distinction between base and superstructure breaks down. The result is that in the last essay in the book (the title essay), Meek apparently falls for the most general principle of society and the most bourgeois ideology of them all, von Mises's "Praxiology" (the principle of all rational action) in Lange's purely ideological attempt to graft Marxist and neoclassical economics."[32]

And so, as Marxian economic thought joins the actual economies of Eastern Europe in a headlong flight from Marxism and socialist central planning to Western and capitalistic modes of thought and economic systems, Oskar Lange's original irony is truly beginning to boomerang. Perhaps the free-market, capitalist economy of a future Poland will erect a statue of Lange alongside the monument to his old antagonist?

[32] B.B. (Ben Brewster), "Review of Ronald L. Meek, *Economics and Ideology and Other Essays*," *New Left Review* (November–December 1967): 90.

20

Ludwig von Mises and Economic Calculation Under Socialism

What might be called the "orthodox," or textbook, version of the famous economic calculation debate under socialism goes somewhat as follows:

Ludwig von Mises first raised the question of socialist economic calculation in 1920 by asserting that socialism could not calculate economically because of the absence of a price system for the factors of production. Enrico Barone "then" showed (the fact that he had done so twelve years earlier is laid to accidents of timing and translation) that this was not a theoretical problem because all the equations existed for a solution. F.A. Hayek then retreated to a second line of attack by conceding the "theoretical" solution to economic calculation in a socialist state but challenging its "practical" possibility. Finally, Oskar Lange, Abba Lerner, and others "demonstrated" the practical solution by advancing the concept of "market" socialism, in which the planning board arrives at market clearing prices through trial and error. Q.E.D. and socialist planning has been salvaged, replete with Lange's ironic tribute to Mises for raising the problem for Lange and other socialists to solve. If the actual record of Communist economies is brought into the discussion at all, it is usually done as a vindication of the Lange–Lerner thesis in practice.

That there are numerous holes in this neat and triumphal saga should be immediately clear. One example is that the "market socialism" in

[Reprinted from *The Economics of Ludwig von Mises*, Lawrence Moss, ed. (Kansas City: Sheed and Ward, 1976), pp. 67–77.]

Yugoslavia and, less so, in the other East European countries has nothing to do with the alleged Lange–Lerner "market"; for while firms in Yugoslavia engage in genuine exchanges and therefore in a genuine price system, the Lange–Lerner planning boards were to be central planners who manipulated prices as a pure accounting device and in no sense allowed "markets" at all. Another example is that Barone, in the course of his alleged "theoretical" solution to the problem of socialist calculation, himself ridiculed the idea that planning by means of his equations was in any sense workable, especially when we consider the continuing economic variability of the technical coefficients involved.[1]

But a particularly important flaw in the orthodox story is, as Hayek tried to make clear during the debate, the curious disjunction between the "theoretical" and the "practical." It is not simply that Barone and his mentor Pareto scoffed at the workability of the theoretical equations under socialist planning. More important is the point that Mises and Hayek were implicitly attacking the relevance of the entire concept of Walrasian general equilibrium from which these equations flowed. For Mises and Hayek there was no disjunction between the "theoretical" and the "practical"; following the Austrian tradition, a theory that necessarily violated practical reality was an unsound theory. The fact that in a changeless world of perfect knowledge and general equilibrium a socialist planning board could "solve" equations of prices and production was for Mises a worse than useless demonstration. Clearly, as Hayek would later develop at length, if complete knowledge of economic reality is assumed to be "given" to all, including a planning board, there is no problem of calculation or, indeed, any economic problem at all, whatever the economic system. The Mises demonstration of the impossibility of economic calculation under socialism and of the superiority of private markets in the means of production applied only to the real world of uncertainty, continuing change, and scattered knowledge.

[1]See Enrico Barone, "The Ministry of Production in the Collectivist State," in *Collectivist Economic Planning*, F.A. Hayek, ed. (London: George Routledge and Sons, 1935), p. 286. See also Trygve J.B. Hoff, *Economic Calculation in the Socialist Society* (London: William Hodge, 1949), pp. 140–43.

