

Discovery

and the

Capitalist

Process

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To Alexander A. Katz
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with deepest gratitude for years
of unforgettable kindness

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Contents

Preface	ix
Acknowledgments	xiii
ONE	
Entrepreneurship, Economics, and Economists	1
TWO	
The Primacy of Entrepreneurial Discovery	15
THREE	
Uncertainty, Discovery, and Human Action	40
FOUR	
The Entrepreneurial Process	68
FIVE	
Taxes and Discovery: An Entrepreneurial Perspective	93
SIX	
The Perils of Regulation: A Market-Process Approach	119
SEVEN	
Entrepreneurship and the Future of Capitalism	150
Notes	169
Index	181

from that attributable to sheer luck). For me, as I noted earlier, Shackle's problem need not perhaps appear to hold significant relevance for practical tax policy. But as we see, measurement difficulties are likely to be severe even if no attempt is made to separate out elements (within the overall category of pure profit) attributable to sheer luck.

But the measurement problem touches on deeper theoretical issues as well as policy issues. The category of pure profit is, after all, one that is linked essentially to *decisions*. Accounting categories, on the other hand, are linked specifically to *periods of time*. Where a long-run decision has been a profitable one (for example, a shrewd decision to build a plant capable of producing what later turns out to be a product in high demand), the entrepreneur may reap immediate accounting profit (as where he sells the plant to eager manufacturers when the strong demand has become apparent to all). But the entrepreneur's profitable decision may not be translated into accounting profits until later periods (as when the entrepreneur operates the plant himself, in a market for which the profitability of this line of production has not yet become widely apparent). Within any given accounting period, therefore, the bare amount of accounting profit recorded reveals little definitive concerning the timing and the nature of the entrepreneurial decisions inspired by these profits.

The problems listed in this section certainly do not exhaust the research agenda that my position seems to call for, if meaningful tax policy is to take account of these concerns. Nor, again, does my position in this paper itself hold promise of any straightforward solutions to these problems. Nonetheless the questions raised, with respect to orthodox tax theory, do appear to demand the attention of theorists and policy analysts. It is for this reason that, inconclusive as my explorations have been, it seems necessary to offer them for consideration.

SIX

The Perils of Regulation: A Market-Process Approach

Introduction

Economists have for at least two centuries debated the merits of government regulation of the market economy. In recent decades, however, this debate appeared to die down, and for a number of years it seemed that economists, with very few exceptions, subscribed to (and indeed helped propagate) a strongly approving view of extensive government intervention in the marketplace. Only recently has the pendulum of professional opinion begun to swing away from a definitely interventionist position, permitting a renewal of the classic debate about government regulation of the economy.

The position in favor of extensive government regulation of the market, of course, must be sharply distinguished from the views of radical critics of capitalism. The interventionist position, unlike that of radical critics, in general thoroughly appreciates the role of the market system in the efficient allocation of resources. The interventionist position fully accepts the central theorem of welfare economics concerning the Pareto optimality achieved, on appropriate assumptions, by the competitive market in general equilibrium. Intervention, however, is said to be required by the real-world impossibility of fulfilling the assumptions needed to hold for a perfectly competitive equilibrium to prevail. Because of chronic "market failure" attributable to the violation of these assumptions, the interventionist position deems it essen-

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tial that government actively modify the operation of the free market by extensive, even massive, doses of intervention and regulation. The interventionist position holds that the market economy, suitably modified by a judicious combination of government controls on prices, quality of outputs, and the organization of industry, can achieve reasonably satisfactory results. This position came to be so entrenched in professional opinion that, supported [as it always has been] by the layman's intuition, interventionism became a virtually unchallenged orthodoxy.

Only recently has this orthodoxy begun to crumble. Both the layman and the economist have come to suspect that government interventions, especially those limiting competition and controlling prices, are consistently responsible for undesirable consequences. Confidence in the ability of government officials to construct a useful program of controls that would correct "market failure" without generating new problems attributable to government action itself has been rather thoroughly shaken. For many members of the public, and even for many economists, the crumbling of orthodoxy has come as a sharp surprise, if not a jarring shock. Economists now must rethink the theory of the market. They have begun to see that the assumption that the market can approximate a competitive equilibrium is more robust than hitherto believed. They have argued that government regulation produces its own undesirable distortions in market outcomes. Finally, economists have begun to understand that the political economy of regulation tends to ensure that market interventions are far more likely to be undertaken to further the well-being of special interests [not excepting those of the regulators themselves] than of the public at large.

This essay, too, draws attention to problems that appear to be the inescapable results of government regulation of the market. However, the approach taken here differs substantially from those just mentioned in that it does not postulate instantaneous or even rapid achieve-

ment of a general equilibrium in the free market; nor does it emphasize the undesirable distortions in equilibrium conditions introduced by government regulation. And to simplify matters, the discussion will relate to controls assumed to be deliberately introduced and enforced by legislators and officials intent on nothing but the welfare of the consuming public. The position developed here argues that intervention tends to interfere harmfully in the *entrepreneurial process* upon which the most basic of the market's virtues (conceded in principle by its interventionist critics) must surely depend.

To avoid misunderstanding, it should be emphasized that I do not wish to minimize the impact of those implications of regulation upon which my own argument does *not* rest. There can be little doubt that much regulation has been inspired, consciously or not, by considerations other than the goal of contributing to the public weal.¹ And the propensity of government interventions to generate tendencies toward suboptimal equilibrium configurations has certainly been amply demonstrated by economists from Bastiat to Friedman.² I merely contend that, valid though these approaches to a critique of interventionism undoubtedly are, they do not exhaust the phenomena to be explained. To sharpen the presentation of the approach taken here, regulations are assumed to be introduced and enforced with only the public welfare in mind. Many of regulation's undesirable consequences undoubtedly can be attributed to the tendency for regulation to serve the interests of regulators. I maintain that, quite apart from such difficulties, regulation generates economic confusion and inefficiency. This confusion and inefficiency are perceived more clearly by assuming, for the sake of argument, that those *other* difficulties (arising out of the regulators' self-interest) are absent.

