-fold. Thus, the two factors (the inherent impact, and the deliberate lowering of reserve requirements) combined to inflate the monetary potential of the American banking system six-fold as a result of the inauguration of the FRS. See Phillips, et al., *Banking and the Business Cycle*, pp. 23ff.

manipulation,<sup>26</sup> the clearest way of preventing inflation is to outlaw fractional-reserve banking, and to impose a 100 percent gold reserve to all notes and deposits. Bank cartels, for example, are not very likely under unregulated, or “free” banking, but they could nevertheless occur. Professor Mises, while recognizing the superior economic merits of 100 percent gold money to free banking, prefers the latter because 100 percent reserves would concede to the government control over banking, and government could easily change these requirements to conform to its inflationist bias.<sup>27</sup> But a 100 percent gold reserve requirement would not be just another administrative control by government; it would be part and parcel of the general libertarian legal prohibition against fraud. Everyone except absolute pacifists concedes that violence against person and property should be outlawed, and that agencies, operating under this general law, should defend person and property against attack. Libertarians, advocates of *laissez-faire*, believe that “governments” should confine themselves to being defense agencies only. Fraud is equivalent to theft, for fraud is committed when one part of an exchange contract is deliberately not fulfilled after the other’s property has been taken. Banks that issue receipts to non-existent gold are really committing fraud, because it is then impossible for all property owners (of claims to gold) to claim their rightful property. Therefore, prohibition of such practices would not be an act of government *intervention* in the free market; it would be part of the general legal *defense* of property against attack which a free market requires.<sup>28, 29</sup>

<sup>26</sup>The horrors of “wildcat banking” in America before the Civil War stemmed from two factors, both due to government rather than free banking: (1) Since the beginnings of banking, in 1814 and then in every ensuing panic, state governments permitted banks to continue operating, making and calling loans, etc. without having to redeem in specie. In short, banks were privileged to operate without paying their obligations. (2) Prohibitions on interstate branch banking (which still exist), coupled with poor transportation, prevented banks from promptly calling on distant banks for redemption of notes.

<sup>27</sup>Mises, *Human Action*, p. 440.

<sup>28</sup>A common analogy states that banks simply count on people not redeeming all their property at once, and that engineers who build bridges operate also on

What, then, was the proper government policy during the 1920s? What should government have done to prevent the crash? Its best policy would have been to liquidate the Federal Reserve System, and to erect a 100 percent gold reserve money; failing that, it should have liquidated the FRS and left private banks unregulated, but subject to prompt, rigorous bankruptcy upon failure to redeem their notes and deposits. Failing these drastic measures, and given the existence of the Federal Reserve System, what should its policy have been? The government should have exercised full vigilance in not supporting or permitting any inflationary credit expansion. We have seen that the Fed—the Federal Reserve System—does not have complete control over money because it cannot force banks to lend up to their reserves; but it does have absolute anti-inflationary control over the banking system. For it does have the power to reduce bank reserves at will, and thereby force the banks to cease inflating, or even to contract if necessary. By lowering the volume of bank reserves and/or raising reserve requirements, the federal government, in the 1920s as well as today, has had the absolute power to prevent any increase in the total volume of money and credit. It is true that the FRS has no direct control over such money creators as savings banks, savings and loan associations, and life insurance companies, but any credit

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the principle that not everyone in a city will wish to cross the bridge at once. But the cases are entirely different. The people crossing a bridge are simply requesting a service; *they are not trying to take possession of their lawful property*, as are the bank depositors. A more fitting analogy would defend embezzlers who would never have been caught if someone hadn't fortuitously inspected the books. The crime comes when the theft or fraud is *committed*, not when it is finally revealed.

<sup>29</sup>Perhaps a libertarian legal system would consider "general deposit warrants" (which allow a warehouse to return any homogeneous good to the depositor) as "specific deposit warrants," which, like bills of lading, pawn tickets, dockwarrants, etc. establish ownership to specific, earmarked objects. As Jevons stated, "It used to be held as a general rule of law, that any present grant or assignment of goods not in existence is without operation." See W. Stanley Jevons, *Money and the Mechanism of Exchange* (London: Kegan Paul, 1905), pp. 207–12. For an excellent discussion of the problems of a fractional-reserve money, see Amasa Walker, *The Science of Wealth* (3rd ed., Boston: Little, Brown, 1867), pp. 126–32, esp. pp. 139–41.

expansion from these sources could be offset by deflationary pressure upon the commercial banks. This is especially true because commercial bank deposits (1) form the monetary base for the credit extended by the other financial institutions, and (2) are the most actively circulating part of the money supply. Given the Federal Reserve System and its absolute power over the nation's money, the federal government, since 1913, must bear the complete responsibility for any inflation. The banks cannot inflate on their own; any credit expansion can only take place with the support and acquiescence of the federal government and its Federal Reserve authorities. The banks are virtual pawns of the government, and have been since 1913. Any guilt for credit expansion and the consequent depression must be borne by the federal government and by it alone.<sup>30</sup>

### **PROBLEMS IN THE AUSTRIAN THEORY OF THE TRADE CYCLE**

#### *The "Assumption" of Full Employment*

Before proceeding to discuss alternative business cycle theories, several problems and time-honored misconceptions should be cleared up. Two standard misconceptions have already been refuted by Professor Mises: (1) that the Austrian theory "assumes" the previous existence of "full employment," and therefore does not apply if the credit expansion begins while there are unemployed factors, and (2) that the theory describes the boom as a period of "overinvestment." On the first point, the unemployed factors can either be labor or capital-goods. (There will always be unemployed, submarginal, *land* available.) Inflation will only put unemployed labor factors to work if their owners, though otherwise

<sup>30</sup>Some writers make a great to-do over the legal fiction that the Federal Reserve System is "owned" by its member banks. In practice, this simply means that these banks are taxed to help pay for the support of the Federal Reserve. If the private banks really "own" the Fed, then how can its officials be appointed by the government, and the "owners" compelled to "own" the Federal Reserve Board by force of government statute? The Federal Reserve Banks should simply be regarded as governmental agencies.

holding out for a higher real wage than the free market can provide, stupidly settle for a lower real wage if it is camouflaged in the form of a rise in the cost of living. As for idle capital goods, these may have been totally and hopelessly malinvested in a previous boom (or at some other time) and hopelessly lost to profitable production for a long time or forever. A credit expansion may appear to render submarginal capital profitable once more, but this too will be *malinvestment*, and the now greater error will be exposed when this boom is over. Thus, credit expansion generates the business cycle regardless of the existence of unemployed factors. Credit expansion in the midst of unemployment will create more distortions and malinvestments, delay recovery from the preceding boom, and make a more grueling recovery necessary in the future. While it is true that the unemployed factors are not now diverted from more valuable uses as employed factors would be (since they were speculatively idle or malinvested instead of employed), the other complementary factors will be diverted into working with them, and these factors will be malinvested and wasted. Moreover, all the other distorting effects of credit expansion will still follow, and a depression will be necessary to correct the new distortion.<sup>31</sup>

### “Overinvestment” or Malinvestment?

The second misconception, given currency by Haberler in his famous *Prosperity and Depression*, calls the Misesian picture of the boom an “overinvestment” theory.<sup>32</sup> Mises has brilliantly shown the error of this label. As Mises points out:

[A]dditional investment is only possible to the extent that there is an additional supply of capital goods available. . . . The boom itself does not result in a restriction but rather in an increase in consumption, it does not

<sup>31</sup>See Mises, *Human Action*, pp. 576–78. Professor Hayek, in his well-known (and excellent) exposition of the Austrian theory, had early shown how the theory fully applies to credit expansion amidst unemployed factors. Hayek, *Prices and Production*, pp. 96–99.

<sup>32</sup>Haberler, *Prosperity and Depression*, chap. 3.

procure more capital goods for new investment. The essence of the credit-expansion boom is not overinvestment, but investment in wrong lines, i.e., malinvestment . . . on a scale for which the capital goods available do not suffice. Their projects are unrealizable on account of the insufficient supply of capital goods. . . . The unavoidable end of the credit expansion makes the faults committed visible. There are plants which cannot be utilized because the plants needed for the production of the complementary factors of production are lacking; plants the products of which cannot be sold because the consumers are more intent upon purchasing other goods which, however, are not produced in sufficient quantities.

The observer notices only the malinvestments which are visible and fails to recognize that these establishments are malinvestments only because of the fact that other plants—those required for the production of the complementary factors of productions and those required for the production of consumers' goods more urgently demanded by the public—are lacking. . . . The whole entrepreneurial class is, as it were, in the position of a master-builder [who] . . . overestimates the quantity of the available supply [of materials] . . . oversizes the groundwork . . . and only discovers later . . . that he lacks the material needed for the completion of the structure. It is obvious that our master-builder's fault was not overinvestment, but an inappropriate [investment].<sup>33</sup>

Some critics have insisted that if the boom goes on long enough, these processes might finally be "completed." But this takes the metaphor too literally. The point is that credit expansion distorts investment by directing too much of the available capital into the higher orders of production, leaving too little for lower

<sup>33</sup>Mises, *Human Action*, pp. 556–57. Mises also refutes the old notion that the boom is characterized by an undue conversion of "circulating capital" into "fixed capital." If that were true, then the crisis would reveal a shortage of circulating capital, and would greatly drive up the prices of, e.g., industrial raw materials. Yet, these materials are precisely among the ones revealed by the crisis to be overabundant, i.e., resources were malinvested in "circulating" as well as in "fixed" capital in the higher stages of production.

orders. The unhampered market assures that a complementary structure of capital is harmoniously developed; bank credit expansion hobbles the market and destroys the processes that bring about a balanced structure.<sup>34</sup> The longer the boom goes on, the greater the extent of the distortions and malinvestments.

### *Banks: Active or Passive?*

During the early 1930s, there was a great deal of interest, in the United States and Great Britain, in Mises's theory of the trade cycle, an interest unfortunately nipped in the bud by the excitement surrounding the "Keynesian Revolution." The adherents had split on an important question: Mises asserting that the cycle is always generated by the interventionary banking system and his followers claiming that often banks might only err in being passive and not raising their interest charges quickly enough.<sup>35</sup> The followers held that for one reason or another the "natural rate" of interest might rise, and that the banks, which after all are not omniscient, may inadvertently cause the cycle by merely maintaining their old interest rate, now below the free-market rate.

In defense of the Mises "anti-bank" position, we must first point out that the natural interest rate or "profit rate" does not suddenly increase because of vague improvements in "investment opportunities." The natural rate increases because time preferences increase.<sup>36</sup> But how can banks force market interest rates

<sup>34</sup>For a stimulating discussion of some of these processes, see Ludwig M. Lachmann, *Capital and Its Structure* (London: London School of Economics, 1956).

<sup>35</sup>For the "pro-bank" position on this issue, see F.A. Hayek, *Monetary Theory and the Trade Cycle* (New York: Harcourt, Brace, 1933), pp. 144–48; Fritz Machlup, *Stock Market, Credit, and Capital Formation* (New York: Macmillan, 1940), pp. 247–48; Haberler, *Prosperity and Depression*, pp. 64–67. On the other side, see the brief comments of Mises, *Human Action*, pp. 570, 789n.; and Phillips et al., *Banking and the Business Cycle*, pp. 139ff.

<sup>36</sup>The error of the followers stems from their failure to adopt the pure time-preference theory of interest of Fetter and Mises, and their clinging to eclectic "productivity" elements in their explanation of interest. See the references mentioned in footnote 5 above.

below the free-market rates? Only by *expanding their credit!* To avoid the business cycle, then, it is not necessary for the banks to be omniscient; they need only refrain from credit expansion. If they do so, their loans made out of their own capital will not expand the money supply but will simply take their place with other savings as one of the determinants of the free-market interest rate.<sup>37</sup>

Hayek believes that Mises's theory is somehow deficient because it is exogenous—because it holds that the generation of business cycles stems from interventionary acts rather than from acts of the market itself. This argument is difficult to fathom. Processes are either analyzed correctly or incorrectly; the only test of any analysis is its truth, not whether it is exogenous or endogenous. If the process is *really* exogenous, then the analysis should reveal this fact; the same holds true for endogenous processes. No particular virtue attaches to a theory because it is one or the other.

### *Recurrence of Cycles*

Another common criticism asserts that Mises's theory may explain any *one* prosperity–depression cycle, but it fails to explain another familiar phenomenon of business cycles—their perpetual recurrence. Why does one cycle begin as the previous one ends? Yet Mises's theory *does* explain recurrence, and without requiring us to adopt the familiar but unproven hypothesis that cycles are “self-generating,”—that some mysterious processes within a cycle lead to another cycle without tending toward an equilibrium condition. The self-generating assumption violates the general law of the tendency of the economy toward an equilibrium, while, on the other hand, the Mises theory for the first time succeeds in integrating the theory of the business cycle into the whole structural design of economic theory. Recurrence stems from the fact that

<sup>37</sup>Mises points out (*Human Action*, p. 789n.) that if the banks simply lowered the interest charges on their loans without expanding their credit, they would be granting gifts to debtors, and would not be generating a business cycle.

banks will always try to inflate credit if they can, and government will almost always back them up and spur them on. Bank profits derive mainly from credit expansion, so they will tend to inflate credit as much as they can until they are checked.<sup>38</sup> Government, too, is inherently inflationary. Banks are forced to halt their credit expansion because of the combined force of external and internal drains, and, during a deflation, the drains, and their fears of bankruptcy, force them to contract credit. When the storm has run its course and recovery has arrived, the banks and the government are free to inflate again, and they proceed to do so. Hence the continual recurrence of business cycles.

### *Gold Changes and the Cycle*

On one important point of business cycle theory this writer is reluctantly forced to part company with Mises. In his *Human Action*, Mises first investigated the laws of a free-market economy and then analyzed various forms of coercive intervention in the free market. He admits that he had considered relegating trade-cycle theory to the section on intervention, but then retained the discussion in the free market part of the volume. He did so because he believed that a boom–bust cycle could also be generated by an increase in gold money, provided that the gold entered the loan market before all its price-raising effects had been completed. The potential range of such cyclical effects in practice, of course, is severely limited: the gold supply is limited by the fortunes of gold mining, and only a fraction of new gold enters the loan market before influencing prices and wage rates. Still, an important theoretical

<sup>38</sup>Walker, *The Science of Wealth*, pp. 145ff.; also see p. 159.

[B]anks must be constantly desirous of increasing their loans, by issuing their own credit in the shape of circulation and deposits. The more they can get out, the larger the income. This is the *motive power* that ensures the constant expansion of a mixed [fractional reserve] currency to its highest possible limit. The banks will always increase their indebtedness when they can, and only contract it when they must.

problem remains: can a boom–depression cycle of any degree be generated in a 100 percent gold economy? Can a purely free market suffer from business cycles, however limited in extent? One crucial distinction between a credit expansion and entry of new gold onto the loan market is that bank credit expansion *distorts* the market's reflection of the pattern of voluntary time preferences; the gold inflow *embodies changes* in the structure of voluntary time preferences. Setting aside any permanent shifts in income distribution caused by gold changes, time preferences may temporarily fall during the transition period before the effect of increased gold on the price system is completed. (On the other hand, time preferences may temporarily rise.) The fall will cause a temporary increase in saved funds, an increase that will disappear once the effects of the new money on prices are completed. This is the case noted by Mises.