In his monumental *Human Action*, the 1949 treatise that contained his final rebuttal to his socialist critics, Mises emphasized the sterility of the mathematical approach:

> The mathematical economists . . . formulate equations and draw curves which are supposed to describe reality. In fact they describe only a hypothetical and unrealizable state of affairs, in no way similar to the catallactic problems in question. They substitute algebraic symbols for the determinate terms of money as used in economic calculation and believe that this procedure renders their reasoning more scientific. . . .
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> In the imaginary construction of the evenly rotating economy all factors of production are employed in such a way that each of them renders the most valuable service. . . . It is, of course, possible to describe this imaginary state of the allocation of resources in differential equations and to visualize it graphically in curves. But such devices do not assert anything about the market process. They merely mark out an imaginary situation in which the market process would cease to operate. . . .
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> Both the logical and the mathematical economists assert that human action ultimately aims at the establishment of such a state of equilibrium and would reach it if all further changes in data were to cease. But the logical economist knows much more than that. He shows how the activities of enterprising men, the promoters and speculators, eager to profit from discrepancies in the price structure, tend toward eradicating such discrepancies and thereby also toward blotting out the sources of entrepreneurial profit and loss. . . . The mathematical description of various states of equilibrium is mere play. The problem is the analysis of the market process. . . .
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> The problems of process analysis, that is, the only economic problems that matter, defy any mathematical approach.[2]

In developing this approach, Hayek engaged in a searching critique of Schumpeter's assertion that socialism suffers from no problem of economic calculation, because, to quote Schumpeter, the "consumers, in

[2]Ludwig von Mises, *Human Action* (Chicago: Henry Regnery, 1966), pp. 353–56.

[3]Joseph A. Schumpeter, *Capitalism, Socialism, and Democracy* (New York: Harper and Bros., 1942), p. 175.

evaluating ('demanding') consumers' goods *ipso facto* also evaluate the means of production."[3] Hayek pointed out, however, that this easy step would only follow "to a mind to which all these facts were simultaneously known. . . . The practical problem, however, arises precisely because these facts are never so given to a single mind . . . instead, we must show how a solution is produced by the interactions of people each of whom possesses only partial knowledge." Hayek concluded that "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 objective *facts* of the situation, systematically leaves out what is our main task to explain."[4]

Proceeding to an explicit refutation of the Lange–Lerner approach, Mises in *Human Action* scoffed at the idea that the socialist managers will be instructed to "play market as children play war, railroad, or school." Specifically, the socialists leave out the crucial function of shareholding, capital allocation, and entrepreneurship in their concentration on the purely managerial role:

> The cardinal fallacy implied in this and all kindred proposals is that they look at the economic problem from the perspective of the subaltern clerk whose intellectual horizon does not extend beyond subordinate tasks. They consider the structure of industrial production and the allocation of capital to the various branches and production aggregates as rigid, and do not take into account the necessity of altering this structure in order to adjust it to changes in conditions. What they have in mind is a world in which no further changes occur and economic history has reached its final stage. They fail to realize that the operation . . . of the managers, their buying and selling, are only a small segment of the totality of market operations. The market of the capitalist society also performs all those operations which allocate the capital goods to the various branches of industry. The entrepreneurs and capitalists establish corporations and other firms, enlarge or reduce their size, dissolve them or merge them with other enterprises; they buy and sell the shares and bonds of already existing and of new corporations; they grant, withdraw, and recover credits; in short they perform all those acts the totality of which is called the capital and money market. It is these financial transactions of promoters and speculators that direct production into those channels in which it satisfies the most urgent wants of the consumers in the best possible way. . . .
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> The role that the loyal corporation manager plays in the conduct of business is . . . only a managerial function, a subsidiary assistance granted to the entrepreneurs and capitalists. . . . It can never become a substitute for the entrepreneurial function. The speculators, promoters, investors, and moneylenders, in determining the structure of the stock and commodity exchanges and of the money market, circumscribe the orbit within which definite minor tasks can be entrusted to the manager's discretion. . . .
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> The capitalist system is not a managerial system; it is an entrepreneurial system. . . . Nobody has ever suggested that the socialist commonwealth could invite the promoters and speculators to continue their speculations and then deliver their profits to the common chest. Those suggesting a quasi-market for the socialist system have never wanted to preserve the stock and commodity exchanges, the trading in futures, and the bankers and moneylenders. . . . One cannot *play* speculation and investment. The speculators and investors expose their own wealth, their own destiny. This fact makes them responsible to the consumers. . . . If one relieves them of this responsibility, one deprives them of their very character.[5]