Interventionism and Socialism: A Parallel

The surprise and dismay experienced today by so many economists and others at the manifest failure of

well-meaning interventionist measures to create anything but inefficiencies of their very own is reminiscent in many ways of the surprise and disquiet experienced some sixty years ago when Mises first demonstrated on theoretical grounds, the inability of a socialized economy to perform the economic calculation needed for social efficiency. It is instructive to pursue this parallel further, for properly understood, Mises's theoretical argument regarding the socialist (that is, nonmarket) economy suggests useful insights into the problems of the hampered (that is, regulated) market economy. It was the earlier failure (by Mises's readers) to understand the operation and function of the market economy that led them to assume uncritically that a socialist society, in principle, need encounter no difficulty in the attainment of social efficiency. The realization that this assumption was far from obviously justified occasioned the surprise and disquiet following Mises's famous article. The now crumbling orthodoxy upon which the interventionist approach until very recently has rested reflects misunderstandings concerning the operation and function of markets. And those misunderstandings bear a remarkable likeness to those pointed out by Mises, and later by Hayek. These deep-rooted misunderstandings, in turn, appear responsible for the surprise and dismay occasioned by the realization that government regulation may itself be the problem rather than the solution it had so obviously seemed to be.

The hampered, regulated market, of course, is not at all the same thing as the fully socialized economy which Mises and Hayek studied. In the socialized economy there is no market at all, free or otherwise, for the services of material factors. In the socialized economy, therefore, there can be no market prices for such factor services. This absence of market prices is crucial to the Mises-Hayek critique of socialism. The regulated market economy, on the other hand, no matter how hampered it may be, is unquestionably a market economy, in which prices

emerge through the interplay of profit-seeking market transactions. The Mises-Hayek critique of socialism, therefore, is certainly not applicable, as it stands, to the regulated market.

A brief review of the Mises-Hayek critique of socialism nonetheless proves helpful for a critical appraisal of regulation. For the Mises-Hayek discussion offers an appreciation for the operation of the market process by revealing the enormous difficulties confronting socialist planners trying to emulate the market economy's achievements without a market. This discussion also reveals the hazards besetting the path of regulators seeking to improve on the market's performance. Just as the attempt to seek social efficiency through central planning rather than through the spontaneous market process, in the Mises-Hayek view, must necessarily fail, so too, for essentially similar reasons, must attempts to control the outcomes of the spontaneous market by deliberate, extra-market, regulatory action necessarily tend to generate unexpected and wholly undesired consequences.

I turn, therefore, to a brief review of the debate on socialist economic calculation, drawing particular attention to a widespread failure to appreciate fully certain important elements in the Mises-Hayek critique. It is these important elements, indeed, that will be found to be the basis for this essay's critical analysis of government regulation of the market economy. These elements underlie our perception of the parallel between a critique of the regulated market on the one hand and of socialism, without any market at all, on the other.

MISES AND HAYEK ON SOCIALISM

Mises's demonstration of the economic calculation problem facing the socialist planning authorities was first presented in 1920.³ The demonstration was subsequently repeated in more or less similar terms (with critical attention paid to the attempts of socialist writers to respond to his challenge) in several of Mises's later works.⁴ Hayek

first addressed the problem in two essays, which respectively introduced and summed up the debate concerning socialist calculation (in the volume of essays on the subject that he edited in 1935).⁵ An important third essay, published in 1940, contains Hayek's most complete appraisal of the issues.⁶ Many writers on the Continent, in England, and in the United States attempted to meet Mises's arguments, the best-known socialist contribution being that of Oskar Lange.⁷ A thorough survey of the state of literature at the onset of World War II, provided by a Norwegian economist, was made available in English in 1949.⁸

For Mises, the defining element in socialism lies in its collective ownership of the means of production, in particular land and capital. It follows, therefore, that under socialism there exists no market for these factors of production or for their services; without private ownership, there can be no market exchanges between individual owners; and without market exchanges, of course, there can be no ratios of exchange—that is, there can be no market prices. Mises finds in the absence of factor prices the essence of the difficulty. Without prices, socialist decision makers (the central planners and their subordinates, the managers of socialized enterprises) do not have available relevant indicators (prices) of the relative economic importance of the various factor services in their various alternative uses. Socialist planners cannot know whether the allocation of a unit of a particular resource to a specific line of production is more or less desirable than its replacement by some quantity of another resource which is technologically capable of substituting for the first. Planners cannot know in advance where efficiency is likely to be attained, nor do they have any way of assessing *ex post* whether or to what extent such efficiency may have been achieved.

Professor Armentano illustrates Mises's point by imagining a socialist director choosing between the construction of a power plant that uses fossil fuel and one

that uses nuclear fuel. Since the state owns all of the resources, no objective money prices exist for any of the alternative projects' required resources. The socialist planner has no way of knowing which project is cheaper, which promises the greater return on investment, which, in sum, offers the most efficient way to produce electricity. "If and when the power plant is built at a particular point with particular resources, it will represent an 'arbitrary' and not an economic decision."⁹

Hayek's most complete discussion of the problem of socialist calculation appeared in 1940 as a review article analyzing particularly the contributions of two socialist economists, Oskar Lange and H. D. Dickinson.¹⁰ Both Lange and Dickinson conceded that economic calculation is unthinkable without factor prices.¹¹ They pointed out, however, that a price need not mean merely an exchange ratio established in a market; the notion of price, they maintained, can be understood more broadly as "the terms on which alternatives are offered." Using price in this broader sense, they argued, there is every possibility for setting up a socialist economy in which "prices" are announced by the planning authorities and are used as guides in the decisions of socialist managers (who are instructed to obey specified rules in which these "prices" appear). These writers believed the authorities could handle the adjustment of prices on the basis of trial and error, with the relation between perceived supply and demand indicating to the authorities where adjustments should be made. In this fashion, the socialist writers held, a socialist economy could achieve an efficient allocation of resources without markets in the material factors of production, and without profit-maximizing entrepreneurial decisions.