Here is an instance in which savings may be expected to increase first and then decline. There may certainly be other cases in which time preferences will change suddenly on the free market, first falling, then increasing. The latter change will undoubtedly cause a “crisis” and temporary readjustment to malinvestments, but these would be better termed irregular *fluctuations* than regular processes of the business cycle. Furthermore, entrepreneurs are trained to estimate changes and avoid error. They can handle irregular fluctuations, and certainly they should be able to cope with the results of an inflow of gold, results which are roughly predictable. They could not forecast the results of a credit expansion, because the credit expansion tampered with all their moorings, distorted interest rates and calculations of capital. No such tampering takes place when gold flows into the economy, and the normal forecasting ability of entrepreneurs is allowed full sway. We must, therefore, conclude that we cannot apply the “business cycle” label to any processes of the free market. Irregular fluctuations, in response to changing consumer tastes, resources, etc. will certainly occur, and sometimes there will be aggregate losses as a result. But the regular, systematic distortion that invariably ends in a cluster of business errors and depression—characteristic phenomena of

the “business cycle”—can only flow from intervention of the banking system in the market.<sup>39</sup>

<sup>39</sup>For a somewhat similar analysis of international gold flows, see F.A. Hayek, *Monetary Nationalism and International Stability* (New York: Longmans, Green, 1937), pp. 24f. Also see Walker, *The Science of Wealth*, p. 160.

## BOOK REVIEW

### *THE MIDAS PARADOX: FINANCIAL MARKETS, GOVERNMENT POLICY SHOCKS, AND THE GREAT DEPRESSION*

SCOTT SUMNER

OAKLAND, CALIF.: INDEPENDENT INSTITUTE, 2015, 509 + XVIII PP.

ROBERT P. MURPHY

*The Midas Paradox* is an impressive piece of scholarship, representing the *magnum opus* of economist Scott Sumner. What makes the book so unique is Sumner's use of real-time financial data and press accounts in order to explain not just broad issues—such as, “What caused the Great Depression?”—but to offer commentary on the precise zigs-and-zags of the economy during the 1930s.

Sumner rejects the standard Friedmanite monetarist “long and variable lags” approach, and argues that financial markets respond

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Robert P. Murphy (robert.p.murphy@ttu.edu) is Research Assistant Professor with the Free Market Institute at Texas Tech, Research Fellow with the Independent Institute, and an Associated Scholar with the Mises Institute.

virtually *instantly* to new information, including announcements and events that would change expectations about the future path of monetary policy. Both because of his methodological innovations and his painstaking research, Sumner's book is an invaluable resource to economists and historians interested in the Great Depression and the operation of the classical gold standard.

Although I admire much of the book, I must reject its central thesis. Indeed, the very title *The Midas Paradox* is an allusion to the disaster that comes from an obsession with gold. Sumner agrees with standard Austrian critiques of the New Deal and its crippling effects on labor markets, but he also thinks a large portion of the blame for the Great Depression lies with the unfortunate fact that policymakers' hands (and currencies) were tied to gold. Even though economists back in the 1930s thought that central banks were "pushing on a string" with their low interest rate policies, Sumner thinks it is now well established that it was unwittingly *tight* money that made this depression "Great."

Furthermore, Sumner draws lessons for today, believing that economists are wrong to focus on low nominal interest rates and even the huge expansions in monetary bases that the world's major central banks have delivered since the 2008 crash. Instead, with his "Market Monetarist" framework, Sumner believes that central banks have foisted enormously *tight* monetary policy on the world, and that this largely explains the horrible crash and then sluggish recoveries of Western nations in the last decade.

In Sumner's view, only by adopting a more useful criterion for assessing monetary policy can economists explain past crises and help policymakers avoid future ones. As Sumner concludes his introductory chapter: "The events of the past five years should make us all a bit more forgiving of those interwar policy experts who failed to correctly diagnose the problem in real time. When aggregate demand collapses, it looks to almost everyone as if the *symptoms* of the fall in aggregate demand are the *causes*. That was true in the 1930s and it is equally true today" (p. 32).

Although I could spend the rest of this review noting the areas on which I *agree* with Sumner, the best contribution I can make is to point out why I think his thesis ultimately fails. To that end, I will first show that the single most important relationship he

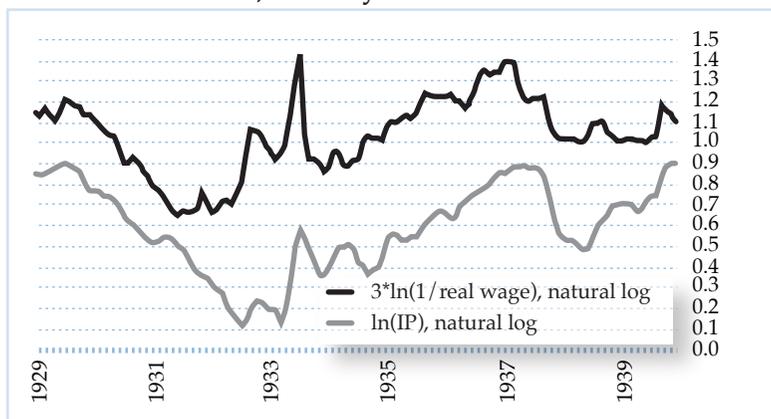
charts in the book—and it is Sumner himself who christens it as such—is just as consistent with the Rothbardian (1963) explanation of the Depression as it is with a Market Monetarist one. Then I will show that Sumner’s emphasis on gold—which is the reason for the book’s title, after all—is misplaced; it cannot fulfill the criterion that Sumner himself says it must.

I will conclude that Sumner’s book, excellent though it is in many respects, fails in its purpose. Austrians who subscribe to the Rothbardian explanation (which in turn was an elaboration of the Misesian theory of the business cycle) may collect some interesting nuances and a wealth of data from Sumner’s book, but they have no reason to abandon their basic framework.

## EVIDENCE THAT FITS BOTH FRAMEWORKS: THE CONNECTION BETWEEN REAL WAGES AND OUTPUT

In his introductory chapter Sumner declares, “If I were asked to give a talk on the Great Depression and allowed just one slide, it would undoubtedly be Figure 1.2” (p. 20). We have reproduced that crucial chart below.

**Figure 1.2: The Relationship between Detrended Industrial Production and Detrended (Inverted) Real Wages, 1929–1939, Monthly**



In Sumner's figure, the gray line shows the logarithm of industrial production, meaning that straight lines indicate steady percentage rates of growth (or shrinkage). The dark black line is the logarithm of the *inverse* of the real (i.e. price-level-adjusted) wage rate.

The figure shows quite clearly that during the 1930s, as real wages *increased*, industrial production fell. On the other hand, increases in industrial production went hand-in-hand with *declines* in real wages.

As it happens, I am perfectly happy with Sumner's graph. In fact, I will go further and enthusiastically endorse just about all of Sumner's *interpretation* of it as well:

[A] sharp fall in output could be caused by either a rise in nominal wages or a fall in the price level. It so happens that both factors played an important role in the Great Depression....

During the 1930s, the biggest supply shocks were New Deal programs aimed at artificially raising nominal wages. There were five big wage shocks, each of which tended to abort otherwise promising recoveries in industrial production. These wage shocks thus tended to make real wages more countercyclical—higher wages led to lower output.

...

But what about the demand shocks, which were the major cause of the Great Contraction? Recall that the real wage is the nominal wage divided by the price level.... Wholesale prices fell sharply during the 1929–1933 and 1937–38 contractions and rose sharply after the dollar was devalued in April 1933. *Because nominal wages tend to be sticky, or slow to adjust, sudden changes in the WPI tend to show up inversely as changes in the real wage rate....* If prices fall much faster than wages, then profits decline and companies lay off workers. Real wages actually rose sharply during the early 1930s for those lucky enough to maintain full-time jobs. (Sumner, pp. 20–22, emphasis added.)

Perhaps surprisingly, in the above quotation, Sumner has provided the same basic explanation of the high (and persistent) unemployment rate that I myself gave, in my decidedly Rothbardian treatment in Murphy (2009). Sumner and I agree that during the 1930s, unemployment shot up whenever real wages were increasing and (perversely) made labor more expensive relative to other commodities.

However, where Sumner and I disagree concerns the *blame* for this state of affairs. If the general price level falls, while nominal

wage rates do not fall nearly as much, then Sumner ultimately blames the monetary authorities for letting the purchasing power of money increase so rapidly. In contrast, I blame the *other* interventions of the federal government (in conjunction with labor unions) for making wages so much “stickier” than they had been in previous depressions.

In particular, we can compare the behavior of nominal wages and prices of the early 1930s with the experience from the 1920–1921 depression. Here we rely on the statistics and analysis from Gallaway and Vedder (1987). First we reproduce one of their tables:

**Table 4: Rate and Indexes of Consumer Prices, Money Wages, Productivity, and Productivity-Adjusted Real Wages**

Unemployment Rate		Indexes (1929 = 100)						
		Consumer Prices	Money Wages		Productivity		Productivity-Adjusted Real Wage	
			Annual	Hourly	Annual	Hourly	Annual	Hourly
1929	3.2%	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1930	8.7%	97.3	97.4	98.4	94.8	96.3	106.7	105.0
1931	15.9%	88.6	90.4	94.4	94.4	97.1	111.4	109.7
1932	23.6%	79.6	80.1	82.4	81.8	93.4	118.5	110.1
1933	24.9%	75.4	73.3	82.6	87.6	91.6	117.0	119.6

Source: Table 4, p. 45, from Gallaway and Vedder (1987).

As the final column from the table shows, real wages for hourly workers—especially if we further factor in productivity—grew substantially over the years of the Great Contraction, reaching almost 20 percent higher by 1933 (when the unemployment rate was almost 25 percent). For another amazing fact, note that nominal (money) wage rates for hourly workers in 1931 were only 5.6 percent lower than they had been in 1929, even though consumer prices by that point had fallen 11.4 percent. During this year, unemployment was already at a devastating 15.9 percent.

Even the table above does not shed light on the *policies* that might have contributed to the problem. After all, Sumner could take these data from Gallaway and Vedder in stride, showing the disastrous consequences of the Fed’s (allegedly) tight monetary stance in the early 1930s amidst “sticky nominal wages.”

Yet here is where the comparison with the 1920–1921 episode is decisive. After producing the above table, Gallaway and Vedder explain:

The issue is whether the Hoover recipe delayed the onset of money wage adjustments sufficiently to exacerbate the disequilibrium and increase the severity of the Great Depression. The evidence is persuasive that this is the case.... [A] monthly wage index compiled by the Federal Reserve Bank of New York (reported by Lionel Robbins) shows almost no movement in money wage rates from the fourth quarter of 1929 through the second quarter of 1930.

Contrast this pattern with that of the 1920–21 downturn. In both cycles, industrial production peaked at midsummer before the onset of the decline. In both cycles, the decline was precipitous, 27.5 percent from July 1920 to July 1921 and 21.3 percent from June 1929 to July 1930. However, as noted earlier, *in the 1920-21 case, money wage rates fell by 13 percent, setting the stage for the sharp recovery that began in August 1921*. One of the factors cited by Benjamin Anderson in explaining this recovery is “a drastic reduction in the costs of production.” How these costs were reduced is clear—money wage rates were cut, something that did not occur in the early days of the Great Depression. For example, *according to data compiled by the National Industrial Conference Board, hourly wage rates for unskilled male labor fell more between 1920 and 1921 than they declined throughout the Great Depression*.

The clear implication seems to be that the *money wage rate adjustment process was distinctly different during the Great Depression compared to the 1920–21 decline in business activity*. Apparently, Herbert Hoover’s goal of *maintaining levels of money wage rates was achieved*, at least temporarily. (Gallaway and Vedder, 1987, p. 46, emphasis added, endnotes removed.)

Much more recently, Lee Ohanian (2009) develops a formal neoclassical model and concludes that Herbert Hoover’s policies—which asked large firms to maintain nominal wage rates in exchange for keeping out unions—are ultimately to blame for the Great Depression. He writes in his abstract: “The theory also can reconcile why deflation/low nominal spending apparently had such large real effects during the 1930s, but not during other periods of significant deflation.”

In summary, regarding the “one slide” that Sumner would use if he had to choose just one, he and I are in agreement: The key to understanding the massive unemployment of the 1930s is real wage rates. Sumner and I agree that during an economic downturn, the

last thing in the world we want is for labor to become artificially more expensive as prices fall faster than wage rates.

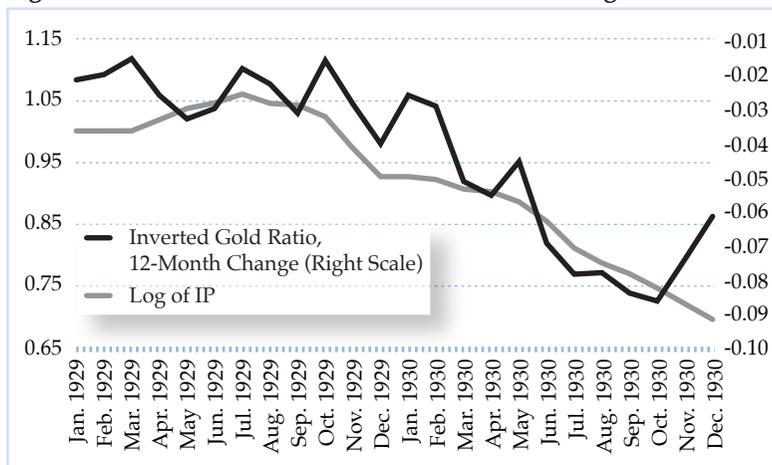
Yet rather than ask (ask Sumner does) why policymakers at the Federal Reserve *allowed* such a deadly fall in prices, instead I would ask why policymakers in the federal government *hindered* the fall in (nominal) wages that had been the norm in previous depressions (or “panics”).

### SUMNER’S MISPLACED EMPHASIS ON GOLD

In the previous section, I argued that the Rothbardian interpretation of the Great Depression could easily incorporate the single most important graphical relationship of Sumner’s book. Namely, a Rothbardian could agree that the immediate driver of unemployment was the real wage rate, but the Rothbardian would lay the blame on government measures that interfered with nominal wage adjustments, rather than with deflationary monetary policy.

In this section, I question Sumner’s emphasis on money—and in particular, the operation of the gold standard—as a key component of the Great Depression. Here again we will reproduce a key chart from Sumner’s book, namely Figure 2.1 (p. 44), which plots the inverse of the “gold ratio” against industrial production:

**Figure 2.1: Industrial Production and 12-Month Change in C/G Ratio**



To understand the significance of this figure, we first must explain the “inverted gold ratio.” Sumner had earlier (p. 28) defined the gold reserve ratio as “the ratio of the monetary gold stock and the currency stock.” Now under the rules of the classical gold standard, “countries were supposed to adjust their currency stock in proportion to their changes in their monetary gold stock,” and thus if a country did *not* do so, then such “[v]ariations in the gold reserve ratio can be seen as an indicator of discretionary monetary policy” (p. 29).

Returning to the figure above, we now see how it apparently endorses the Sumnerian framework. If the currency/gold ratio (the dark black line) falls, it means that the outstanding stock of currency has fallen relative to the amount of gold held for monetary purposes. It is discretionary monetary policy tightening, in the context of the classical gold standard. And since the dark black line goes hand-in-hand with industrial production (the gray line), Sumner believes that this chart is consistent with his central thesis.