Mises also refuted the idea that a socialist planning board would arrive at correct pricing through trial and error, through clearing the market. While this could be done for already produced consumer goods, for which a market would presumably continue to exist, it would be precisely impossible in the realm of capital goods, where there would be no genuine market; hence, any sort of rational decisions on the kinds and amounts of the production of capital and of consumer goods could not be made. In short, the process of trial and error works

[4]F.A. Hayek, *Individualism and Economic Order* (Chicago: University of Chicago Press, 1948), pp. 90–91.

[5]Mises, *Human Action*, pp. 707–9. See also Dominick T. Armentano, "Resource Allocation Problems under Socialism," in *Theory of Economic Systems*, W.P. Snavely, ed. (Columbus, Ohio: Charles E. Merrill, 1969), pp. 127–39. On the importance of the stock market in the free-market economy, see Ludwig M. Lachmann, *Capital and Its Structure* (London: London School of Economics and Political Science, 1956), pp. 67–71.

on the market because the emergence of profit and loss conveys vital signals to the entrepreneur, whereas such apprehensions of genuine profit and loss could not be made in the absence of a real market for the factors of production.

A common attempt to rebut Mises has been the simple empirical pointing to the existence of central planning in the Soviet Union and the other Communist states. But, in the first place, this argument is a two-edged sword, (1) because of the blatant failures of early War Communism in its abolition of the market, and (2) because the evident failures and breakdowns of central planning have led to the Communist countries in East Europe, especially in Yugoslavia, to move rapidly away from socialism toward a genuine, and not a Lange–Lerner type of pseudo, market economy. But, more importantly, Mises pointed out that the Soviet Union and the other socialist countries are not fully socialist, since they still operate within a world market environment and are at least roughly able to use world capital and commodity prices on which to base their economic calculations.[6] That Communist planners base their calculations on world market prices is now generally acknowledged and is illustrated by an amusing encounter of Professor Peter Wiles with Polish Communist planners:

> What actually happens is that "world prices," that is, *capitalist world prices*, are used in all intra-block trade. They are translated into rubles . . . and entered in bilateral clearing accounts. To the question, "What would you do if there were no capitalist world?" came only the answer "We'll cross that bridge when we come to it." In the case of electricity the bridge is already under their feet: there has been great difficulty in pricing it since there is no world market.[7]

Mises's followers in the debate have continued to develop his basic critique of the impossibility of economic calculation under

[6]On socialist countries operating within a world market environment, see Mises, *Human Action*, pp. 698–99. On the rapid breakdown of War Communism, see Boris Brutzkus, *Economic Planning in Soviet Russia* (London: George Routledge & Sons, 1935); and Paul Craig Roberts, *Alienation and the Soviet Economy* (Albuquerque: University of New Mexico Press, 1971), pp. 20–47.

[7]P.J.D. Wiles, "Changing Economic Thought in Poland," *Oxford Economic Papers* 9 (June 1957): 202–3.

socialism. Thus, the attempted Lange–Lerner criterion of pricing in accordance with "marginal cost" has been attacked on what are essentially Austrian grounds, namely, that costs are not "given" and objective but are subjective estimates by various individuals of future selling prices and other economic conditions. Thus Hayek wrote that

> excessive preoccupation with the conditions of a hypothetical state of stationary equilibrium has led modern economics . . . to attribute to the notion of costs in general a much greater precision and definiteness than can be attached to any cost phenomenon in real life. . . . [A]s soon as we leave the realm of . . . a stationary state and consider a world where most of the existing means of production are the product of particular processes that will probably never be repeated; where, in consequence of incessant change, the value of most of the more durable instruments of production has little or no connection with the costs which have been incurred in their production but depends only on the services which they are expected to render in the future, the question of what exactly are the costs of production of a given product is a question of extreme difficulty which cannot be answered . . . without first making some assumption as regards the prices of the products in the manufacture of which the same instruments will be used. Much of what is usually termed cost of production is not really a cost element that is given independently of the price of the product but a quasi-rent, or a depreciation quota which has to be allowed on the capitalized value of expected quasi-rents, and is therefore dependent on the prices which are expected to prevail.[8]