Hayek's critique of the Lange-Dickinson proposals was long and detailed. He considered their approach to be a vast improvement as compared with the earlier socialist reactions to Mises, in which the nature of the problem was hardly perceived at all. Yet he continued to find the

Lange-Dickinson proposals seriously deficient both in their perception of the problem to be solved and of the practical difficulties confronting the suggested solution. The difference, Hayek wrote, between the "system of regimented prices" proposed by the socialist economists "and a system of prices determined by the market seems to be about the same as that between an attacking army in which every unit and every man could move only by special command and by the exact distance ordered by headquarters and an army in which every unit and every man can take advantage of every opportunity offered to them."¹²

SOME THOUGHTS ON THE SOCIALIST CALCULATION LITERATURE

Despite Hayek's powerful critique of the Lange-Dickinson proposals, the postwar textbook literature, curiously, came to present the results of the interwar debate as if Mises's original claim (to have demonstrated the impossibility of economic calculation under socialism) had been decisively refuted by Lange, Dickinson, and Lerner.¹³ Several writers have noted that this view conveyed by the literature is seriously mistaken.¹⁴ A careful review of the debate surely reveals that the Lange-Dickinson-Lerner solution hardly comes to grips with the difficulties that Mises and Hayek explained. The textbook literature did not so much ignore the arguments of Mises and Hayek as it failed to understand the view of the market process, which underlies their critique of socialist calculation. Indeed, the authors of the socialist proposals themselves offered their solution from a perspective on the nature and function of the market economy that differed sharply from the "Austrian" perspective shared by Mises and Hayek. My purpose in drawing attention to this defective view of the market reflected in the Lange-Dickinson literature is not merely to throw light on the socialist calculation debate (an issue only tangentially relevant to our own theme of efficiency in the regulated

market economy); for the insights into the market process expressed in the Mises-Hayek view and overlooked in the Lange-Dickinson proposal become crucial to a critique of the economics of regulation.

Lange's response to Mises placed much emphasis on the *"parametric function of prices*, i.e., on the fact that . . . each individual separately regards the actual market prices as given data to which he has to adjust himself."¹⁵ For Lange, each person in the market treats prices as if they were equilibrium prices to which he must adjust himself passively. If the market prices happen not to be equilibrium prices, then these market prices must somehow change "by a series of successive trials"—prices rising where demand exceeds supply, and so on.¹⁶ Lange does not address the question of how market prices actually change if each person at all times considers prices as given data to which he must silently adjust himself.

For Lange, indeed, the function that prices play in the efficiency of markets is simply the function that the equilibrium set of prices would fill. Prices, that is, provide the parameters to guide market participants in engaging in the set of activities that are consistent with equilibrium conditions. Lange understandably held that this function of prices could be simulated in a socialist economy. Socialist managers can be given lists of "prices" to which they can react according to well-defined rules (analogous to, but of course not identical with, the "rule" that capitalist decision makers are assumed to follow: that is, to maximize profits). Lange believed the task of ensuring that the lists of "prices" would be those required to ensure overall efficiency in the socialist economy could be fulfilled by again simulating (what he thought to be) the market trial and error procedure.

But here lies Lange's cardinal misunderstanding: he assumed that there exists in the market a procedure (involving "a series of successive trials") whereby prices are somehow adjusted toward equilibrium without essen-

tially altering the "parametric" character and function of prices (that is, without departing from the supposition that each person separately regards market prices as given data, which he is unable to change). The market process through which prices are adjusted toward equilibrium, however, is a process in which prices are *not* treated as given parameters but are themselves hammered out in the course of vigorous and rivalrous bidding.

In emphasizing exclusively the "parametric" function of market prices, Lange misunderstood the central role of the market. The primary function of the market is *not* to offer an arena within which market participants can have their decentralized decisions smoothly coordinated through attention to the appropriate list of given prices. The market's essential function, rather, is to offer an arena in which market participants, by entrepreneurial exploitation of the profit opportunities offered by disequilibrium prices, can nudge prices in the direction of equilibrium. In this entrepreneurial process prices are *not* treated as parameters. Nor, in this process, are prices changed impersonally in response to excess demand or supply. It is one thing for Lange to assume that socialist managers can be motivated to follow rules with respect to centrally promulgated given "prices" (in the way capitalist decision makers can be imagined to treat given equilibrium market prices).¹⁷ It is quite another to assume that the *non-parametric* function of price in the market system, the function dependent on entrepreneurial alertness to opportunities for pure profit, can be simulated in a system from which the entrepreneurial function has been wholly excised.

That Lange did not understand this nonparametric function of prices must certainly be attributed to a perception of the market system's operation primarily in terms of perfectly competitive equilibrium. (Indeed, it is this textbook approach to price theory that Lange explicitly presents as his model for socialist pricing.¹⁸) Within this paradigm, as is now well recognized, the role

of the entrepreneurial quest for pure profit, as the key element in bringing about price adjustment, is completely ignored. It is not difficult to see how Lange could conclude that such a (nonentrepreneurial) system might be simulated under socialism.

Mises and Hayek, by contrast, saw the price system under capitalism from a totally different—an Austrian—perspective. For these writers, the essence of the market process lies not in the "parametric" function of price, and not in the perfectly competitive state of equilibrium, but in the rivalrous activity of entrepreneurs taking advantage of disequilibrium conditions. The debate between Lange-Dickinson on the one hand and Mises-Hayek on the other can best be understood as a clash between two conflicting views of the price system. Mises's views on the market as a process have been expounded extensively in a number of his works.¹⁹ The idea of the market as a *dynamic process* is at the very heart of his system. Hayek's perception of the price system was articulated (during the same period in which his critical essays on socialist calculation were written) in a remarkable series of papers on the role of knowledge and discovery in market processes.²⁰

That the postwar textbooks incorrectly presented the debate on socialist calculation as having been decisively won by Lange must be attributed not to ideological bias (although this may not have been entirely absent) but to an utter failure to understand the flaws in Lange's discussion (flaws that Hayek indeed had identified). Not recognizing the Austrian background of Hayek's critique, Anglo-American economists saw in Lange a cogent application of standard price theory; Hayek's critique simply was not understood.