However, even at this stage, there are problems. First, note that from January 1929 up until the fateful month of October 1929, the 12-month change in the currency/gold ratio is (slightly) negative. Even so, industrial output rises through the summer. Moreover, the particular zigs and zags do *not* coincide with each other; there is a relative tightening (i.e. falling dark black line) from April through June, while industrial production rises during this stretch. Furthermore, there is a spike in the black line going into October 1929, which (to repeat) represents a relative *loosening* of monetary policy in Sumner’s framework.

To be sure, eventually both lines collapse, but it is hardly clear that the movements in the black line are *causing* reactions in the gray line. Indeed, consider that as of January 1930, the height of the black line has returned to the same position it held back in April 1929. That means that the (modest) 12-month decline in the inverted gold ratio by January 1930 was no larger than that same change had been in April 1929. And yet, this monetary tightening coincided with growing industrial output back in April, while by January industrial production was in free-fall.

Now, when it comes to explaining the stock market crash of October 1929, what really matters is not the mechanical policy

of that moment but rather the *expectations* of investors. Perhaps the Federal Reserve signaled in some way the sharp tightening of monetary policy that would eventually come, and investors realized how much things had changed as fall 1929 unfolded.

As a staunch proponent of the Efficient Market Hypothesis (EMH), this is indeed the approach Sumner adopts. Space constraints do not allow me to summarize his case, but I think it is fair to say that he presents no smoking guns. In fact, Sumner *himself* implicitly admits that he has failed in the task he set for himself, when he (no doubt subconsciously) moves the goalposts.

Specifically, on page 40 Sumner tells us his strategy (consistent with the EMH):

Before we throw up our hands and accept the “bubble” explanation, we should first see whether there is an alternative explanation that allows for sensible investors to have been *highly optimistic in September 1929 and much more pessimistic in November 1929*. (Sumner, p. 40, emphasis added.)

To reiterate, for Sumner’s book to “work,” he must now show us what tangible actions (which could have been in the form of remarks made to the press) the Federal Reserve made in a two-month window from September to October 1929, which involved the handling of the gold standard and which made *both* the stock market valuations of early September and late October 1929 “rational.” Were there any such actions that would have altered expectations in such a drastic way?

I submit that Sumner gives us nothing that fits the bill. He himself seems to acknowledge this when, twenty-one (unconvincing) pages later, Sumner writes:

At the beginning of this chapter, I suggested that in order to understand the October [1929] crash, one needed to explain why it would have been sensible for investors to be highly optimistic in September 1929, and *somewhat pessimistic in November 1929*. Is there an explanation for such a dramatic change in sentiment? (Sumner, pp. 60–61, emphasis added.)

Note the subtle movement of the goalposts (again, I believe innocent enough); on page 40 he had sought something that would make investors “much more pessimistic” two months later, while on page 61 he has lowered the bar to “somewhat pessimistic.”

(Would a mere change to “somewhat pessimistic” explain back-to-back drops of almost 13 percent and then 12 percent, which is what happened in the market on October 28 and 29?) Sumner knows he doesn’t have it. Indeed, later on this page Sumner writes, “This makes it almost impossible to establish a clear link between monetary policy and the 1929 crash” (p. 61).

Now in fairness, Sumner might respond that his book does *not* need to explain how monetary tightening—due to the constraints of the gold standard—led to the 1929 stock market crash. This is because one of the ways Sumner departs from conventional analyses is that he thinks market crashes do *not* necessarily coincide with “real” downturns; his best counterexample is the 1987 market crash, which was bigger than the 1929 one and obviously didn’t spawn a decade-long depression.

Even so, it sure *seems* as if the 1929 stock market crash had an awful lot to do with the onset of the Great Depression. Just look again at the final chart above, taken from Sumner: the big drop in industrial production clearly began with the market crash. The fact that Sumner admits his framework can’t really explain this sharp turnaround is (in my opinion) key evidence that his focus on gold—and denial of the existence of asset bubbles—is fundamentally mistaken.

## CONCLUSION

In truth, *no* economic historian can explain the precise timing of every movement in the financial markets and broader economy, for the simple reason that humans have free will. Even so, using the very criteria Sumner himself embraces, we can conclude that his book—though superb in several dimensions—does not achieve its stated purpose.

Putting aside the detailed statistics, I will end this review with a simple question: How can it be that the classical gold standard is largely responsible for the Great Depression, when the classical gold standard was operating during several *previous* financial panics and depressions (small “d”)? To blame the Great Depression on the gold standard is akin to blaming a particular plane crash on gravity.

In contrast, the Rothbardian analysis at least has a *shot* at being satisfactory. After all, Herbert Hoover in his memoirs tried to defend his legacy by assuring his readers (truthfully) that his administration had taken *unprecedented measures* in battling the Depression, meddling in the economy in ways that no president during peacetime had done before. *That's* the place to start, when we ponder why Herbert Hoover suffered from a worse downturn than any president before.

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*Session VI*

*Applications & Criticism*

## TOWARD AN AUSTRIAN THEORY OF ENVIRONMENTAL ECONOMICS

ROY CORDATO

**A**ustrian economics lacks a formalized, self-conscious theory of environmental economics. But in fact all of the major elements of such a theory already exist and in that sense what is needed is to piece together the relevant aspects of Austrian economics in order to draw out and focus a theory that is already there.

The purpose of this paper is to do just that. In developing an Austrian theory of environmental economics, very little new theoretical ground will be plowed. But by bringing together Austrian concepts of costs and the praxeological foundations of economics we discover a unique perspective on pollution and the role of property rights in solving environmental problems. Furthermore by placing environmental problems within the context of personal and interpersonal plan formulation, we discover that they are not about the environment per se but about the resolution of human conflict.

### WHY AN AUSTRIAN THEORY

Environmental economics is steeped in standard neoclassical theories of efficiency and Pigouvian welfare economics. These theories have been rejected by Austrian School economists as conceptually unsound and as yielding analysis that does not reflect the real world. This in turn has led to policy prescriptions that, while theoretically and formally elegant, are nonoperational.

In particular, environmental economics is an outgrowth of the theory of externalities and is primarily focused on maximizing the social value of resource usage. This is defined as that allocation of resources obtained in a perfectly competitive general equilibrium. Social inefficiency arises when the social costs associated with external effects, such as air or water pollution, are

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ROY CORDATO is the vice president for research and resident scholar of the John Locke Foundation. The author would like to thank two anonymous referees for their helpful comments.

not incorporated into the cost of producing the pollution generating product or its market price. From this perspective, the overall value of production can be increased to society by conforming the output of the pollution-generating product to the level that would be generated if the pollution costs were being reflected in its price. Under such a circumstance there would be an efficient reallocation of resources where less of the offending product and more of other goods and services would be produced. The value of the production gained will more than offset the value of production lost, increasing social welfare. When production and consumption are arranged such that all such pollution costs are accurately reflected in product prices, within the context of otherwise competitive markets, the market is said to be Pareto efficient, i.e., society, on net, cannot be made better off.

From this perspective, the process of production, exchange, and consumption in a strictly voluntary setting cannot be free of the kinds of inefficiencies generated by these negative externalities or “residuals” of the production and consumption process. Kneese, et al. (1973, p. 28) explains this inevitability as follows:

If the capacity for the environment to assimilate residuals is scarce,<sup>[1]</sup> the decentralized voluntary exchange process cannot be free of uncompensated technological external diseconomies unless (1) all inputs are fully converted into outputs, with no unwanted material and energy residuals along the way, and all final outputs are utterly destroyed in the process of consumption, or (2) property rights are so arranged that all relevant environmental attributes are in private ownership and the rights are exchanged in competitive markets.<sup>[2]</sup> Neither of these conditions can be expected to hold in an actual economy.

The Austrian case against the standard Pigouvian approach has been argued (Cordato 1992a and 1995) and will not be recounted in any detail here. But in order to understand the genesis of the alternative, the core problems with the standard approach need to be made explicit. These problems can be summarized as follows:

1. Efficiency is a “praxeological,” i.e., individual goal seeking problem, not a value maximization problem. From a policy perspective, then, social efficiency is assessed in terms of the extent to which legal institutions facilitate consistency between the ends that actors are pursuing and the means that they are choosing to accomplish those ends.

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<sup>1</sup>By this it is meant that the environment does not have the ability to naturally absorb environmental residuals in a way that is costless to society.

<sup>2</sup>This is the world of efficient outcomes as demonstrated by Coase (1960) where all relevant property rights are specified and, because markets are “competitive” transaction costs are zero and the inefficiencies associated with externality problems can be bargained away.

2. Costs are subjective and therefore social costs and social value, as the terms are typically construed, do not exist as either measurable or even theoretical concepts. The standard approach is dependent upon being able to measure and therefore make objective these concepts. For example, the standard approach to environmental economics depends on being able to identify situations where the marginal private benefit of an activity exceeds the marginal social cost. This inherently involves making interpersonal utility comparisons and the summing of interpersonal evaluations across individuals. Neither of these can be held as methodologically valid.
3. Pareto optimality, i.e., the perfectly competitive general equilibrium, is irrelevant as a real world efficiency benchmark. This is largely because of the implications of 1 and 2. Because human action takes place through time, with knowledge and therefore supply and demand for inputs and outputs constantly changing, the particular Pareto optimum for any point in time is irrelevant. Strict adherence to subjective value and therefore subjective cost theory also leads to the rejection of Pareto optimality as a normative benchmark. Outside of a framework of unanimity it is impossible to talk about Pareto superior changes to a given state of the world without invoking interpersonal cost/benefit analysis.

While these arguments form the basis of a critical analysis of standard welfare and therefore environmental economics, they also allow us to bring to bear a uniquely Austrian perspective on both the positive and normative analysis of environmental problems. When viewed through the praxeological lenses of Austrian economics, with all that that implies, concepts such as pollution, environmental costs and degradation, and even the tragedy of the commons take on meanings that are quite different, and ultimately more rigorous, than definitions found in standard discussions.

#### THE PRAXEOLOGICAL NATURE OF ENVIRONMENTAL PROBLEMS

##### *Misidentifying Pollution as a Social Cost Problem*

What constitutes an “environmental problem”? At first glance the answer might appear obvious. Issues like air and water pollution, animal extinction, or the over-use of resources, such as might be associated with the “tragedy of the commons,” all come to mind. But of course this assumes a common framework of analysis that gives rise to certain definitions of these terms and explanations about why these phenomena are problematic. For example, consider a classic tragedy of the commons problem, commercial fishing in the ocean. The conclusion is that, absent the enforcement of legal constraints, any given species of fish will be “over-extracted” by fishermen who face every

incentive to catch as many fish as possible now, before the next boat comes along. In other words, there is no incentive to conserve or restock or in any way nurture the given supply of fish. But on its face this discussion doesn't explain why this is a problem. Economists see the rate of fish extraction in the commons as an "environmental problem," rather than just one of an infinite number of extraction rates that are possible, because they have a "correct" rate in mind. From the perspective of standard environmental economics, this resource, the fish, is being over-utilized because the depletion rate is greater than would occur in a Pareto optimal world. The "tragedy of the commons," is a "tragedy" because fish are being extracted beyond the point where the marginal private benefit of the fish being caught are greater than the marginal social cost. It is therefore the starting point in terms of economic analysis that gives rise to the definition of not only a tragedy of the commons but all other environmental problems.

Very similar stories could be told with respect to issues of air and water pollution. Indeed, it is the underlying economic analysis that determines what is considered pollution in the first place. If a byproduct of production that is emitted into the air ends up giving rise to a divergence between marginal private benefit in the production of the associated product and marginal social costs, then the product output will be greater than its Pareto optimum level. That byproduct will then be defined as an air-pollutant. If, on the other hand, the byproduct does not have that result, for example water vapor, a byproduct of many production processes, then that byproduct is not considered to be a pollutant.

But as noted previously, this analysis does not give us a firm methodological foundation for identifying what is and isn't a pollutant. It rests on an approach to social costs that takes the analyst's eye off the ball: individual actors. The concept of social costs, as typically invoked, completely disembodies and impersonalizes costs. Social costs exist outside of and apart from individual choosers. As Richard Posner argues, "the question of whose cost is not a profitable one in economic analysis" (1973, p. 94). This view of costs becomes quite clear in applying concepts such as the Coase theorem or the Hicks-Kaldor compensation principle. With the former, the issue of who is imposing costs on whom is unimportant to the ultimate solution. As Posner notes, "the relevant question . . . is who could prevent the loss at lower cost, not whose cost the damage 'really' is" (p. 94). In the second, individual pollution cost bearers never need to be compensated for either past or ongoing harm so long as the output from the pollution generating production process conforms to a Pareto optimal solution. The relevant costs that must be overcome are not those that are being born by the victims but those that are being incurred by "society" because of the "misallocation" of resources generated by the externality. In both cases, what is important is whether or not the level of emissions and the joint output of all the affected production processes are "efficient." As we will see, in either case an "efficient" solution could be implemented without ever addressing the actual pollution problem as seen

from an Austrian perspective.

The “social cost” approach to environmental economics has led to the “dehumanization” of issues related to the environment. Pollution or “tragedy of the commons” problems are not problems because of the damage that some people may or may not be inflicting on others, but because they create what amounts to disembodied harms. A problem occurs because some goods are “overproduced” while other goods are “underproduced.” In its more extreme form this has led to a separation of the concepts of costs and harm from human beings completely, substituting notions such as “costs to the environment,” and damage to the ecosystem. For example, Pearce and Turner in making a case for a tax on packaging claim that “environmental damage from packaging waste is not reflected in the prices of packaged products” and that “the size of the levy needs to be related directly to the environmental damage done by the production and consumption of the packaging, or to the costs of restoration to the environment” (Pearce and Turner 1992, p. 6). Nowhere in the article is there mention of actual people who are damaged. Costs are associated with “restoration to the environment” not compensating victims. Once the concept of costs is separated from individual human beings, i.e., from the act of choosing, it loses its footing and so does the economic analysis.

#### *Pollution as Interpersonal Conflict*

Economic analysis of the environment that starts from a praxeological perspective shifts the focus from maximizing the social value of output or equating price to marginal social cost, to efficient intra- and inter-personal plan formulation and execution, i.e., the internal consistency between the means that people use and the ends that they desire to achieve. Within this context, pollution problems that are indeed problems create an interpersonal conflict over the use of means and therefore obstruct efficient plan formulation and execution. Pollution is therefore not about harming the environment but about human conflict over the use of physical resources. Generally formulated, a pollution or environmental problem arises when individual or group A and individual or group B are simultaneously attempting or planning to use resource X for conflicting purposes. Unless emissions into the air, discharge into a river, or the extraction of fish from the ocean give rise to such a conflict then there is no economic, i.e., efficiency problem. Humans cannot harm the environment. Instead, they can change the environment in such a way that it harms others who might be planning to use it for conflicting purposes.

Most of the classic “textbook” environmental cases can be formulated in this context. Whether it’s the problem of a factory discharging chemicals into a river and destroying the fishing downstream, or the odors from an animal farm fouling the air in nearby housing developments, or Coase’s classic cases of straying cattle or railroads emitting sparks, they can all be seen as interpersonal conflicts. In each case people are simultaneously making conflicting plans with respect to the use of a physical resource, and it is this conflict that

allows us to identify what is transpiring as an environmental problem. If there were no recreational users of the river or housing developments downwind from the pig farm there would be no pollution. Environmental problems are not really problems for or with the environment, but human problems of mutual plan formulation and the achievement of goals. From an Austrian perspective, Robinson Crusoe cannot be a polluter.