At another place, Hayek added that Lange and others "speak about 'marginal costs' as if they were independent of the period for which the manager can plan. Clearly, actual costs depend in many instances, as much as on anything, on buying at the right time. In no sense can costs during any period be said to depend solely on prices during that period. They depend as much on whether these prices have been correctly foreseen as on the views that are held about future prices."[9] And Paul Craig Roberts, while writing generally from a

[8]F.A. Hayek, "The Present State of the Debate," in *Collectivist Economic Planning*, pp. 226–27.

[9]Hayek, *Individualism and Economic Order*, p. 198.

different perspective, pointed out that "under real-world conditions characterized by the passage of time, the marginal rule gives no clear guidance to those directed to organize production in accordance with it. Introducing the element of time brings in uncertainty and requires the exercise of *judgment*. Neither uncertainty nor judgment is present in the formulation of perfect competition from which Lange took his idea of the marginal rule."[10] Moreover, the outstanding critique of the marginal cost as well as of other authoritarian rules imposed on the entrepreneur was by G.F. Thirlby, who pointed out that costs are wrapped up inextricably in subjective estimates by the individual capitalists and entrepreneurs of alternative choices that are foregone, and since these alternatives are usually never undertaken, they can never be "objectively" determined by outside observers.[11]

The subjectivist Austrian critique of the modern concept of costs and its relevance to the question of socialist calculation were neatly summed up by Professor Buchanan:

> Confusion arises . . . when the properties of equilibrium, as defined for markets, are transferred as criteria of optimization in *nonmarket* or political settings. It is here that the critical distinction between the equilibrium of the single decisionmaker and that attained through market interaction, the distinction stressed by Hayek, is absolutely essential. . . . The theory of social interaction, of the mutual adjustment among the plans of separate human beings, is different in kind from the theory of planning, the maximization of some objective function by a conceptualized omniscient being. The latter is equivalent, in all respects, to the problems faced by Crusoe or by any individual decision-maker. But this is not the theory of markets, and it is artificial and basically false thinking that makes it out to be. . . . Shadow prices are not market prices, and the opportunity costs that inform market decisions are not those that inform the choices of even the omniscient planner. These appear to be identical only because of the false objectification of the magnitudes in question. . . .
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> Simply considered, cost is the obstacle or barrier to choice, that which must be got over before choice is made. Cost is the underside of the coin, so to speak, cost is the displaced alternative, the rejected opportunity. Cost is that which the decision-maker sacrifices or gives up when he selects one alternative rather than another. Cost consists therefore in his own evaluation of the enjoyment or utility that he anticipates having to forego as a result of choice itself. There are specific implications to be drawn from this choice-bound definition of opportunity cost:
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> 1. Cost must be borne exclusively by the person who makes decisions; it is not possible for this cost to be shifted to or imposed on others.
> 2. Cost is subjective; it exists only in the mind of the decision-maker or chooser.
> 3. Cost is based on anticipations; it is necessarily a forward-looking or *ex ante* concept.
> 4. Cost can never be realized because of the fact that choice is made; the alternative which is rejected can never itself be enjoyed.
> 5. Cost cannot be measured by someone other than the chooser since there is no way that subjective mental experience can be directly observed. . . .
>
> In any general theory of choice cost must be reckoned in a *utility* rather than in a *commodity* dimension. From this it follows that the opportunity cost involved in choice cannot be observed and objectified and, more importantly, it cannot be measured in such a way as to allow comparisons over wholly different choice settings. The cost faced by the utility-maximizing owner of a firm, the value that he anticipates having to forego in choosing to produce an increment to current output, is not the cost faced by the utility-maximizing bureaucrat who manages a publicly owned firm, even if the physical aspects of the two firms are in all respects identical.[12]

There is one vital but neglected area where the Mises analysis of economic calculation needs to be expanded. For in a profound sense, the theory is not about socialism at all! Instead, it applies to *any* situation where one group has acquired control of the means of production over

[10]Roberts, *Alienation and the Soviet Economy*, p. 97.