THE MARKET PROCESS: AN AUSTRIAN VIEW²¹

Before returning to the theme of efficiency in the regulated economy, it is useful to review some Austrian lessons to be drawn from the socialist calculation debate.

The Austrian understanding of the market as a dynamic process of discovery generated by the entrepreneurial-competitive scramble for pure profit may be spelled out in terms of a brief discussion of several key concepts. A sensitive appreciation of these ideas will alert us to problems raised by government regulation of the market that might otherwise easily be overlooked. It is partly because the terms convenient for the exposition of these concepts also are used in non-Austrian contexts, with rather different meanings, that the ideas developed here are so often misunderstood and therefore require brief elaboration.

Competition. What keeps the market process in motion is competition—not competition in the sense of “perfect competition,” in which perfect knowledge is combined with very large numbers of buyers and sellers to generate a state of perennial equilibrium—but competition as the rivalrous activities of market participants trying to win profits by offering the market better opportunities than are currently available. The existence of rivalrous competition requires not large numbers of buyers and sellers but simply *freedom of entry*. Competition places pressure on market participants to discover where and how better opportunities, as yet unnoticed, *might* be offered to the market. The competitive market process occurs because equilibrium has not yet been attained. This process is thwarted whenever nonmarket barriers are imposed blocking entry to potential competitors.

Knowledge and Discovery. As Hayek has emphasized, the competitive market process is a discovery procedure.²² If all that needed to be known were already known, then the market would already have attained full equilibrium, the state in which all decisions correctly anticipate all other decisions being made within the market. An institutional device for social organization that mobilizes existing knowledge and brings it to bear upon decision makers is necessary because realistically people

never do have command even over all the information that is already known somewhere.²³ Market equilibrium is thinkable only if we can presuppose the full mobilization of existing knowledge; so also centralized economic control would be thinkable (whether by Lange-Dickinson-Lerner proposals or other devices) if we could assume existing knowledge already to be fully mobilized. It is just because, without a market, such prior mobilization is so difficult to assume that a market is seen to be a prerequisite for economic calculation.

The competitive market process is needed not only to mobilize existing knowledge, but also to generate awareness of opportunities whose very existence until now has been known to no one at all.²⁴ The entrepreneurial process, moreover, disseminates existing information through the market. The process itself is a continual one of the discovery of opportunities. The discoverer of these opportunities himself, at least, has had no inkling whatever of their very existence. The market, in other words, is not merely a process of search for information of the need for which men had previously been aware; it is a discovery procedure that tends to correct ignorance where the discoverers themselves were totally unaware that they indeed were ignorant. A realization that the market yields knowledge—the sort of knowledge that people do not at present even know they need—should engender among would-be social engineers who seek to replace or to modify the results of the free market a very definite sense of humility. To announce that one can improve on the performance of the market, one must also claim to know in advance what the market will reveal. This knowledge is clearly impossible in all circumstances. Indeed, where the market process has been thwarted, in general it will not be possible to point with certainty to what *might* have been discovered that has now been lost.

Profit and Incentives. In standard treatments of price theory, decision makers are assumed to maximize utility

or "profit." The profit for which entrepreneurs are so eager (and which for Austrians drives the market process) is not that "profit" maximized by the firm in the standard theory of the firm. The standard theory assumes that the firm confronts definitely known and given cost and revenue possibilities. For the theory of the firm, therefore, to maximize profits does not mean to *discover* an opportunity for pure gain; it means merely to perform the mathematical calculations required to exhaust the *already fully perceived* opportunity for gain that the given revenue and cost curves might present. The urge of would-be entrepreneurs to grasp profit, by contrast, is the force which *itself reveals* the existence of gaps between costs and revenues. This distinction is of considerable importance.

It is elementary to the theory of the market that the market performs its functions by virtue of the *incentives* it offers to those who make "correct" decisions. For example, the incentive of the higher wages offered by industries in which the marginal productivity of labor is greatest attracts labor to more important uses. Such incentives tend to ensure that once a superior use for a given factor (or group of factors) is discovered, it becomes worthwhile for factor owners to forgo alternative ways of putting their factors to work. This is well understood. What is not always understood is that the market also offers incentives for the *discovery* of new opportunities (for the most useful employment of factors), that is, for the exploitation of opportunities that until now have remained unexploited. These opportunities have remained unexploited not because of high costs, and not even because of the high cost of searching for them. They have remained unexploited simply because of sheer oversight, possibly including oversight of the opportunity to find them through deliberate search. Pure entrepreneurial profit is the market form in which *this* kind of incentive presents itself. The availability of pure entrepreneurial profit has the function not of outweighing the costs asso-

ciated with withdrawing inputs from alternative uses, but of alerting decision makers to the present error of committing factors to uses less valuable to the markets than others waiting and able to be served.

Market Prices. Market prices in the Austrian view are not primarily approximations to the set of equilibrium prices. Instead, they are (disequilibrium) exchange ratios worked out between entrepreneurial market participants. On the one hand, these exchange ratios with all their imperfections reflect the discoveries made up until this moment by profit-seeking entrepreneurs. On the other hand, these ratios express entrepreneurial errors currently being made. Market prices, therefore, offer opportunities for pure profit. And we can rely on these opportunities to create a tendency for market prices to be changed through the rivalrous bidding of alert entrepreneurs. The course of market prices, in other words, is closely bound up, in two distinct ways, with the incentive system of pure entrepreneurial profit. First, the configuration of market prices at any given moment must be attributed to the pure profit incentives that have until now determined bids and offers. Second, this present configuration of market prices, together with existing and future conditions of supply and demand, is responsible for the opportunities for pure profit. The discovery and exploitation of these opportunities will constitute the course of the market process in the immediate future. From this perspective on market prices it is not difficult to perceive how small must be the resemblance to them of any centrally promulgated set of socialist "prices." The entrepreneurial drive for pure profit plays no role at all in the determination of socialist "prices."