#### THE ROLE OF PROPERTY RIGHTS

It is widely recognized, even within the most orthodox literature in environmental economics, that property rights have an important role to play in resolving environmental problems. Both more traditional Pigouvians, as exemplified by Kneese, et al. (quoted above) and their Coasean critics recognize to varying degrees that the origin and solution to environmental problems lie with the extent to which property rights are clearly defined. And, on this level, Austrians would agree.

But the praxeological approach described above gives rise to a different kind of property rights analysis and distinctly different conclusions concerning property rights based solutions to environmental problems. Whereas the standard approaches are focused on minimizing social costs or facilitating a Pareto optimum, the approach described here is focused on minimizing interpersonal conflict. For Austrians the role of property rights in abating such conflicts has its roots in Menger. In his *Principles of Economics*, Menger argued that all “economic goods” must come under the rule of private property in order to avoid conflicts of interest regarding their usage. He stated that

when all members of society compete for a given quantity of goods that is insufficient . . . a practical solution to this conflict of interest is . . . only conceivable if the various portions of the whole amount at the disposal of society pass into the possession of some of the economizing individuals, and if these individuals are protected by society in their possession to the exclusion of all other individuals. (Menger 1981, p. 100)

In a later passage Menger seems to recognize problems that might be associated with air and water pollution or the tragedy of the commons where the resource in question is generally viewed as a noneconomic or free good. Menger, again referring the relationship between private property and human conflict states that

It applies also to all non-economic goods with respect to which the boundary between requirements and available quantities is already so close . . . that any misuse or ignorance on the part of some members of the economy may easily become injurious to the others. . . . For these and similar reasons the phenomenon of property can also be observed in the case of goods that appear to us still, with respect to other aspects of life, as non-economic goods. (Menger 1981, p. 105)

While under most circumstances and for most uses the ocean is essentially a noneconomic good, it may not be in terms of its use for harvesting certain kinds of fish. Or while the air may be considered a noneconomic good for many uses, it may not be if one of those uses is to emit odors from certain farming activities. As Menger argued, the only “practical solution” to conflicts that arise over the “economic” aspects of these otherwise “noneconomic” resources is private property.

For Austrians then, if the defining characteristic of pollution is that it is the consequence of a human conflict over the use of a resource, then it is logical that both the origin and the solution of the problem is to be found in a lack of clearly defined or enforced property rights. This property rights approach to negative externalities can be found in the work of most Austrians who have written on the subject. But what has gone unrecognized is that the writings of Mises, Rothbard, and others on this subject have been an application of insights found in Menger regarding the nature of and the solution to human conflict in a world of scarcity.

#### *Resolving Conflict vs. Solving a Maximization Problem*

The focus of the Austrian approach to environmental economics is conflict resolution. The purpose of focusing on issues related to property rights is to describe the source of the conflict and to identify possible ways of resolving it.

For both Coasean property rights analysts and more traditional Pigouvians, the goal is different. It is to achieve some form of “optimal” distribution of resources. Coase, in his analysis, seeks to maximize the total value of output, and alternative property rights arrangements are seen in this light. As he notes in his classic 1960 article, “one arrangement of rights may bring about a greater value of production than any other” (Coase 1960, p. 16). For Pigouvians the goal is to achieve a Pareto optimal distribution of resources by seeing to it that the generator of negative externalities considers all social costs in making production or consumption decisions. In both cases attention is diverted from those who are party to the conflict and toward finding a “value” maximizing allocation of resources. But from an Austrian perspective this is not a tenable goal as it necessarily involves interpersonal utility comparisons and unreasonable assumptions about human knowledge and the static nature of the world (Cordato 1995). This is why, as noted above, a solution to a particular problem may be “efficient” within Coasean and/or Pigouvian context but irrelevant from an Austrian perspective. For example, it is unlikely that a Pigouvian tax, even if it could be appropriately calculated, would do anything to solve the “Austrian” problem. If the tax is collected only to bring about the correct price/output combination and an “optimal level of pollution” (à la the Hicks-Kaldor compensation principle), leaving the initial conflict unresolved, there would be no reason to consider the solution to be efficient from an Austrian perspective. For similar reasons, the same would be true if a Coasean judge decided to allow a pig farmer to continue to emit odors

into local housing developments because the homeowners are the “least cost avoider.”

#### PROPERTY RIGHTS AND PUBLIC POLICY

For Austrians then, public policy in the area of the environment must focus on resolving these conflicts over the use of resources that define pollution, not on obtaining an ultimately unobtainable “efficient” allocation of resources. The traditional Austrian approach to property rights analysis in this area can and should be seen in this light. Also, by viewing the works of Rothbard, Mises, Block and others from this perspective of conflict resolution one can obtain a better understanding of why Austrians have been so critical of Ronald Coase’s approach to property rights analysis. While property rights are equally important for Coaseans and Austrians, their normative goals are significantly different.<sup>3</sup> For Coaseans the focus is on alternative rights arrangements and maximizing the value of output. For Austrians, whose goal is to resolve conflicts, the focus is on clarifying titles to property and rights enforcement.

If a pollution problem exists then its solution must be found in either a clearer definition of property rights to the relevant resources or in the stricter enforcement of rights that already exist. This has been the approach taken to environmental problems by nearly all Austrians who have addressed these kinds of issues (see Mises 1998; Rothbard 1982; Lewin 1982; Cordato 1997). This shifts the perspective on pollution from one of “market failure” where the free market is seen as failing to generate an efficient outcome, to legal failure where the market process is prevented from proceeding efficiently because the necessary institutional framework, clearly defined and enforced property rights, is not in place.

#### *Two Approaches to Conflict Resolution: Polluter Pays and First Come First Served*

A pollution problem then can take one of two forms, either titles to the relevant resources are clear but the rights to use that property by the title holders are not being enforced, or titles to a resource are not clear and two or more parties wish to use the resource for conflicting purposes. Obviously, each of these would require a different approach to solving the problem. But in each case the solution should focus on resolving the conflict and therefore allowing for the efficient formulation of plans by all parties involved.

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<sup>3</sup>Austrian disputes with Coasean property rights analysis have been detailed in a number of articles and will not be recounted here. For only a sample of these articles see Block (1977); Cordato (1992b); Krecke (1996); North (2002).

*The polluter pays principle*<sup>4</sup>

In environmental policy the polluter pays principle is an outgrowth of Pigouvian welfare economics. The optimal price-output combination will arise in a market when external pollution costs are reflected in the marginal cost of production, i.e., are internalized by the polluter. In other words, if the polluter is made to “pay” a dollar amount that is equivalent to the marginal social costs associated with the pollution that he is generating, “efficiency” will prevail. Generally speaking there are two approaches to applying the polluter pays principle. The most traditional and straightforward is the Pigouvian excise tax. In this case the polluter is forced to “pay” either through a tax that is equivalent to the “pollution costs” per unit of output or per unit of effluence. The second is through tradable emissions permits. In this case an “efficient” level of pollution is determined and permits to pollute which total to this efficient level are bought and sold in the marketplace. The polluter is forced to pay either explicitly by having to purchase permits in the market or implicitly by having to forgo selling the permits that he holds.

There are two fundamental problems with these approaches to “making the polluter pay.” First is that both of these approaches are fundamentally forms of market socialism and suffer from all of the problems that Austrians have typically made against central planning (Cordato 1997). Most specifically, a central authority must know in advance what the efficient outcome is. In the case of the tax, a central authority must know in advance the exact amount of the externality costs being imposed by the polluter, and the correct price and output, not only for the good in question but, since efficiency only makes sense in a general equilibrium context, for all other affected goods and services. In the case of tradable permits, the knowledge requirements are essentially the same. This is because the central authority must first determine the “efficient” level of emissions for the particular pollutant, which also must be determined within the context of a general equilibrium solution.

A second problem is that the focus is on achieving the efficient price/output combination and not eliminating the conflict or the harm that is being generated. “Internalizing the cost” typically means seeing to it that the producer/polluter faces a marginal cost curve that would be the same as the curve that would be faced if he were bearing all the costs of production including the costs associated with the pollution. Whether or not the costs that third parties bear are eliminated or compensated for or the intrusion into their plan formulation process is ended is incidental and ultimately irrelevant. This is particularly obvious with respect to the tradable permits approach where an efficient level of pollution is chosen and potential polluters are issued permits to, in the aggregate, emit that level. From an Austrian

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<sup>4</sup>For a more extensive discussion of the polluter pays principle within the wider context of contemporary environmental policy debates see Cordato (2001).

perspective, after implementing such a policy you are still likely to be left with a pollution problem, all-be-it a possibly less severe one (see McGee and Block 1994).

In spite of these problems the polluter pays principle should not be jettisoned. When all property titles are clearly delineated, a reconstructed polluter pays principle that is rooted in the strict enforcement of property rights makes sense. A polluter is someone whose production byproducts are seeping onto the property of others and interfering with plans that they may have for the use of that property. By interfering with these plans the polluter is reducing the efficiency by which the victim of the pollution can pursue his or her goals. What is meant by “making the polluter pay” is that it is the polluter’s responsibility, to the extent possible, to make the victims of the pollution whole (see O’Driscoll and Rizzo 1985, p. 142). There is a conflict over the use of a resource. The source of that conflict is the generation of a production byproduct that crosses from property that is owned and controlled by the generator of the byproduct to property that is owned and therefore should be controlled by a nonconsenting party. The responsibility for ending the conflict lies with the polluter who should be responsible for truly internalizing the costs of the conflict generating activity. In this case, internalizing the costs of the pollution does not simply mean facing a new supply curve that has shifted to the left by the right amount. For the polluter it instead means eliminating the costs of his polluting activities to those whose property usage is being curtailed. This might be done by eliminating the emissions, confining them to his own property, or by compensating the victims of the polluting activity by an amount that fully addresses the grievance.

#### *First come first served*

The second scenario under which a pollution problem can arise is when property titles and therefore property rights are unclear. A and B are attempting to use the same resource for conflicting purposes, with neither A nor B nor anyone else having clear rights to the use of the resource. A typical example might be where effluence is being discharged into a river that is being used for fishing or recreational purposes further downstream.

First of all, it should be made clear that in this type of case, the effluence is not really the problem. The problem that is generating the conflict is the lack of property rights definition. Typically, it is the scenario described by Menger where use of an otherwise noneconomic good becomes injurious to others and therefore, at least in that use, moves from noneconomic to economic. Unlike in the former case where the goal is to insure that “the polluter pays,” in this case the goal is to determine who has the right to use the resource.

It should be noted that we cannot determine, as Coaseans might insist, that the rights go to the person whose use will maximize the overall value of production. There is no methodologically sound way of making such a determination. It also means that we cannot determine, without injecting a sense

of personal aesthetics, that a more pristine resource, a portion of a river that is used for swimming or fishing, is preferable to a less pristine resource, the same area used as a waste receptacle. In other words, the responsibility for internalizing costs does not automatically go to the person generating the production byproduct.

In such a case, a solution might be to use the principle of first come first served (see Rothbard 1982). This has several virtues from the perspective of an efficient running market process. First it can reduce the possibility that a conflict will arise in the first place, or it might generate a negotiating process that could resolve potential problems before they arise. With the knowledge that a first user rule is likely to be upheld by the courts someone who desires to use a resource in a way that conflicts with a known first user will either decide not to go ahead with his plans or will go to the first user to negotiate a compromise. This also increases the level of certainty for the first user who can go ahead and implement his plans with reasonable expectations that his rights to use the relevant resource will be enforced in the face of others whose future plans might conflict. Such a rule would also increase the efficiency of the market process by reducing overall uncertainty in the plan formulation process by enhancing both the amount and quality of information that is captured in relative prices (see Cordato 1998).

#### AUSTRIAN THEORIES OF WELFARE ECONOMICS

Thus far we have avoided any detailed discussion of Austrian welfare economics. This is primarily because the theory that is outlined here does not hinge on acceptance of one or another of the more general standards for assessing social welfare found in the Austrian literature. In particular I refer to Rothbard's (1977) demonstrated preference standard of social utility; Kirzner's (1988) plan coordination standard; and Cordato's (1992a) knowledge based theory of catallactic efficiency. Instead it is derived from what all of these theories hold in common, namely Austrian economics' praxeological foundations. As such, this theory is consistent with all three of these approaches to social welfare.

The starting point for all Austrian welfare economics is the goal seeking individual and the ability of actors to formulate and execute plans within the context of their goals. Furthermore, in all three approaches, social welfare or efficiency problems arise because of interpersonal conflict. For Rothbard such conflicts arise because of interferences with the voluntary use of one's own property. This prevents a demonstration of true preferences, moving one to a lower level of utility than would otherwise be achieved. For Kirzner interpersonal conflict that cannot be resolved by entrepreneurship and the market process gives rise to a lack of plan coordination and therefore social inefficiency. And for Cordato, conflict, that similarly cannot be resolved by the market process, gives rise to catallactic inefficiency by preventing useful information from being captured by prices. A theory of environmental economics and

pollution that evolves from problems associated with human conflict then would be a natural implication of each of these welfare standards.

In addition, these standards would argue that irresolvable inefficiencies, i.e., inefficiencies that cannot find a solution in the entrepreneurial workings of the market process, arise because of institutional defects associated with the lack of clearly defined or well enforced property rights. In a setting where rights are clearly defined and strictly enforced, plans may conflict but the resolution to that conflict is embedded in the exchange process. In other words, conflict may arise at the planning stages but is resolved before the actors proceed with implementation of those plans. For example, persons A and B may have conflicting plans with respect to resource X, but if ownership to X is clearly defined as being in the hands of A, B, or a third party C, then there will not be a conflict over the actual use of X. It will be understood by A or B that before proceeding with their plan they must gain rights to X. For Kirzner especially, the entrepreneur plays a key role in resolving this potential conflict by bringing together those who may have plans with respect to the use of certain resources and the resource owners.

In the absence of clearly defined and strictly enforced property rights this process breaks down and the conflict becomes irresolvable through the market process. Under all three Austrian approaches to welfare economics, therefore, the solution to pollution problems, defined as a conflict over the use of resources, is to be found in either clearly defining or more diligently enforcing property rights. Not surprisingly this is the approach that has been taken by nearly all Austrian economists who have looked at the issue dating back to Menger.

#### CONCLUSION

The purpose and one hopes the contribution of this paper, has been to reconstitute both positive and normative environmental economics “from the ground up” using the praxeological method of Austrian economics. As noted at the outset, this exercise is more about pulling together building blocks that are scattered throughout the Austrian literature than fashioning a completely new set of building materials. In pursuing this goal we have integrated the Austrian focus on the actor’s means-ends framework, including its emphasis on the subjective nature of value and therefore costs, with the definition of what constitutes an environmental problem. By defining such problems in these terms, both the nature of pollution and the definition of a polluter take on new meaning. Environmental problems are brought to light as striking at the heart of the efficiency problem as typically seen by Austrians, that is, they generate human conflict and disrupt inter- and intra-personal plan formulation and execution. This is in contrast to either Pigouvian or Coasean environmental economics, which defines pollution problems primarily in terms of resource allocation.

It is also demonstrated that the property rights approach to policy analysis taken by Mises and Rothbard is not only conceptually different from the approach taken by Coase, but is a natural outgrowth of, and directly follows from its praxeological roots. The role of property rights in environmental economic analysis is integrated into the Mengerian role of property rights more generally. For Menger, the social purpose of private property is to resolve interpersonal conflicts and allow for the peaceful pursuit and fulfillment of plans. In pursuing this analysis modern Austrian discussions of environmental issues are seen as part of an historical continuum, starting with Menger.