[11]G.F. Thirlby, "The Ruler" in *L.S.E. Essays on Cost*, James M. Buchanan and G.F. Thirlby, eds. (London: London School of Economics and Political Science, 1973), pp. 163–200.

[12]James M. Buchanan, "Introduction: L.S.E. Cost Theory in Retrospect," in *L.S.E. Essays on Cost*, pp. 4–5, 14–15.

a large area—or, in a strict sense, throughout the world. On this particular aspect of socialism, it doesn't matter whether this unitary control has come about through the coercive expropriation brought about by socialism or by voluntary processes on the free market. For what the Mises theory focuses on is not simply the numerous inefficiencies of the political as compared to the profit-making market process, but the fact that a market for capital goods has disappeared. This means that, just as socialist central planning could not calculate economically, no One Big Firm could own or control the entire economy. The Mises analysis applies to any situation where a market for capital goods has disappeared in a complex industrial economy, whether because of socialism or because of a giant merger into One Big Firm or One Big Cartel.

If this extension is correct, then the Mises analysis also supplies us the answer to the age-old criticism leveled at the unhampered, unregulated free-market economy: *what if* all firms banded together into One Big Firm that would exercise a monopoly over the economy equivalent to socialism? The answer would be that such a firm could not calculate because of the absence of a market, and therefore that it would suffer grave losses and dislocations. Hence, while a socialist planning board need not worry about losses that would be made up by the taxpayer, One Big Firm would soon find itself suffering severe losses and would therefore disintegrate under this pressure. We might extend this analysis even further. For it seems to follow that, as we *approach* One Big Firm on the market, as mergers begin to eliminate capital goods markets in industry after industry, these calculation problems will begin to appear, albeit not as catastrophically as under full monopoly. In the same way the Soviet Union suffers calculation problems, albeit not so severe as would be the case were the entire world to be absorbed into the Soviet Union with the disappearance of the world market. If, then, calculation problems begin to arise as markets disappear, this places a free-market limit, not simply on One Big Firm, but even on partial monopolies that eradicate markets. Hence, the free market contains within itself a built-in mechanism limiting the relative size of firms in order to preserve markets throughout the economy. This point also serves to extend the notable analysis of Professor Coase on the market determinants of the size of the firm, or of the relative extent

of corporate planning within the firm as against the use of exchange and the price mechanism. Coase pointed out that there are diminishing benefits and increasing costs to each of these two alternatives, resulting, as he put it, in an "'optimum' amount of planning" in the free market system.[13] Our thesis adds that the costs of internal corporate planning become prohibitive as soon as markets for capital goods begin to disappear, so that the free-market optimum will always stop well short not only of One Big Firm throughout the world market but also of *any* disappearance of specific markets and hence of economic calculation in that product or resource. Coase stated that the important difference between planning under socialism and within business firms on the free market is that the former "is imposed on industry while firms arise voluntarily because they represent a more efficient method of organizing production."[14] If our view is correct, then, this optimal free-market degree of planning also contains within itself a built-in safeguard against eliminating markets, which are so vital to economic calculation.

In fact, we may turn the question around to ask the socialists: if, indeed, central planning is more efficient than, or even equally efficient to, the free-market economy, then why has central planning never come about through the creation of One Big Firm by the voluntary market process? The fact that One Big Firm has never arisen on the market and that it needs the coercive might of the state to establish such central planning under socialism demonstrates that the latter could not be the most efficient method of organizing the economy.[15]

In our expanded form, then, not only is Mises's insight into the irrationality of socialism in an industrial economy confirmed but so also is the self-subsistence and continuing optimality and rationality of the free-market economy.

[13]Ronald H. Coase, "The Nature of the Firm," *Economica* 4 (November 1937): 384–405; reprinted in American Economic Association, *Readings in Price Theory* (Homewood, Ill.: Richard D. Irwin, 1952), p. 335 n.

[14]Ibid.

[15]See Murray N. Rothbard, *Man, Economy, and State* (Los Angeles: Nash, 1970), 2, pp. 547–50, 585.