Regulated Market Economy

I shall assume, as noted at the outset of this essay, that government regulation of the market economy is

generated by dissatisfaction with market outcomes. Legislators or other government officials (perhaps in response to public outcry, or in anticipation thereof) are disturbed either by the high price that certain would-be purchasers are asked to pay in the market or by the low price (for example, farm prices or the wages of labor) received by certain sellers in the market; or they are disturbed by the quality of goods or services being offered for sale (for example, because of the absence of safety devices) or by the unavailability in the market of goods or services that they believe to be important. They are disturbed by the conditions under which workers are expected to work, or they are disturbed by the pattern of income distribution generated by the market, by unemployment, or by "profiteering," or by the side effects (such as environmental pollution, or spread of disease, or exposure of the young to pornography) generated by uncontrolled market activity.

Hoping to correct what are perceived to be unsatisfactory conditions, the government intervenes in the market. It seeks to replace the outcomes expected to result from unchecked market transactions by a preferred configuration of prices and outputs, to be achieved not, as under socialism, by replacing the market by central ownership of factors, but by imposing appropriate regulations and controls. The laissez-faire market is replaced by the regulated market. Price ceilings and price and wage floors, transfers of incomes, imposed safety standards, child labor laws, zoning laws, prohibited industrial integration, tariff protection, prohibited competition, imposed health warnings, compulsory old age pensions, and prohibited drugs are all examples of the countless controls that well-meaning public officials impose.

In the face of these controls, regulations, and interventions there remains, nonetheless, a genuine market both for factor services and for consumer products. Government controls constrain and constrict; they rearrange and repattern the structure of incentives; they redistrib-

ute incomes and wealth and sharply modify both the processes of production and the composition of consumption. Yet within the limits that such controls impose, buying and selling continue, and the constant effort to capture pure entrepreneurial gain keeps the market in perpetual motion. Government regulations drastically alter and disturb opportunities for entrepreneurial gain, but they do not eliminate them. These controls thoroughly influence the prices that emerge from the interplay of entrepreneurial competition. But unless directly mandated prices are involved, exchange ratios still reflect the outcome to date of the entrepreneurial process.

Traditionally, criticism of government intervention involves one of more of several general lines of argument.²⁵ First, critics may argue that the admitted failure of market outcomes to meet successfully the aspirations of regulators is a result not of market failure to achieve peak efficiency, but of inescapable scarcity. If costs are fully taken into account, efforts to improve outcomes must be found to be doomed to failure or to lead to even less preferable outcomes. Second, critics may agree that from the viewpoint of the value system adopted by the would-be regulators market outcomes might be improved upon. But, these critics maintain that the market faithfully reflects consumers' values. Regulation in such circumstances therefore must violate consumer sovereignty, if not consumer freedom.

Third, critics may argue that the unwished-for market outcomes are to be attributed not to the free market, but to earlier government interventions in the market which have hindered the corrective forces of the market from doing their work. Additional regulation, it is then pointed out, either may be unnecessary (since the earlier interventions can simply be eliminated) or may compound the problems. Fourth, critics may argue that whether or not the undesirable outcomes of the market are (in the sense appropriate to economic science and not

necessarily from the viewpoint of the regulators' values) to be regretted, government regulation is simply incapable of achieving improvement. The technology of regulation is such that its full costs outweigh by far any benefits that may be achieved.

The Austrian lessons drawn from the preceding survey of the debate about socialist economic calculation suggest that another set of considerations, until now not sufficiently emphasized in the literature, deserve to be included in the list of causes to which one might attribute the failures of regulation. These considerations constitute a separate line of criticism of government intervention, to be added to the other lines of criticism (where one or more of these may be relevant).²⁶

GOVERNMENT REGULATION AND THE MARKET DISCOVERY PROCESS

The perils associated with government regulation of the economy addressed here arise out of the *impact that regulation can be expected to have on the discovery process, which the unregulated market tends to generate*. Even if current market outcomes in some sense are judged unsatisfactory, intervention, and even intervention that can successfully achieve its immediate objectives, cannot be considered the obviously correct solution. After all, the very problems apparent in the market might generate processes of discovery and correction superior to those undertaken deliberately by government regulation; deliberate intervention by the state not only might serve as an imperfect substitute for the spontaneous market process of discovery, but also might impede desirable processes of discovery the need for which has not been perceived by the government. Again, government regulation itself may generate new (unintended and undesired) processes of market adjustments that produce a final outcome even less preferred than what might have emerged in the free market.

Here I discuss critically the impact of government regulation on the discovery process of the unregulated market at four distinct levels. First, I consider the likelihood that would-be regulators may not correctly assess the course the market might itself take in the absence of regulation. Second, I consider the likelihood that, because of the presumed absence of entrepreneurial incentives operating on government decision makers, government regulatory decisions will fail to exploit opportunities for social betterment waiting to be discovered. Third, I consider the likelihood that government regulation may stifle or inhibit desirable discovery processes which the market might have generated. Finally, I consider the likelihood that government regulation may influence the market by creating opportunities for new, and not necessarily desirable, market discovery processes which would not be relevant in an unregulated market.

THE UNDISCOVERED DISCOVERY PROCESS

We assumed earlier that regulation is demanded because of undesirable conditions that emerge in the market in the absence of regulation. But the urge to regulate, to control, to alter these outcomes must presume not only that these undesirable conditions are attributable to the absence of regulation, but also that the speedy removal of such conditions cannot be expected from the future course of unregulated market events. To attribute undesirable conditions to absence of regulation, moreover, also may require the denial of the proposition that were a better state of affairs indeed feasible, the market probably would have already discovered how to achieve it.