The confusion that currently surrounds the formulation of environmental policy is an outgrowth of a theory of environmental economics that is fundamentally flawed. The standard approach is rooted in indefinable concepts of social cost and general equilibrium and implies policies that cannot be implemented in the real world. In light of this most economists have accepted the idea that their role is to devise efficient methods for achieving politically determined pollution or emissions targets. As noted by Lloyd Orr,

economists have moved to the position of advocating effluent charges as a means of meeting politically determined environmental standards at minimum cost. The proposed solution establishes . . . the charge structure required to meet the predetermined standards. (Orr 1981, p. 57)

Politicians determine what is and isn't pollution and what the appropriate emissions targets are. The economist steps in to advise policy makers about how to develop an excise tax or a tradable emissions scheme that utilizes the "efficiency" of market incentives to achieve the politically determined result (see Cordato 1997).

Austrians can offer an alternative approach that does not depend on having to define or measure what is conceptually indefinable or unmeasurable. This is not to suggest that the clear definition of property rights is an easily achievable goal in all situations. It is not. But, while the Austrian approach to solving pollution problems may face implementation problems at the margin, i.e., with certain "tough cases," defining and enforcing property rights already stands as the fundamental way in which interpersonal conflicts of all kinds are avoided or dealt with. This approach is clearly operational as it has been in operation, to one extent or another, throughout human history. The challenge for Austrians is to explain how we apply the theory in certain tough cases, not to explain, in reality, how it can be applied at all.

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# Why I Am Not an Austrian Economist

by

**Bryan Caplan**

Department of Economics  
George Mason University

## **Preface**

I was first introduced to Austrian economics during my senior year in high school, when I first read and enjoyed the writings of Mises and Rothbard. The summer before I began my undergraduate work at UC Berkeley, I was able to attend the 1989 Mises Institute summer seminar at Stanford, where I met Murray Rothbard and many of the leading Austrian economists for the first time. It is now eight years later; I have just completed my Ph.D. in economics at Princeton, and will be joining the faculty of the economics department at George Mason in the fall. I thus find this a natural point in my career to articulate precisely why I no longer consider myself an Austrian economist - as I certainly did eight years ago.

I do not deny that Austrian economists have made valuable contributions to economics. Rather, as the sequel will argue, I maintain that:

- (a) The effort to rebuild economics along foundations substantially different from those of modern neoclassical economics fails.
- (b) Austrian economists have often misunderstood modern neoclassical economics, causing them to overstate their differences with it.
- (c) Several of the most important Austrian claims are false, or at least overstated.
- (d) Modern neoclassical economics has made a number of important discoveries which Austrian economists for the most part have not appreciated.

Given this, I conclude that while self-labeled Austrian economists have some valid contributions to make to economics, these are simply not distinctive enough to sustain a school of thought. The task of developing an alternate Austrian paradigm has largely failed, producing an abundance of meta-economics (philosophy, methodology, and history of thought), but few substantive results. Whatever Austrian economists have that is worth saying should be simply be addressed to the broader economics

profession, which (in spite of itself) remains eager for original, true, and substantive ideas.

Needless to say, I have many friends who think more highly of Austrian economics than I do. I hope that this piece will spark interest and discussion without sparking any kind of personal acrimony.

## **1. Austrian Economics, what**

Since there is considerable dispute about the meaning of "Austrian economics," let me *stipulate* at the outset that I use the term to refer to the economics of Ludwig von Mises, Murray Rothbard, and other scholars' work consistent with their fundamental outlook. If any two economists ever belonged to the same "school," Mises and Rothbard did; and while they did have disagreements, these can be counted on one hand.[1] Thus a refutation of the one will almost always be a refutation of the other - an important point to remember, since the sequel relies more heavily on Rothbard's defenses of Mises' views than on Mises himself. In most cases, Mises and Rothbard think so similarly that to provide textual support from *both* Rothbard and Mises would be redundant.

My equation of Austrian economics with Mises and Rothbard rather than F.A. Hayek is bound to be controversial. The primary justification for this is simply that Mises and Rothbard clearly rejected many of the key elements of modern neoclassical economics, while Hayek did not. If Mises and Rothbard are right, then modern neoclassical economics is wrong; but if Hayek is right, then mainstream economics merely needs to adjust its focus.[2] The secondary justification is that Mises and Rothbard spent the bulk of their careers making substantive contributions to economics, while Hayek turned almost entirely to philosophy, law, and intellectual history after the 1930's. In consequence, there is simply much more to say about the economics of Mises and Rothbard than about the economics of Hayek.

## **2. Foundations of Microeconomics**

Modern neoclassical economics derives from a few crucial microeconomic building blocks. Prominent among these are utility functions, indifference analysis, and the Kaldor-Hicks (or "cost-benefit" or "potential Pareto improvement") approach to welfare economics. Mises and Rothbard reject all three of these elements, building economic theory upon a different foundation. This is definitely a sufficient basis for an alternative Austrian school of thought. However, Mises and Rothbard reject the

foundations of modern neoclassical economics too quickly, and their substitutes are inadequate.

## 2.1. Utility Functions vs. Value Scales

Modern neoclassical economists habitually use "utility functions" to describe individuals' preferences. For example, they may posit that an individual's utility  $U = a \cdot \ln(\text{quantity of apples}) + (1-a) \cdot \ln(\text{quantity of oranges})$ . Rothbard instead preferred to discuss the "value scales" of individuals. For example, an individual's preferences might be given by {1st apple, 2nd apple, 1st orange, 3rd apple,...}. Both approaches provide an obvious interpretation of "utility maximization": for neoclassicals, an individual selects the highest feasible value of U, while for Rothbard, a maximizing individual satisfies the highest-ranked feasible preferences on his value scale.

Both approaches seem quite similar; so similar, in fact, that neoclassical economists might call them identical. But Rothbard noted some underlying differences, and concluded that the "value scale" approach was the right one. Why? According to Rothbard, the mainstream approach credulously accepted the use of cardinal utility, when only the use of ordinal utility is defensible. As Rothbard insists, "Value scales of each individual are *purely ordinal*, and there is no way whatever of measuring the distance between the rankings; indeed, any concept of such distance is a fallacious one." [3]

At first, Rothbard appears to limit his criticism solely to "Those writers who have vainly attempted to measure psychic gains from exchange" by their consumer's surplus. [4] But it soon becomes clear that Rothbard rejects the entire utility-function approach as incoherent: "The chief errors here consist in conceiving utility as a certain quantity, a definite function of an increment of the commodity... Utilities are not quantities, but ranks..." [5] As if to emphasize the strength of his disagreement with the mainstream approach to utility, Rothbard goes on to dismiss the standard intermediate micro theorem "that in equilibrium the ratio of the marginal utilities of the various goods equals the ratio of their prices. Without entering in detail into the manner by which these writers arrive at this conclusion, we can see its absurdity clearly, since utilities are not quantities and therefore cannot be divided." [6] What initially appeared to be a slight difference in nomenclature yields serious disagreement about some fairly basic issues.

As plausible as Rothbard sounds on this issue, he simply does not understand the position he is attacking. The utility function approach is based as squarely on ordinal utility as Rothbard's is. The modern neoclassical theorists - such as Arrow and Debreau - who developed the utility function approach went out of their way to *avoid* the use of cardinal utility. [7] Let a neoclassical theorist say "bundle one

offers utility of 8, while bundle two offers utility of 7," and Rothbard concludes that he believes in cardinal utility. But the language here is technical; to parse it, you must return to the underlying definitions. Upon doing so, you will find that the meaning of "bundle one offers utility of 8, while bundle two offers utility of 7" is nothing more or less than "bundle one is preferred to bundle two." A utility function is just a shorthand summary about an agent's ordinal preferences, not a claim about "utils." [8] This is why neoclassicals say that the utility function is uniquely defined *up to a monotonic transformation*. You can rescale any utility function however you like, so long as you re-scale it monotonically. [9]

What about the theorem - that Rothbard dismissed - which claims that utility-maximizing individuals equalize the marginal utilities of goods consumed divided by their prices? Doesn't this show that neoclassicals believe in cardinal utility? No, it does not; statements made in technical jargon often sound absurd if you forget the underlying definitions. A utility function just uses numbers to *summarize* ordinal rankings; it doesn't commit us to belief in cardinal utility. Deriving the marginal utility of individual goods from this function commits us to nothing extra. [10]

Rothbard's rejection of the utility function approach led him to make strange ad hoc concessions to it elsewhere in his writings. Using his value scale approach, Rothbard was able to derive the laws of demand and supply as theorems. [11] But then inexplicably in his later discussion of labor and land, Rothbard conceded the theoretical possibility of "backward" bending supply curves. [12] Furthermore, in his discussion of the economics of taxation, Rothbard admits the theoretical possibility that greater taxation of labor income could induce an *increase* in labor supply - even going so far as to mention a "substitution" and an "income" effect which his initial treatment of utility theory and demand utterly failed to mention. [13] What is interesting is that Rothbard was unable to derive the substitution and income effects from his value scale approach. Rather, he borrowed it from the standard utility function analysis, which shows that there are two different channels by which a price change induces a change in the quantity demanded. Thus, not only does Rothbard inappropriately dismiss the neoclassical approach to utility theory, but deemed it sufficiently fruitful that he borrowed its implications on an ad hoc basis.

To sum up, Rothbard falsely accused neoclassical utility theory of assuming cardinality. It does not. There is nothing actually wrong with Rothbard's value scale approach, but because the neoclassical assumptions are in some ways less restrictive than Rothbard's [14], neoclassicals made the important discovery that price changes have both income and substitution effects - a discovery Rothbard was unable to derive from his own postulates but conceded without explanation. [15]

## 2.2. Indifference

The utility function approach has a final implication that Rothbard rejected. Recall that using standard neoclassical definitions,  $U(a) > U(b)$  simply means that given the choice of  $a$  and  $b$ ,  $a$  will be chosen, while  $U(a) < U(b)$  means that  $b$  would be selected. But what if  $U(a) = U(b)$ ; i.e., what if an agent is *indifferent* between two alternatives? Rothbard elaborated upon Mises by rejecting the very possibility as incoherent - and by implication rejecting the very use of *indifference curves*, a key building block of modern neoclassical theory.[16]

The essential objection to indifference curve analysis is that it is impossible for *action* to demonstrate indifference. Action demonstrates *preference*, not *indifference*. Rothbard puts it thusly "The crucial fallacy is *that indifference cannot be a basis for action*. If a man were really indifferent between two alternatives, he could not make any choice between them, and therefore the choice could not be revealed in action." [17]

The crucial assumption - shared by both Mises and Rothbard - is that no preference can exist which cannot be revealed in action. But why assume this? Is this not a peculiar importation of behaviorism into a body of economic thought which purports to be militantly anti-behavioral? Thus, in his introduction to Mises' *Theory and History*, Rothbard tells us that:

One example that Mises liked to use in his class to demonstrate the difference between two fundamental ways of approaching human behavior was looking at Grand Central Station behavior during rush hour. The "objective" or "truly scientific" behaviorist, he pointed out, would observe the empirical events: e.g., people rushing back and forth, aimlessly at certain predictable times of day. And that is *all* he would know. But the true student of human action would start from the fact that all human behavior is purposive, and he would see the purpose is to get from home to the train to work in the morning, the opposite at night, etc. It is obvious which one would discover and know more about human behavior, and therefore which one would be the genuine 'scientist.' [18]

Just as there is more to my action than my behavior, there is more to my preferences than my action. I can have all sorts of preferences that are not - *and could not be* - revealed in action. For example, my preference for ice cream yesterday can no longer be revealed, since I had no ice cream yesterday and any present action regarding ice cream would merely reveal a *present* preference for it, not a past one. And yet, I have introspective knowledge of my ice cream preferences from yesterday. Similarly, I can never reveal my preference for products at prices other than the market price, but by introspection I can know them.

In precisely the same way, I can know some cases in which I am indifferent. I am often indifferent between the colors of clothes; though I pick one color, I know that I *would have* picked the other if the prices were not equal. The behaviorist might deny the reality of my mental states, but clearly that is not the route Mises or Rothbard would want to take. Indeed, Mises and Rothbard themselves use hypothetical preferences in other contexts. The interaction of supply and demand let us observe but a single point - the equilibrium price and quantity - but nevertheless Rothbard draws demand *curves* showing the quantity desired at all possible prices. Similarly, one can only *observe* that I choose a green sweater; but this does not rule out the possibility that I was actually *indifferent* between the green sweater and the blue sweater.

### 2.3. Continuity

Mises and Rothbard have a final related objection to standard neoclassical utility theory: the assumption of continuity. Quoting Rothbard, "[H]uman beings act on the basis of things that are *relevant* to their action. The human being cannot see the infinitely small step; it therefore has no meaning to him and no relevance to his action." [16] The implications are broader than they may initially appear, because as a mathematician will tell you, you can't differentiate a function that isn't continuous. This means that if Mises and Rothbard is correct, the pervasive use of calculus in economics must be rejected in toto.

One obvious problem arises here. Without continuous preferences, it is also highly unlikely that e.g. supply and demand can ever be equal. If you draw the supply and demand curves continuously, then they are (almost) bound to intersect. But if you draw them as a discrete set of points, supply and demand in general don't have to intersect. Thus, the argument against calculus based upon the rejection of continuity also argues against even the use of simple algebraic constructs - like intersecting supply and demand lines - that fill Rothbard's works.

Of course, one could say that the unrealism of continuity is only minor. But this is precisely the reply that Rothbard considered and rejected: "Most writers on economics consider this assumption a harmless, but potentially very useful, fiction, and point to its great success in the field of physics... The crucial difference is that physics deals with inanimate objects that *move* but do not *act*." [19] Rothbard thereby runs into a serious contradiction. If the assumption of continuity is not a harmless fiction, then it is incumbent upon him to remove all of the supply and demand intersections in his works, and to state that supply equals demand only under extremely rare conditions (for without continuous pricing, the odds that supply and demand actually intersect are very slim). This position is certainly coherent (and since Mises used no diagrams, it would be less work for him to adhere to it), but rather peculiar. Alternately, Rothbard could concede that assuming continuity rarely alters substantive results, and

accept *both* supply and demand intersections and the use of calculus as methodologically kosher in economics.

## 2.4. Welfare Economics

While Rothbard and Mises had similar objections to mainstream utility theory, Rothbard went one step further by "reconstructing" welfare economics along Austrian lines. His main conclusions are simple and austere: every market transaction benefits all participants, while every act of government intervention benefits some people *at the expense* of others. Rothbard goes on to make a seemingly stronger claim: "If we allow ourselves to use the term 'society' to depict the pattern of *all* individual exchanges, then we may say that the free market 'maximizes' social utility, since everyone gains in utility." [20] This claim might be re-phrased to say simply that each voluntary exchange benefits all participants, and the free market permits the implementation of *all* desired voluntary exchanges.