More specifically, many demands for government intervention into the market rest on one or both of two possible misunderstandings concerning the market discovery process. Demand for government intervention, on the one hand, might grow out of a failure to realize that the market already may have discovered virtually everything worth discovering (so that what appears to be ob-

vious inefficiency might be able to be explained altogether satisfactorily if government officials had all the information the market has long since discovered and taken advantage of). Demand for regulation, on the other hand, may stem from the belief that unsatisfactory conditions will never be corrected unless by deliberate intervention. Such demands for regulation might be muted, that is, were it understood that genuine inefficiencies can be relied upon in the *future* to generate market processes for their own correction. (This second misunderstanding itself may rest on either of two bases. First, the tendency of markets to discover and eliminate inefficiency simply is not recognized. Second, by contrast, it is assumed, far too sanguinely, that market processes are so rapid that our awareness of an unmistakably unsatisfactory condition proves that some kind of market "failure" has occurred and that one cannot rely on future corrective processes.)

These misunderstandings, so often the foundation for demands for intervention, surely derive from an unawareness of several basic principles of the theory of market process. These principles show that, first, were knowledge perfect, it would be inconceivable that unexploited opportunities could yet remain for rearranging the pattern of input utilization or output consumption in such a way as to improve the well-being of all market participants; second, the existence of such unexploited opportunities, reflecting imperfect knowledge throughout the market, expresses itself in the unregulated market in the form of opportunities for pure entrepreneurial profit; and third, the tendency for such pure profit opportunities to be discovered and exploited tends more or less rapidly to eliminate unexploited opportunities for improving the allocation of resources.²⁷ These principles of the theory of market process suggest that if genuine inefficiency exists, then (perhaps because of a recent sudden change in conditions of resource supply, of technology, or of consumer tastes) the market has not yet discovered *all that it will surely soon tend to discover*.

These principles may be denied either by expressing a lack of confidence in the systematic tendency for imperfect knowledge to be spontaneously improved or by attributing to the market the ability to attain equilibrium instantaneously (that is, by assuming that ignorance is not merely a disequilibrium phenomenon, but that ignorance disappears the very instant it emerges). Both denials may lead to demands for government intervention. The denial based on a lack of confidence about improving knowledge leads to the belief that current inefficiencies will not tend to be corrected spontaneously (and also to the propensity to see inefficiency where the market *already* has made necessary corrections). The denial based on the belief in instantaneous correction of disequilibrium conditions leads to the view that existing inefficiencies somehow are consistent with market equilibrium and that therefore extramarket steps are called for to achieve correction.

THE UNSIMULATED DISCOVERY PROCESS

Government regulation takes the general form of imposed price ceilings and floors, of mandated quality specifications, and of other restraints or requirements imposed in interpersonal market transactions. The hope surrounding such government impositions, I continue to assume, is that they will constrain market activities to desired channels and at desired levels. But what is the likelihood that government officials, with the best of intentions, will know what imposed prices, say, might evoke the "correct," desired actions by market participants? This question parallels that raised by Mises and Hayek with respect to "market" socialism.²⁸ Government officials in the regulated economy do enjoy the advantage (*not* shared by socialist planning officials) of making their decisions within the framework of genuine market prices. But the question remains: How do government officials know what prices to set (or qualities to require, and so forth)? Or to press the point further: How

will government officials know if their earlier decisions were in error and in what direction to make corrections? In other words, how will government officials *discover* those opportunities for improving the allocation of resources, which one cannot assume to be automatically known to them at the outset of a regulatory endeavor?

The compelling insight underlying these questions rests heavily on the circumstance that officials institutionally are precluded from capturing *pecuniary* profits in the market, in the course of their activities (even though they are as eager as anyone else for entrepreneurial "profit" in the broadest sense of the term). The regulators' estimates of the prices consumers are prepared to pay, or of the prices resource owners are prepared to accept, for example, *are not profit-motivated estimates*. The estimates are not profit motivated at the time of an initial government regulatory action, and they are not profit motivated at each subsequent date when modification of a regulation might be considered. But estimates of market demand conditions or market supply conditions that are not profit motivated cannot reflect the powerful, discovery-inspiring incentives of the entrepreneurial quest for profit.

Nothing in the course of the regulatory process suggests a tendency for as yet unperceived opportunities of resource allocation improvement to be discovered. Nothing ensures that government officials who might perceive market conditions more accurately than others will tend systematically to replace less competent regulators. There is no entrepreneurial process at work, and there is no proxy for entrepreneurial profit or loss that easily might indicate where errors have been made and how they should be corrected. What regulators know (or believe they know) at a given moment presumably remains only partly correct. No systematic process seems at work through which regulators might come to discover what they have not known, *especially since they have not known that they enjoy less than complete awareness of a particular situation*.

The problem raised here is not quite the same as the one identified in other literature critical of government intervention. It is often noted, for example, that government officials are not motivated to minimize costs, since they will not personally benefit from the resulting economies.²⁹ The problem raised here differs importantly from such questions of incentives for adopting known efficiencies. For even if one could imagine an official so dedicated to the citizenry that he would ensure the adoption of all known possible measures for cutting costs, one cannot yet imagine him somehow divining *as yet undiscovered* techniques for cutting costs. What the official knows, he knows, and what he knows that he does *not* know, one may imagine him diligently undertaking to find out, through appropriate cost-benefit-calculated search. But one can hardly imagine him discovering, except by the sheerest accident, those opportunities for increasing efficiency of which he is completely unaware. The official is not subject to the entrepreneurial profit incentive, which somehow appears continually and successfully to inspire discovery of hitherto undreamed of possibilities for eliminating unnecessary expenditures. Nothing within the regulatory process seems able to simulate even remotely well the discovery process that is so integral to the unregulated market.

THE STIFLED DISCOVERY PROCESS

The most serious effect of government regulation on the market discovery process well might be the likelihood that regulation, in a variety of ways, may discourage, hamper, and even completely stifle the discovery process of the unregulated market. Indeed, that much regulation is introduced as a result of unawareness of the market's discovery process already has been noted.