Hans-Hermann Hoppe, arguing for Rothbard's approach, makes a subtly stronger claim: "Pareto-optimality is not only compatible with methodological individualism; together with the notion of demonstrated preference, it also provides the key to (Austrian) welfare economics and its proof that the free market, operating according to the rules just described, always, and invariably so, increases social utility, *while each deviation from it decreases it.*" [21] (emphasis mine) Strictly speaking, however, Rothbard could only claim the welfare effects of government intervention upon "social utility" are *indeterminate*; i.e., since the victim loses and the intervener gains, it is impossible to say anything about social utility without making a *verboten* interpersonal welfare comparison. This is an important point, because it shows that Rothbard's welfare economics provides a much weaker defense of the free market than usually assumed. In particular, Rothbard's own theory strips him of the ability to call *any* act of government "inefficient." By denying the ability to endorse state action in the name of efficiency, Rothbard also implicitly denies the ability to reject state action in the name of efficiency. This is no logical flaw in Rothbard's theory (although it does reveal a logical flaw in Hoppe's presentation of Rothbard's theory), but its political implications are rather different than commonly assumed: Rothbard's welfare criterion justifies agnosticism about - not denial of - the benefits of statism.

There is however a more serious flaw in Rothbard's welfare economics - a flaw which again flows from his behaviorist insistence that only preferences demonstrated in action are real. Thus, Rothbard rejects the argument that the envy of a third party vitiates the principle that voluntary exchange increases social utility: "We cannot, however, deal with hypothetical utilities divorced from concrete action. We may, *as praxeologists*, deal only with utilities that we can deduce from the concrete behavior

of human beings. A person's 'envy.' unembodied in action, becomes pure moonshine from a praxeological point of view... How he feels about the exchanges made by *others* cannot be demonstrated unless he commits an invasive act. Even if he publishes a pamphlet denouncing these exchanges, we have no ironclad proof that this is not a joke or a deliberate lie." [22] Indeed, Rothbard could have taken this principle further. When two people sign a contract, do they actually demonstrate their preference for the terms of the contract? Perhaps they merely demonstrate their preference for signing their name on the piece of paper in front of them. There is no "ironclad proof" that the signing of one's name on a piece of paper is not a joke, or an effort to improve one's penmanship.

Rothbard's refusal to acknowledge unobserved preferences would have to impress even B.F. Skinner. What possible reason could we have to believe that utility is "moonshine" unless expressed in concrete actions? At every moment, by introspection we are aware of preferences unrevealed by our behavior. Figuring out the mental states of *other* people is obviously more difficult, but that hardly shows that their mental states do not exist. The statist could easily reverse Rothbard's objection, and claim that since there is no "ironclad proof" that third parties *do not* object to other people's voluntary exchanges, it is impossible to say whether that they *increase* social utility. Thus, Rothbard's welfare economics terminates in agnosticism about not only the benefits of intervention but the benefits of voluntary exchange.

Throughout his career, Rothbard harshly criticized the modern neoclassical approach to welfare economics, which considers reallocations "efficient" so long as they are "potentially Pareto superior." [23] While the justice of efficiency is far from evident, this criterion of efficiency has many advantages over Rothbard's approach. In particular, it actually allows one to make efficiency judgments about the real world - to judge, for example, that Communism was inefficient, or rent control is inefficient, or piracy was inefficient. This does not show that the "potentially Pareto superior" welfare criterion is correct, but certainly provides a *prima facie* basis for reconsidering it more closely. [24]

## **2.5. Subjectivism**

Innumerable Austrian essays and books use the word "subjectivism" in the title. This leaves one with the impression that other economists fail to embrace subjectivism - an impression that is simply false. What neoclassical economist claims that the value of a good derives from its labor content, or its intrinsic goodness, or anything other than individuals' preferences? It is true that academic papers often abstract from the heterogeneity of preferences, but this is merely a simplifying assumption. To assume, e.g., that everyone has the same log-linear utility function, is on par with assuming

that the world contains only two people, Crusoe and Friday. It is not a statement about the world, but a method on focusing on one particular problem.

Neoclassical economists' propensity to declare certain situations "inefficient" may superficially appear to violate subjectivism (or alternately, to make an interpersonal utility comparison). As mentioned earlier, this is because "efficiency" has a technical definition somewhat different from its meaning in ordinary conversation.

### **3. Applied Topics**

The theoretical foundations of Austrian economics, as developed by Mises and Rothbard, differ radically from those of modern neoclassical economics. This provides a large part of its "pedigree," it's claim to represent an alternative school of thought. Foundational differences, however, are not enough; those foundations also need to make some important differences in applied theory. The sequel examines some of the most important applications of Austrian economics, and generally finds them to be wrong, over-stated, or already widely accepted by mainstream economists.

#### **3.1. Economic Calculation and the "Impossibility" of Socialism**

Mises considered the "socialist calculation argument" to be a decisive objection to the economic feasibility of socialism. There are other valid arguments against socialism; indeed, "No judicious man can fail to conclude from the evidence of these considerations that in the market economy the productivity of labor is incomparable higher than under socialism." [25] However, Mises insists, this does not decide the issue:

If no other objections could be raised to the socialist plans than that socialism will lower the standard of living of all or at least of the immense majority, it would be impossible for praxeology to pronounce a final judgment. Men would have to decide the issue between capitalism and socialism on the ground of judgments of value and of judgments of relevance. They would have to choose between the two systems as they choose between many others things... However, the true state of affairs is entirely different... Socialism is not a realizable system of society's economic organization because it lacks any method of economic calculation... Socialism cannot be realized because it is beyond human power to establish it as a social system. [26]

This conclusion is amazing, for Mises repeatedly insists that economic theory gives only *qualitative*, not quantitative laws? For example, in *Human Action*, Mises tells us that:

The impracticality of measurement is not due to the lack of technical methods for the establishment of measure. It is due to the absence of constant relations. If it were only caused by technical insufficiency, at least an approximate estimation would be possible in some cases. But the main fact is that there are no constant relations. Economics is not, as ignorant positivists repeat again and again, backward because it is not "quantitative." It is not quantitative because there are no constants. Statistical figures referring to economic events are historical data. They tell us what happened in a nonrepeatable historical case.[27]

If so, then how could he possibly know by economic theory alone that the negative effect of the lack of economic calculation would be severe enough to make socialism infeasible? Granted, the socialist economy would suffer due to the impossibility of economic calculation; but how, on his own theory, could Mises know that this difficulty is so severe that society would collapse?

The strength of this objection becomes even clearer when we consider the economic decision-making of Robinson Crusoe, alone on his island. As Mises explains, "Isolated man can easily decide whether to extend his hunting or cultivation. The processes of production he has to take into account are relatively short. The expenditure they demand and the product they afford can easily be perceived as a whole." [28] Crusoe's runs his one-man economy simply by using "calculation in kind" - mentally weighing his preferences and opportunities to make decisions. Mises concedes that this situation is conceivable, adding only that this method is unworkable for a larger economy. "To suppose that a socialist community could substitute calculations in kind for calculations in terms of money is an illusion. In an economy that does not practice exchange, calculations in kind can never cover more than consumption goods. They break down completely where goods of higher order are concerned." [29]

This suggests some obvious questions. Does Crusoe's one-man socialism become "impossible" when Friday shows up? Hardly. What if 100 people show up? 1000? Mises' distinction between a modern economy and Crusoe's, and why the economic calculation argument applies only to the former, again shows that Mises has underlying *quantitative* assumptions in spite of his strictures against them. He is making a quantitative judgment that the lack of calculation would not greatly worsen Crusoe's economy, but would devastate a modern economy. Perhaps Mises was right, but pure economic theory did not give him the answer.

Ever since Mises, Austrians have overused the economic calculation argument. In the absence of detailed empirical evidence showing that *this* particular problem is the most important one, it is just another argument out of hundreds on the list of arguments against socialism. How do we know that the problem of work effort, or

innovation, or the underground economy, or any number of other problems were not more important than the calculation problem?

The collapse of Communism has led Austrians to loudly proclaim that "Mises was right." Yes, he was right that socialism was a terrible economic system - and only the collapse of Communism has shown us how bad it really was. However, current events do nothing to show that economic calculation was *the* insuperable difficulty of socialist economies. There is no natural experiment of a socialist economy that suffered solely from its lack of economic calculation. Thus, economic history as well as pure economic theory fails to establish that the economic calculation problem was a severe challenge for socialism.[30]

### 3.2. Monopoly Theory

Monopoly theory is one of the points of contention between Mises and Rothbard. Mises conceded the theoretical possibility of free-market monopoly - defining a monopolist as the single seller of a good *with an inelastic demand curve at the competitive-price point*. Rothbard rejected Mises' theory, arguing that there is no independent criterion for identifying the competitive price unless the government deliberately restricts competition.

Rothbard easily disposes of Mises' theory, but affords all too little attention to the modern neoclassical theory: namely, that there is *always* some degree of monopolistic distortion unless firms face a horizontal demand curve. For unless firms face a horizontal demand curve, a profit-maximizing firm sets its price above its marginal cost. In the absence of perfect price discrimination, this means that there is a "deadweight loss" - or *unrealized gains to trade*. In a footnote to *Man, Economy, and State*, Rothbard summarily dismisses this view without explanation: "A curious notion has arisen that considering *MR* [marginal revenue], instead of price, as the multiplier somehow vitiates the optimum satisfaction of consumer desires on the market. There is no genuine warrant for such an assumption." [31] Yet this is no assumption at all, but a conclusion. If, for example, a producer of a piece of software has to pay \$1 to produce an additional copy of his program, but facing a downward-sloping demand curve sets the profit-maximizing price at \$10, then there are unrealized gains to trade. Consumers willing to pay between \$9.99 and \$1.00 don't buy the program, even though it exceeds the marginal cost of production.[32]

Lest the reader presume that I uncritically embrace the ideal of perfect competition, let me emphasize that in my view, one of Rothbard's greatest achievements as an economist was to point out the innumerable ways that government creates monopoly.[33] Rothbard was right to explain why market monopoly is so difficult to maintain. Rothbard was right to point out that the existence of economies of scale,

taste for variety, and other factors show that efforts to impose perfect competition by force are totally wrong-headed. Rothbard's should have just accepted the obvious drawbacks of imperfect competition, *then* pointed out its numerous attendant advantages.

Rothbard made some mistakes in monopoly theory, but in 1962 he was still far ahead of his time. The theory of perfect competition was indeed grossly abused by economists and policy-makers, who e.g. confusedly "proved" that deconcentration was efficient by first assuming the unimportance of economies of scale, or "proved" the inefficiency of advertising by assuming perfect information. Since Rothbard wrote *Man, Economy, and State*, however, the better neoclassical theorists have wised up. There is now a large literature showing how the benefits of imperfect competition outweigh its costs. Some economists have elaborated upon Schumpeter's observation that perfectly competitive firms have little incentive to innovate. Others have analyzed the trade-off between product variety and atomistic market structure. Still others have discovered the benefits of advertising. In short, in neoclassical jargon, a powerful case now exists that free-market structures are "second-best" efficient: there is no feasible real-world way to improve upon them. Unfortunately, while Rothbard gave the Austrians a head start, this has not prevented neoclassical research from passing them by.

### 3.3. Public Goods

Rothbard's rejection of neoclassical public goods (as well as the related theory of externalities) is a logical application of his unusual utility theory:

As for the recipients, they are being forced by the State to pay for benefits that they otherwise would not have purchased. How can we say that they "benefit"? A standard reply is that the recipients "could not" have obtained the benefit even if they wanted to buy it voluntarily. The first problem here is by what mysterious process the critics know that the recipients would have liked to purchase the "benefit." Our only way of knowing the content of preference scales is to see them revealed in concrete choices. Since the choice concretely was *not* to buy the benefit, there is no justification for outsiders to assert that B's preference scale was "really" different from what was revealed in his actions.[34]

While the argument follows from Rothbard's utility theory, that utility theory, as previous sections argued, is seriously in error. To reiterate, contra Rothbard preferences can exist without being acted upon. Economists applying the public goods theory have indeed all too often failed to consider the *possibility* that consumers simply do not want the alleged "public good." But just because some people misuse an economic theory does not invalidate it. Rothbard was also correct to wonder why

actors refrain from bargaining to solve the public goods problem; the vast transactions cost literature sparked by Ronald Coase provides most of the answer.

When Rothbard wrote his critique of public goods theory in 1962, almost all economists thought that it revealed a basic flaw in markets. Subsequent scholarship, however, has revealed that *any* institution, especially government, may suffer from this problem. Mancur Olson's *The Logic of Collective Action*[35] showed how the public goods problem can make government work poorly; a vast public choice literature is premised upon the same idea. Indeed, Rothbard's own analysis of the ex post utility of democratic action implicitly uses the same idea.[36] Rothbard's a priori rejection of the very idea of public goods was simply the wrong route to take; what he should have done was emphasize the public goods problems of government, along with voluntary solutions to genuine public goods problems on the free market.

No more successful is Rothbard's effort to accept *half* of the theory of externalities: "The problem of 'external costs,' usually treated as symmetrical with external benefits, is not really related... [E]xternal costs (e.g. smoke damage) are failures to maintain a fully free market, rather than *defects of* that market." [37] This purported distinction is mired in confusion. On the one hand, numerous negative externalities (or "external costs") are not physical, but psychic; a strip club in a churchy neighborhood is just as much a negative externality as air pollution, but a fully free market would only recognize the latter to be a property rights violation. Conversely, a positive externality can nevertheless be a trespass, for strict private property rights require not that an owner *benefit* from how other people use his property, but that the owner *consents* to how other people use his property. Suppose that my neighbor sets up a doughnut shop next door, and the fragrant doughnut fumes spill over onto my property. Even though this is a positive externality - I love the odor of doughnuts - as the owner of my home I can insist that he cease his trespass. Why would I shoot myself in the foot by doing so? Perhaps I value the smell at \$10/year, and the doughnut shop earns \$1000/year in profit from staying open. It could then easily be in my interest to charge the doughnut shop owner \$100 for an easement to emit doughnut fumes over my land. Though I benefit from the fumes, I benefit more from the fumes plus \$100.

In short, it makes no sense for Rothbard to accept negative externalities but not positive ones. Negative externalities often don't violate property rights, and positive externalities can. While Rothbard deserves praise for analyzing the extent to which private property can solve externalities problems, his reformulation of the theory of externalities is decidedly unsuccessful.

### **3.4. The Austrian Theory of the Business Cycle**

It is important to distinguish the correct and almost universally accepted aspects of the Austrian theory of the business cycle (henceforth ABC) from its incorrect and highly controversial components. Many discussions of the ABC derail because Austrians often fail to realize that part of their theory is now fully mainstream.

### 3.4.1. The Correct and Widely Accepted Aspects of the ABC

One important feature of business downturns is that unemployment increases. Mises and Rothbard emphasize two important facts about this unemployment:

**Proposition 1:** (Involuntary) unemployment is caused by excessive real wages.

**Proposition 2:** Using inflation to reduce real wages (i.e., if the wage is fixed in nominal terms, then *ceteris paribus* inflation reduces the real wage) is at best unreliable, and in any case not a long-term solution to the problem of unemployment.

In 1963, Rothbard noted that "Sophisticated Keynesians now admit that the theory of 'underemployment equilibrium' does not really apply to the free and unhampered market: that it assumes, in fact, that wages rates are *rigid downward*." [38] Indeed, Keynes himself quietly said this, and his contemporary Pigou wrote an entire treatise on unemployment explaining its inextricable connection with the real wage. What many Austrians barely realize is that by 1997, even quite unsophisticated economists essentially agree with Propositions 1 and 2. Milton Friedman said as much in his 1969 AEA Presidential address. Robert Lucas' work along these lines were one of the main reasons he recently received a Nobel prize. Subtleties aside, the Mises-Rothbard view of unemployment now prevails among academic economists. [39] They may not proclaim it as boldly as Mises or Rothbard would, and they may be more inclined to favor quick fixes instead of radical labor market deregulation, but mainstream and Austrian economists no longer disagree about this.

Though (almost) everyone acknowledges that downwardly rigid real wages are the fundamental cause of unemployment, most economists, including myself, would take issue with Mises and Rothbard's over-simplified view of the *cause* of downwardly rigid real wages. A typical pronouncement from Rothbard: "Unemployment is caused by unions or government keeping wage rates above the free-market level." [40] While Rothbard's insight does much to explain unemployment in e.g. modern Europe, it leaves out a great deal. In one of his most ecumenical moments, Rothbard explains that:

Generally, wage rates can only be kept above full-employment rates through coercion by governments, unions, or both. Occasionally, however, the wage rates are maintained by voluntary choice (although the choice is usually ignorant of the

consequences) or by coercion supplemented by voluntary choice. It may happen, for example, that either business firms or the workers themselves may become persuaded that maintaining wage rates artificially high is their bounden duty. Such persuasion has actually been at the root of much of the unemployment of our time, and this was particularly true in the 1929 depression.[41]

This quotation shows Rothbard at his best; in most of discussions, Rothbard like Mises concentrates exclusively on government and unions, entirely neglecting market-based impediments to market-clearing.[42] In addition to the ethical motivation Rothbard mentions above, other important reasons to avoid or delay wage cuts would exist even in a labor market free of regulation or unions. For example, employers might refrain from cutting wages to avoid damage to morale - potentially an important concern. It is also possible that formal contracts specifying wages (but not employment) exist, impeding wage adjustment for 1, 2 or even 3 years. Even without formal contracts, wage renegotiation can be expensive - it takes time to bargain, and risks the loss of mutual good will between employer and employee. Another possibility worth considering is that rather than actively coerce new hires, threatened "insiders" might informally haze, mistreat, or otherwise fail to cooperate newly-hired "outsiders." Put yourself in the shoes of the owner of a business. Would your automatic response to a depression be to cut wages to induce voluntary quits? Mightn't you be inclined instead to lay off a few workers without cutting the wages of the remaining employees?

Rothbard's tendency to attribute all wage rigidity to governments and unions probably explains why he repeatedly emphasizes that "there is no such thing as 'too little' or 'too much' money, *that, whatever the social money stock, the benefits of money are always utilized to the maximum extent.*"[43] How can this be reconciled with Rothbard's admission that *given* wage rigidity, increases in the money supply can increase employment, and decreases can reduce it?[44] In the final analysis, Rothbard's characteristic lucidity conceals an underlying confusion: while on occasion he conceded that wage rigidity could exist on the totally free market, and while he repeatedly acknowledged that the quantity of money could affect employment *given* wage rigidity, he also invariably maintained that the quantity of money is always "optimal" and harshly criticized monetarists, free-bankers, and other economists concerned about avoiding monetary contractions or compensating for shifts in money demand.[45]

### **3.4.2. The Incorrect and Controversial Aspects of the ABC**

What then remains controversial about the ABC - and, as the sequel argues - incorrect? Some of the more important features of the ABC include:

**Proposition 3:** Monetary expansion distorts the structure of production in an unsustainable way.

**Proposition 4:** The ABC explains the "sudden general cluster of business errors."

**Proposition 5:** The ABC provides the best explanation for why downturns hit the capital goods sectors especially hard.

**Proposition 6:** Only the Austrian theory can explain the existence of inflationary depressions (or "stagflation").

Austrians along with almost all other economists accept that expansionary monetary policy tends to reduce interest rates (definitely real interest rates, and usually nominal rates as well) *in the short term*.<sup>[46]</sup> There is no question that this change in interest rates tends to affect the profitability of different investments; as Austrians emphasize, with lower interest rates, more "round-about" investments will become profitable. Projects with returns further in the future previously might have had a negative present discounted value; lower the interest rate, and the PDV quite possibly might become positive. Bohm-Bawerk's capital theory - focusing on the intertemporal coordination of numerous stages of production - does incline Austrians to be particularly aware of the tendency of lower interest rates to stimulate more round-about projects. But modern neoclassicals would surely also accept the claim that lower interest rates alter PDV calculations in favor of investments with more distant returns.<sup>[47]</sup>

Thus, it is readily conceded that (a) expansionary monetary policy reduces interest rates, and (b) lower interest rates stimulate investment in more round-about projects. Where then does the disagreement emerge? What I deny is that the artificially stimulated investments have any tendency to become *mal* investments. Supposedly, since the central bank's inflation cannot continue indefinitely, it is eventually necessary to let interest rates rise back to the natural rate, which then reveals the underlying unprofitability of the artificially stimulated investments. The objection is simple: Given that interest rates are artificially and unsustainably low, why would any businessman make his profitability calculations based on the assumption that the low interest rates will prevail indefinitely? No, what would happen is that entrepreneurs would realize that interest rates are only temporarily low, and *take this into account*.

In short, the Austrians are assuming that entrepreneurs have strange irrational expectations. Rothbard states this fairly explicitly: "[E]ntrepreneurs are trained to estimate changes and avoid error. They can handle irregular fluctuations, and certainly they should be able to cope with the results of an inflow of gold, results which are roughly predictable. They could not forecast the results of a credit expansion, because

the credit expansion tampered with all their moorings, distorted interest rates and calculations of capital." [48] Elsewhere, he informs us that: "[S]uccessful entrepreneurs on the market will be precisely those, over the years, who are best equipped to make correct forecasts and use good judgment in analyzing market conditions. Under these conditions, it is absurd to suppose that the entire mass of entrepreneurs will make such errors, *unless* objective facts of the market are distorted over a considerable period of time. Such distortion will hobble the objective 'signals' of the market and mislead the great bulk of entrepreneurs." [49]

Why does Rothbard think businessmen are so incompetent at forecasting government policy? He credits them with entrepreneurial foresight about all market-generated conditions, but curiously finds them unable to forecast government policy, or even to avoid falling prey to simple accounting illusions generated by inflation and deflation. Even if simple businessmen just use current market interest rates in a completely robotic way, why doesn't arbitrage by the credit-market insiders make long-term interest rates a reasonable prediction of actual policies? The problem is supposed to be that businessmen just look at current interest rates, figure out the PDV of possible investments, and due to artificially low interest rates (which can't persist forever) they wind up making malinvestments. But why couldn't they just use the credit market's long-term interest rates for forecasting profitability instead of stupidly looking at current short-term rates? Particularly in interventionist economies, it would seem that natural selection would weed out businesspeople with such a gigantic blind spot. Moreover, even if most businesspeople don't understand that low interest rates are only temporary, the long-term interest rate will still be a good forecast so long as the professional interest rate speculators don't make the same mistake.

It should be noted that other Austrians, particularly Roger Garrison, attempt to handle the expectational objection. Garrison astutely notes that "[M]acroeconomic irrationality does not imply individual irrationality. An individual can rationally choose to initiate or perpetuate a chain letter... Similarly, it is possible for the individual to profit by his participation in a market process that is - and is known by that individual to be - an ill-fated process." [50] This is definitely a possible scenario. But does it make sense *in this particular case*? It does not. Naturally, entrepreneurs will not turn down lower interest rates. Rather, the rational response to artificially low interest rates is to (a) make investments which will be profitable even though interest rates will later rise, and (b) *refrain* from making investments which would be profitable only on the assumption that interest rates will not later rise. If entrepreneurs followed this rule, then there would be no tendency for policy reversals to produce malinvestments.

The Austrian theory also suffers from serious *internal* inconsistencies. If, as in the Austrian theory, initial consumption/investment preferences "re-assert themselves,"

why don't the consumption goods industries enjoy a huge boom during depressions? After all, if the prices of the capital goods factors are too high, are not the prices of the consumption goods factors too low? Wage workers in capital goods industries are unhappy when old time preferences re-assert themselves. But wage workers in consumer goods industries should be overjoyed. The Austrian theory predicts a decline in employment in some sectors, but an increase in others; thus, it does nothing to explain why unemployment is high during the "bust" and low during the "boom."

Even more striking is the Austrian theory's inability to explain why output declines during a depression; instead, it predicts a short-term *increase*.<sup>[51]</sup> Bohm-Bawerk's capital theory, on which Rothbard wisely built his work, implies that actually the short-run effect of switching to consumer goods production would be a period of *greater* production, followed by a period in which production is less than it would otherwise have been if longer period products had been used instead.<sup>[52]</sup> In short, the Austrian theory all-too-glibly identifies the period of artificially low interest rates with the boom, and the period of re-adjustment with the bust. Without extra assumptions, the theory does not predict an increase in employment during the boom, or a decrease during the bust. Moreover, it predicts an actual increase in current output during the bust. These are puzzling implications, to put it mildly, and they follow from the ABC.

A final supposed merit of the ABC is that it explains why capital goods industries suffer more than consumer goods industries during depressions.<sup>[53]</sup> Modern neoclassical economics however offers a simple alternative explanation. One interesting business cycle fact is that *durable* consumer goods production suffers along with the capital goods industries. A simple explanation for both phenomenon is that *any* durable good purchase, whether durable capital goods or durable consumer goods, is going to be much more sensitive to changes in income or profitability than non-durable purchases. In any period buyers of durable goods both replenish their stock to account for depreciation, *plus* adjust their desired total stock depending upon new information about profitability (for firms) or permanent income (for individuals). The arrival of a depression causes both forecasts to be adjusted downwards; often this means that there is no point even making up for depreciation, since natural wear-and-tear simply moves you closer to your new, lower total stock. The most basic model of demand for durable goods provides a coherent explanation for why producers' goods industries suffer more during depressions; and unlike the "acceleration" theory that Rothbard properly ridicules, the theory of demand for durable goods follows rigorously from basic microeconomics.

Another interesting argument made in favor of the Austrian theory is that it is the only theory capable of explaining stagflation - the simultaneous presence of high unemployment and high inflation. Rothbard, for example, describes the Austrian theory as "the only proffered explanation" of stagflation.<sup>[54]</sup> To the contrary, there

were numerous theoretically rigorous explanations of stagflation, most of which were well-known to sophisticated academics in 1978 when Rothbard made this claim in favor of the ABC. To name a few:

- a. Natural resource shocks, e.g. oil (reduces supply, raising price and reducing output).
- b. The rational-expectations explanation: Workers wake up from their real/nominal wage confusion and demand a raise to compensate for inflation (again, reduces supply, raising price and reducing output). Lucas won the last Nobel prize for his work on this idea.
- c. Technology shocks (again, reduces supply, raising price and reduces output). The theory which attributes business cycles to technology shocks, known as real business cycle theory, has been a hot topic in macro theory for a decade.

Let me emphasize that all of the arguments in this section have been essentially theoretical, not empirical. The ABC requires bizarre assumptions about entrepreneurial stupidity in order to work: in particular, it must assume that businesspeople blindly use current interest rates to make investment decisions. Even if we accept the ABC, it has important internal inconsistencies: it does not in fact predict changes in employment, and predicts that output will increase during depressions. Moreover, the experience of stagflation is no argument for the ABC, because numerous other theories (most of them developed before stagflation became important) can also account for stagflation.

These objections to the ABC, as mentioned, solely apply to the "controversial" parts of the theory. Austrians were entirely correct to decry the dinosaur Keynesians' neglect of the interaction between wages and employment.[55] Government officials, journalists, the general public, and weaker academics still need to learn this lesson. But the modal academic economist already knows the lesson. If the ABC has anything to contribute, it must *add* something further - something both original and true - to this lesson. There is little reason to believe that it can.

## **4. Method, Math, and 'Metrics**

### **4.1. The Theory and Practice of Economic Theory**

The reader will note that so far this essay has refrained from discussing any methodological issues. To many, this is where the divergence of Mises and Rothbard from mainstream neoclassical economics is most apparent. Mises and Rothbard both

emphasize the primacy of economic theory over economic history; theory is derived from the necessary truth of the "axiom of action," and therefore economic history merely *illustrates* rather than "tests" economic theory.

Certainly, there is an enormous difference between what Mises and Rothbard *say* about the correct methodology of economics and what most neoclassical economists *say* about methodology. The difference between what they actually *do* is far narrower. An empirical study of the economics profession would reveal that pure theory plays an enormous role in the judgments of all economists whether they primarily do pure theory or applied empirical research. The pure theorists often live in near-total isolation from empirical work; indeed, even empirical researchers normally only know the empirical work done within their own specialization.[56] How do they form their views on other issues? Largely by combining well-understood economic theory and some plausible empirical assumptions. To many, this shows that economists are unscientific ideologues, but to my mind it shows instead that the practice of neoclassical economics is much sounder than its proclaimed methods. By implication, Austrian methodological criticisms of neoclassical economics are often wide of the mark precisely because mainstream economists don't practice the methods they preach.

#### **4.2. Is Theory Enough?**

Armchair economic theorizing can be and often is a productive way of learning about the world. Mises and Rothbard clearly proclaim this, I readily concede it, and most neoclassical economists frequently "act as if" they believe it. Mises and Rothbard however err when they say that economic history can *only* illustrate economic theory. In particular, empirical evidence is often necessary to determine whether a theoretical factor is *quantitatively significant*.

Price theory shows us that a minimum wage in excess of the market-clearing price will increase unemployment. However, as Mises and Rothbard emphasize, economic theory tells us nothing about *how big* the increase in unemployment will be. Empirical studies of the imposition of minimum wages do more than merely illustrate economic theory; they help economists to learn which theoretically relevant factors actually matter. Paraphrasing Lord Kelvin, while economic theory is real knowledge, until you study some economic history your knowledge is of a meagre and unsatisfactory kind. An economist who attributes hyper-inflations to radically and continuing declines in the demand for money contradicts no economic theory. He is however still a bad economist, because his analysis of which factors are quantitatively significant is so far off.

Yes, it is possible for the quantitative importance of different factors to change over time and across different societies; but study of these differences is just another task to which good economists need to devote themselves. For example, population economists do more than just describe the causes behind population growth; they also generalize about why different causes matter more in different countries and times. An increase in the supply of food may greatly increase population growth in a poor country, without having any important impact in a richer country; both facts required empirical study to learn, the facts learned varied across time and place, and yet an underlying and important pattern still exists.

### **4.3. Mathematics, Econometrics, and the Progress of Economics**

More than anything else, what prevents Austrian economists from getting more publications in mainstream journals is that their papers rarely use mathematics or econometrics, research tools that Austrians reject on principle. They reject mathematical economics on principle because of the assumptions of continuity and differentiability. These objections were examined in section 2.3 and found wanting. Similarly, Austrians reject econometrics on principle because economic theory is true a priori, so statistics or historical study cannot "test" theory. Fair enough, but as section 4.2 argued, econometrics and other empirical work can play a more modest role: to help determine how big (or trivial) various theoretically relevant factors actually are.

In short, the *principled* Austrian objections to mathematics and econometrics (M&E) fail. This does not mean, however, that M&E are immune to a weaker criticism: to wit, that they simply have not delivered the goods. When Mises wrote *Human Action* in 1949, economists' use of M&E was still in its infancy. There is now nearly fifty years' worth of research using M&E. The science of economics has made progress, but how much of it is due to the use of M&E?