Government regulation plainly might bar exploitation of opportunities for pure entrepreneurial profit. A price ceiling, a price floor, an impeded merger, or an imposed safety requirement might block possibly profitable entrepreneurial actions. Such restraints and requirements

may be designed to block *particular* activities. If so, the likelihood is that since the possibility of such activities is so clearly seen and feared, the blocked activity may provide standard rates of return, but *not* particularly profitable ones in the entrepreneurial sense. Regulated restraints and requirements, though, are also likely to block activities that have *not* yet been foreseen by anyone, including the regulatory authorities. Regulatory constraints, that is, are likely to *bar the discovery* of pure profit opportunities.

That government regulation diminishes competition is common knowledge. Tariffs, licensing requirements, labor legislation, airline regulation, and bank regulation reduce the number of potential participants in particular markets. Government regulation, therefore, is responsible for imposing monopolylike inefficiencies ("deadweight" welfare losses) upon the economy. But such losses by no means constitute the full impact of the countercompetitive measures often embodied in regulatory constraints.

The beneficent aspect of competition in the sense of a rivalrous process, as noted earlier, arises out of *freedom of entry*. What government regulations so often erect are *regulatory barriers to entry*. Freedom of "entry," for the Austrian approach, refers to the freedom of potential competitors to discover and to move to exploit existing opportunities for pure profit. If entry is blocked, such opportunities simply may never be discovered, either by existing firms in the industry, or by regulatory authorities, or for that matter by outside entrepreneurs who *might* have discovered such opportunities were they allowed to be exploited when found.

From *this* perspective on regulation's anticompetitive impact, it follows that much regulation introduced explicitly to *create* or *Maintain* competition is no less hazardous to the competitive-entrepreneurial process than are other forms of regulation that restrict competition. Entry of competitors, in the dynamic sense, need not

mean entry of firms of about equal size. For example, entry might imply the *replacement*, by merger or other means, of a number of relatively high-cost producers by a *single* low-cost producer. Antitrust activity designed ostensibly to protect competition might *block* this kind of entry. Such regulatory activity thus blocks the capture of pure profit, obtainable in this case by the discovery and implementation of the possibility of lowering the price to consumers by taking advantage of hitherto unexploited, and perhaps unsuspected, economies of scale.

The literature critical of government regulation often draws attention to the undesirable effects of imposed prices. A price ceiling for a particular product or service (rent control, for example) tends to generate artificial shortages (of housing). A price floor for a particular product or service, (minimum wages, for example) tends to generate an artificial surplus (teenage unemployment). These important, well-recognized consequences of imposed prices flow from the efforts of the regulators to legislate prices at other than equilibrium levels.

Quite apart from the coordination generated by such imposed prices in the markets for *existing* goods and services, price (and also quality) restraints also may well inhibit the discovery of wholly new opportunities. A price ceiling does not merely block the upper reaches of a given supply curve. Such a ceiling also may inhibit the discovery of as yet unsuspected sources of supply (which in the absence of the ceiling would have tended to shift the entire supply curve to the right) or of as yet wholly unknown new products (tending to create supply curves for wholly new graphs).³⁰ The lure of pure profit tends to uncover such as yet unknown opportunities.

Price and quality restraints and requirements and restrictions on organizational forms operate (in a generally understood but not precisely predictable way) to inhibit entrepreneurial discovery. Price ceilings, for example, not only restrict supply from known sources of natural gas (or from known prospects for search), but also inhibit the dis-

covery of wholly unknown sources. Drug testing regulations, as another example, not only reduce the flow of new pharmaceutical drugs where successful research might have been more or less predictable, but also discourage the entrepreneurial discovery of wholly unknown research procedures. Against whatever benefits might be derived from government regulation and intervention, one is forced to weigh, as one of regulation's intrinsically immeasurable costs, the stifling of the market discovery process.

THE WHOLLY SUPERFLUOUS DISCOVERY PROCESS

There is yet one more aspect of government regulation's complex impact on the discovery process. Whether intended by the regulatory authorities or not and whether suspected by them or not, the imposition of regulatory restraints and requirements tends to create entirely new, and not necessarily desirable opportunities for entrepreneurial discovery.

That such opportunities may be created follows from the extreme unlikelihood that government-imposed price, quality, or quantity constraints introduce anything approaching an equilibrium configuration. These constraints, on the contrary, introduce pure profit opportunities that would otherwise have been absent, as they simultaneously reduce or possibly eliminate other opportunities for pure profit that might otherwise have existed. This rearrangement of opportunities for pure profits, of course, is unlikely to be the explicit aim of regulation; nor even, indeed, is such rearrangement ever likely to be fully known to the authorities. Market ignorance is a fact of economic life. It follows that the replacement of one set of (unregulated) prices by another set of (partly regulated) prices, simply means that regulation has generated a possibly major alteration in the pattern of the discovery process. The now regulated market will tend to pursue the altered discovery process.

This regulation-induced alteration in the pattern of market discovery is closely related to the often noticed

circumstance that regulation may result in a different set of *equilibrium* market consequences. Such consequences, moreover, may not have been correctly foretold by the authorities and, indeed, may be wholly undesired by them. Regulation often imposes costs not immediately recognized.³¹ Unless, quite fantastically, the regulatory authorities (somehow all acting in completely coordinated fashion) are perfectly informed on all relevant data about the market, they will *not* generally be able to perceive what new profit opportunities they create by their own regulatory actions. Inevitably, therefore, the imposition of a set of regulatory constraints on a market must set in motion a series of entrepreneurial actions that have *not* been anticipated and, therefore, that may well lead to wholly unexpected and even undesired final outcomes.³²

The one kind of new "profit" opportunity created by regulation that is by now well anticipated, though hardly desired of course, involves bribery and corruption of the regulators. There is widespread understanding of the unwholesome channels into which the entrepreneurial quest for pure profit inevitably tends to be attracted if arbitrary restraints on otherwise profitable activities are imposed.³³

The basic insight underlying these conclusions, in sum, is a simple one. The competitive-entrepreneurial process, being a process of discovery of the as yet unknown, can hardly be predicted in any but the broadest terms. The imposition of regulatory constraints necessarily results, therefore, in a pattern of consequences different from and, most plausibly, distinctly less desirable than what would have occurred in the unregulated market. One might therefore refer to this unplanned, undesired pattern of consequences of regulation as the wholly superfluous discovery process.

Discovery, Evidence, and Illustration

The preceding discussion is theoretical and general, providing no hints of possible verification of its conclu-

sions. While this discussion relies on highly plausible insights into the character of human action, a reader may believe himself justified in demanding evidence that might support the discussion's rather strong conclusions. Yet such evidence can hardly be furnished, and it may be instructive to spell out the reasons.

EVIDENCE ABOUT DISCOVERY

Econometricians have endeavored to measure the consequences of particular economic policies. Much of their ingenuity and sophistication has been called forth to grapple with the formidable problem of describing *what might have occurred* in the absence of particular policies. The problem of describing concretely what might have happened but did not, it should be noted, exists even in situations in which all the alternatives before relevant decision makers are clearly defined, so that one at least knows the list of options from among which choices would have been forthcoming. The problem derives from the circumstance that it is not possible, without more or less sophisticated conjecture, to be confident as to which of an array of options a particular decision maker *might* have selected in hypothetical circumstances.

This problem becomes infinitely more formidable if one wishes to describe, in specified hypothetical circumstances, *what might have been spontaneously discovered*. Here the problem is not merely that a particular decision maker's preferences are unknown. The problem is that one cannot imagine what specific, now unknown opportunities might have been discovered in the relevant hypothetical circumstances.

One should not be surprised, therefore, that the losses from the regulatory stifling of market discovery processes are difficult to single out. Indeed, one should not be surprised that analysis, too, has tended to overlook such losses. Therefore one can only hope to draw brief attention to studies that perhaps can provide some illustrative flavor of the kinds of losses attributable to reg-

ulatory constraints, to which I have sought to direct attention. For purposes of such illustration, I draw on work focusing on the discovery process initiated by the lure of entrepreneurial profit in technological innovation and in corporate entrepreneurial endeavor.

DISCOVERERS: INNOVATORS

Much recent work by economists is devoted to gaining insight into the process of technological innovation. A small part of that work has considered the impact of government regulation on innovative activity at the technological frontiers. Although the authors of these studies are not primarily concerned with the impact of regulation upon entrepreneurial incentives, it is difficult to read their work without noticing its direct relevance to this essay's concerns.

A 1971 Brookings Institution volume, for example, was devoted to a symposium examining technological change in regulated industries (in particular electric power, telecommunications, and air and surface transportation).³⁴ In the analytical framework within which this examination was conducted, brief attention is paid to the thesis (attributed, perhaps too hastily, to Schumpeter) that it is "the incentive to earn very large profits" which "spurs entrepreneurs to introduce new techniques," so that the limits on possible profits imposed by regulatory commissions may inhibit such innovation.³⁵

A similar possible link between regulatory constraints and the possible slowing down of the processes of technological discovery is noted particularly in the context of drug research in the pharmaceutical industry. The classic paper by Professor Peltzman, examining the impact of the 1962 drug amendments upon drug research, together with the work of others, has led to widespread discussion of the possibility that drug research in the United States lags seriously behind that of other countries.³⁶ Peltzman's results do not prove that regulation inhibits entrepreneurial discovery, which means the

discovery of hitherto unknown opportunities, unknown even in the sense that it had not been known that they were there to be discovered. That is, Peltzman's findings would fit in equally well with a theory of search based on the assumption of awareness of discoverable opportunities waiting to be researched if the cost were not too high. Nonetheless, once attention is focused on entrepreneurial discovery, it is difficult to avoid linking Peltzman's results with the postulation of an entrepreneurial discovery process hampered by regulatory constraints.

DISCOVERERS: INSIDERS

Another important area in which the role of entrepreneurial discovery has been explicitly explored is that of decision making by corporate managers. In his definitive study of the issue, Henry Manne discusses the impact upon the exercise of entrepreneurship in the corporate firm of regulatory restrictions on insider trading.³⁷ Manne's study thoroughly examines the entrepreneurial role and its expression in a world of corporations. The study identifies the incentives of entrepreneurial profit needed to evoke the entrepreneurial role and the part that insider trading, in the absence of regulatory prohibition, might play to provide profit opportunities to reward entrepreneurial success. Restrictions on insider trading, Manne shows, no matter how plausible the motives underlying the regulatory restrictions may appear, tend to inhibit the exercise of entrepreneurship in corporate firms.³⁸

Conclusion

This essay draws attention to some less obvious drawbacks of government regulation of the market. These drawbacks are rooted in the way regulatory restrictions, restraints, and controls interfere with the spontaneous discovery process that the unregulated market tends to generate. These drawbacks are also to be clearly dis-

tinguished from other disadvantages that flow from government intervention.

The peculiar character of the perils of regulation identified here closely parallels certain economic problems associated with the operation of the socialist economy. The review of the Mises-Hayek criticisms of the possibility of economic calculation under socialism provides a classic source for an Austrian perspective on the market process, and simultaneously the review provides important lessons for an understanding of the dangers inherent in regulation.

Recognition of these dangers can be most helpful in explaining the inefficiencies and the stagnation that appear so consistently to beset modern interventionist economies. It is in the nature of the subject, however, that the recognition of these perils does not lead easily to the provision of clear-cut examples of such regulatory damage. Nonetheless, in a modest way it is possible to illustrate these perils from contemporary discussions of palpable problems.

An emphasis on the perils of regulation that arises out of concern for the market process does not, in and of itself, justify the absolute condemnation of government regulation of the market process. Such condemnation would require full consideration, in addition, not only of other perils than those discussed here, but also of the hoped-for benefits sought through regulation of the market. Ultimately, public policy must depend on the value judgments of the policymakers or of those they wish to serve. But, no policy decisions with respect to government regulation can be properly arrived at without a full understanding of all the dangers inherent in such regulation. And such a full understanding arises particularly out of studying the market process of entrepreneurial discovery.