Let us consider the question empirically. Here are a few of the best new ideas to come out of academic economics since 1949:

1. Human capital theory
2. Rational expectations macroeconomics
3. The random walk view of financial markets
4. Signaling models
5. Public choice theory
6. Natural rate models of unemployment
7. Time consistency
8. The Prisoners' Dilemma, coordination games, and hawk-dove games
9. The Ricardian equivalence argument for debt-neutrality

## 10. Contestable markets

Formal mathematics was the main language used to present these ideas in academic journals. But was math instrumental in the discovery of these ideas? Or did the journal articles merely take an interesting intuition and then work backwards to determine what mathematical assumptions implied it? Out of the whole list, there are few plausible cases where mathematics was more than an afterthought: maybe Idea #2, and possibly #3. Even there, intuition, not math, probably played the leading role.[57]

The contributions of econometrics to economics are similarly meager - particularly because econometrics has "crowded out" traditional qualitative economic history. The popularity of econometrics has made it very difficult to do research in any period lacking convenient "data sets"; it has also enforced an uneasy silence about any topic in economic history (like ideology) that is difficult to quantify. When simple econometrics failed to yield universal agreement among informed economists, this merely provided the impetus for econometric theorists to supply increasingly complex estimators and other tools. Truly, this is a case of looking for car keys underneath the streetlight because it is brighter there. The root cause of disagreement is simply that causation and correlation are different, yet almost everyone tends to interpret a correlation as causal if they find the results plausible, and as spurious if they do not.

Better experimental design - including the method of "natural experiments" - is a step back in the right direction, but it is only an uneasy beginning. My own view is the econometrics is not useless, but must become a subordinate tool of the economic historian rather than vice versa. Friedman and Schwartz's *A Monetary History of the United States* is close to the optimal mix - careful historical analysis supplemented with econometrics, rather than vice versa.[58]

M&E have had fifty years of ever-increasing hegemony in economics. The empirical evidence on their contribution is decidedly negative. This does not mean, however, that working economists ought to immediately cease to employ M&E in their work. This has been the Austrians' main response, and it has led to their extreme isolation from the rest of the economics profession. The simple fact is that M&E are the *language* of modern economics, much as Latin was the language of medieval philosophy. These professional languages waste a lot of time and make it difficult for laymen and academics to communicate. But once mastered, even dissident scholars can use these tools to speak their minds.

### **Conclusion**

Austrian scholars have made important contributions to economics in recent years. I personally am most impressed by the work of Lawrence White and George Selgin on

free banking and other monetary issues, though certainly other Austrians have made significant contributions too. Set in historical context, I also consider the economics of Mises and Rothbard to be a great achievement in spite of my numerous reservations about it. Yet all too large a fraction of Austrian research has not been in economics at all, but rather in meta-economics: philosophy, methodology, and history of thought. Admittedly, much of the meta-economics stems out of the work of F.A. Hayek and his numerous interpreters, whose contributions to economics the present essay did not discuss save by implication. But the students of Mises and Rothbard have done more than their fair share of meta-economics too. Neoclassical economists go too far by purging meta-economics almost entirely, but there is certainly a reason to be suspicious of scholars who talk about economics without ever doing it. Paraphrasing Deng Xiaoping, "One should not talk of methodology every day. In real life, not everything is methodology." [59]

While the substantive contributions of Austrian economists to economics are significant, their sum from *Human Action* on is small compared to the progress that neoclassical economics has made over the same time period. The ten good ideas listed in section 4.3 are only the beginning of what economists have learned since 1949 - in spite of the large deadweight cost of mathematics and econometrics. Mises and Rothbard certainly produced an original alternate paradigm for economics - and applied this paradigm to a number of interesting topics. Unfortunately, the foundations of their new paradigm are unfounded, and their most important applied conclusions unsound or overstated. The reasonable intellectual course for Austrian economists to take is to give up their quest for a paradigm shift and content themselves with sharing whatever valuable substantive contributions they have to offer with the rest of the economics profession - and of course, with the intellectually involved public. In sum, Milton Friedman spoke wisely when he declared that "there is no Austrian economics - only good economics, and bad economics," [60] to which I would append: "Austrians do some good economics, but most good economics is not Austrian."

## Notes

[1] There is no doubt that Rothbard was a self-conscious follower of Mises: see e.g. Murray Rothbard, *Man, Economy, and State* (Los Angeles: Nash Publishing, 1962), xi-xii, and Rothbard's essay "The Essential Von Mises," in Ludwig von Mises, *Planning for Freedom* (South Holland, Illinois: Libertarian Press, 1980), pp.234-270. Mises moreover expressed no reservations about Rothbard's economics when he reviewed *Man, Economy, and State*; see Ludwig von Mises, "A New Treatise on Economics" in *New Individualist Review* (Indianapolis, IN: Liberty Fund, 1981), pp.323-326.

[2] While modern admirers of Hayek often present his work as a radical alternative to mainstream economics, there is little evidence that Hayek thought this. Contrast Mises and Rothbard's stringent rejection of mathematical economics with Hayek's desire to "...avoid giving the impression that I generally reject the mathematical method in economics. I regard it as indeed the great advantage of the mathematical technique that it allows us to describe, by algebraic equations, the general character of a pattern even where we are ignorant of the numerical values determining its particular manifestation. Without this algebraic technique we could scarcely have achieved that comprehensive picture of the *mutual interdependencies* of the different events in the market." (F.A. Hayek, "The Pretense of Knowledge," in F.A. Hayek, *Unemployment and Monetary Policy* (Washington, D.C.: Cato Institute, 1979), p.28.

[3] *Man, Economy, and State*, p.222.

[4] *ibid*, p.223.

[5] *ibid*, p.263. Rothbard plainly follows Mises' approach: "Action sorts and grades; originally it knows only ordinal numbers, not cardinal numbers." (Ludwig von Mises, *Human Action* [Chicago: Contemporary Books, Inc., 1963], p.119).

[6] *ibid*, p.262.

[7] Rothbard is not alone in this confusion; a significant fraction of textbook authors also fail to understand this point.

[8] See e.g. David Kreps, *A Course in Microeconomic Theory* (Princeton, NJ: Princeton University Press, 1990), p.17-69.

[9] *ibid*, pp.31-32.

[10] It is worth noting that even if Rothbard's critique of neoclassical consumer theory were correct, he would still lack a basis for rejecting neoclassical producer theory. Here, both Rothbard and standard economic theory posit that entrepreneurs maximize profits - clearly, a cardinal quantity.

[11] *Man, Economy, and State*, p.107 and p.106 respectively.

[12] *ibid*, pp.515-516.

[13] *ibid*, p.797.

[14] Rothbard's use of discrete units serving discrete ends effectively eliminates the income effect, leaving only a substitution effect.

[15] What is the significance of recognizing *two* effects of price changes? A price increase is normally thought to reduce the quantity demanded because the actor switches to other goods (the substitution effect). But what if there were only *1 good*? In this case, it is clear that a price hike does not reduce quantity demanded because the agent switches to other goods. Rather quantity falls because with 1 good, constant income, and a higher price, the actor's real income is less.

[16] Mises strongly criticized Irving Fisher's anticipation of indifference curve analysis: "[I]t must first of all be objected that the peculiarly mathematical conception of infinitesimal quantities is inapplicable to economic problems. The utility afforded by a given amount of commodities, is either great enough for valuation, or so small that it remains imperceptible to the valuer and therefore cannot affect his judgment." (Ludwig von Mises, *The Theory of Money and Credit* [Indianapolis, IN: Liberty Classics, 1980], p.57). For further evidence that Mises shared Rothbard's rejection of neoclassical utility theory, compare *ibid*, pp.51-60, to *Man, Economy, and State*, pp.260-268.

[17] *ibid*, p.265.

[18] Ludwig von Mises, *Theory and History* (Washington, D.C.: Ludwig von Mises Institute, 1985), p.xiv.

[19] *Man, Economy, and State*, p.264.

[20] Murray Rothbard, *Power and Market* (Sheed Andrews and McMeel, Inc.: Kansas City, 1977), p.13.

[21] Hans-Hermann Hoppe, "Man, Economy, and Liberty: Essays in Honor of Murray N. Rothbard (book review)," *Review of Austrian Economics*, vol.4, p.258. Joseph Salerno claims to produce an argument for the claim that intervention actually reduces social utility, although he notes that this conclusion is stronger than Rothbard's. See Joseph Salerno, "Mises and Hayek Dehomogenized," *Review of Austrian Economics*, vol.6, no.2, p.131.

[22] *Power and Market*, p.18.

[23] In e.g. Rothbard's taped lecture series, "A Short Course on Free Market Economics," available at <http://www.lfb.org>.

[24] See the clever use of the neoclassical concept of efficiency in Steven Landsburg, *The Armchair Economist: Economics and Everyday Life* (NY: The Free Press, 1993), esp. pp.49-105.

[25] *Human Action*, p.678.

[26] *ibid*, pp.679-680.

[27] *ibid*, p.56.

[28] Ludwig von Mises, *Socialism: An Economic and Sociological Analysis* (Indianapolis, IN: Liberty Classics, 1981), p.98.

[29] *ibid*, p.102. Mises later balked at the term "calculation in kind": see *Human Action*, p.703.

[30] The history of Communism suggests that the incentive problem is actually the most severe of all. Forced collectivization - the expropriation and enserfment of peasant farmers - repeatedly triggered deadly famines. These resulted in five million deaths under Lenin, at least 7 million under Stalin, and a staggering 30 million under Mao. See my Museum of Communism FAQ: <http://www.princeton.edu/~bdcaplan/museum/faqframe.htm>. Moreover, the millions of slave laborers found in Communist regimes were typically unproductive; see Mises' discussion of the inefficiency of slave labor in his *Liberalism* (Irvington-on-Hudson, NY: Foundation for Economic Education, 1996), pp.20-23.

[31] *Man, Economy, and State*, pp.461-462.

[32] If there are unrealized gains to trade, why doesn't the monopolist change his pricing strategy? This is one of numerous cases where a situation is not Pareto optimal, but transactions costs make voluntary Pareto improvements unlikely. For example, the possibility of resale and the inability to determine a consumer's willingness to pay makes perfect price discrimination difficult.

[33] In not only *Power and Market*, pp.37-82, but also e.g. his excellent tape series "The American Economy and the End of Laissez-Faire: 1870 to World War II." Notably, in this tape series Rothbard always limits himself to explaining why free-market monopoly is difficult to maintain, and how government short-circuits market checks on monopoly. Rather than trying to define market monopoly out of existence, as he does as a theorist, Rothbard the historian treats it as an empirical question, yielding quite convincing results.

[34] *Man, Economy, and State*, p.890.

[35] Mancur Olson, *The Logic of Collective Action: Public Goods and the Theory of Groups* (Cambridge: Harvard University Press, 1971).

[36] See *Power and Market*, pp.18-23.

[37] *Man, Economy, and State*, p.944.

[38] Murray Rothbard, *America's Great Depression* (Kansas City: Sheed and Ward, Inc., 1975), p.43.

[39] Who unfortunately often only impart this wisdom to graduate students, teaching undergraduates and journalists discredited "dinosaur Keynesianism." See my essay "In Defense of Macroeconomic Theory," at <http://www.princeton.edu/~bdcaplan/macro.doc>.

[40] *Power and Market*, pp.204-205.

[41] *America's Great Depression*, p.45.

[42] Some writers who probably consider themselves "Misesians" do take a more subtle view of the wage-adjustment process on the free market. See e.g. Roger Garrison, "The Austrian Theory of the Business Cycle in the Light of Modern Macroeconomics," *Review of Austrian Economics*, vol.3; George Selgin, *The Theory of Free Banking: Money Supply Under Competitive Note Issue* (Totowa, NJ: Rowman and Littlefield, 1988).

[43] *Man, Economy, and State*, p.670.

[44] See e.g. *Man, Economy, and State*, pp.683-687, and *America's Great Depression*, pp.43-53.

[45] See e.g. Rothbard's perfunctory dismissal of arguments for secular growth in the money supply: "These economists have not fully absorbed the great monetary lesson of classical economics: that the supply of money essentially does not matter... There is therefore never any need for a larger supply of money (aside from the nonmonetary uses of gold or silver)." in Murray Rothbard, *The Case for a 100 Percent Gold Dollar* (Meriden, CT: Cobden Press, 1984), p.28.

[46] The mechanism whereby monetary expansion affects interest rates would however be much more controversial. Mainstream economists typically emphasize the "real balance" or "liquidity" effect, while Austrians prefer to think of newly created

money as increasing the supply of loanable funds. The specifics of the money-interest rate connection however make no difference for the following arguments.

[47] While modern neoclassical economists usually work with the assumption of atemporal production using homogeneous capital goods, in my view they normally take this as a convenient simplifying assumption rather than an accurate characterization of the fundamental nature of capital goods and production.

[48] *America's Great Depression*, p.38.

[49] *ibid*, p.76.

[50] Roger Garrison, "The Austrian Theory of the Business Cycle in the Light of Modern Macroeconomics," p.9.

[51] On a charitable reading, the Austrian explanation for the decline in output and employment is nothing more or less than wage rigidity combined with a monetary contraction. This would however be difficult to reconcile with Mises' relative indifference to deflation, and Rothbard's positive enthusiasm for its healing virtues. Mises, for example, informs us (in the third revised edition of *Human Action*, published in 1966) that "Deflation and credit restriction never played a noticeable role in economic history." (p.567) To make this statement after the deflations of the inter-war period is truly astonishing. Rothbard goes even further, positively praising deflation: "[D]eflationary credit contraction greatly *helps* to speed up the adjustment process, and hence the completion of business recovery, in ways as yet unrecognized." (*America's Great Depression*, p.25) See *ibid*, pp.25-26, for a discussion of Rothbard's purported benefits of deflation.

[52] Traditional measures of "output" (such as GDP) include business investment as output, and thus it is not necessarily true that on the Austrian theory output *thus measured* would actually decline during the transitional period when the structure of production is being lengthened. However, if we use a modified measure of output which excludes the production of capital goods, then my statement would be correct.

[53] See e.g. *America's Great Depression*, p.58: "There is only one way that the underconsumptionist can try to explain the problem of greater fluctuation in the producers' than the consumers' good industries: the acceleration principle."

[54] Murray Rothbard, *For a New Liberty: The Libertarian Manifesto* (New York: Libertarian Review Foundation, 1978), p.191.

[55] It is interesting that the empirical work of Gallaway and Vedder - interpreted by many as empirical support for the ABC - actually only provides evidence in favor of the wage-employment connection - the uncontroversial part of the Austrian theory. See e.g. Lowell Gallaway and Richard Vedder, "Wages, Prices, and Employment: Von Mises and the Progressives," *Review of Austrian Economics*, vol.1, pp.33-80; idem, "The Great Depression of 1946," vol.5, no.2, pp.3-31.

[56] Thus, I often find that economists have *more* sensible views on issues outside of their field of specialization!

[57] I invite others to come up with their own "best ideas" lists to repeat this casual experiment.

[58] In my experience, economists in informal discussion frequently say that Friedman and Schwartz convinced them of various points. I almost never hear them name econometric studies that permanently changed their view of the world.

[59] The original quote is: "One should not talk class struggle every day. In real life, not everything is class struggle." Quoted in Paul Johnson, *Modern Times: The World from the Twenties to the Nineties* (NY: HarperCollins Publishers, 1991), p.565.

[60] Quoted in Edwin Dolan, "Austrian Economics as Extraordinary Science," in Edwin Dolan, ed., *The Foundations of Modern Austrian Economics* (Kansas City: Sheed & Ward, Inc., 1976), p.4.