# INFORMATION: A NEGLECTED ASPECT OF THE THEORY OF PRICE REGULATION

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### Introduction

Despite the fact that in the United States prices are now being regulated in competitive as well as noncompetitive industries, there is an increasing consensus that price regulation is not achieving its stated purpose. Paul MacAvoy, for example, found that during the inflationary conditions of the 1970s, price regulation reduced profitability in the electric utility and other industries "to levels below those required to sustain the quality and growth of service."<sup>1</sup> The dissatisfaction with current price regulation cuts across the ideological spectrum. Yet, there is no consensus about *why* government intervention is failing to achieve its stated purpose, which is (at least in the area of "natural monopolies") to ensure that price is based on production costs.

Ralph Nader and consumer groups tend to fault the leadership of the regulatory agencies. Economists in the public-choice tradition stress "political failure," that is, shortcomings innate in the political process.<sup>2</sup> Ronald Coase attributes the poor performance of economic regulation not only to political failure but also to the failure of economists to solve the problems involved in economic regulation.<sup>3</sup>

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<sup>&</sup>lt;sup>1</sup>Paul W. MacAvoy, *The Regulated Industries and the Economy* (New York: W.W. Norton and Co., 1979), p. 79.

<sup>&</sup>lt;sup>2</sup>James M. Buchanan et al., *The Economics of Politics* (London: Institute of Economic Affairs, 1978); Alan Peacock, "On the Anatomy of Collective Failure," *Public Finance* 35 (1980): 33–43.

<sup>&</sup>lt;sup>3</sup>Ronald H. Coase, "Comment," in *The Crisis of the Regulatory Commissions*, ed. Paul W. MacAvoy (New York: W.W. Norton and Co., 1970), pp. 53–56.

MacAvoy suggests that the "critical step toward improving the present condition of the regulated industries would be to develop better administrative processes" in the regulatory agencies.<sup>4</sup> Our study suggests another reason for the shortcomings of regulation. Proposals to set prices on the basis of marginal costs assume away informational problems and fail to recognize the importance of the market as a discovery process.<sup>5</sup> Regulators cannot satisfactorily set prices because there is no way to obtain the necessary data. Current regulation and reform proposals tend to view government regulation as an alternative to the market in discovering competitive costs and prices. The competitive process, however, cannot be simulated and competitive costs and prices can only be determined by *having competition*.

Prices of electricity, telephones, and other public utilities have long been regulated where it is assumed that there is an absence of competitive sources of supply. Although the relative merits of marginal-cost versus average-cost pricing have been widely debated in the case of natural monopolies, there is little recognition that regulators cannot obtain data on cost as it motivates choice. Even under the competitive conditions of agriculture, product price supports are now based on production costs. Although practical problems of measuring cost have been widely discussed, economists have largely failed to point out why cost is theoretically indefensible as a basis for setting price supports.<sup>6</sup>

The outline of this paper is as follows. The nature of cost as it influences entrepreneurial choice and the implications for measuring cost are first discussed. The theoretical problems of basing price on cost under competitive conditions and the implications of information problems associated with price regulation in the case of natural monopoly are described. Marginal cost pricing, a widely discussed method of price regulation, is then analyzed in terms of its informational requirements.

### Subjectivity of Cost

Opportunity cost represents the value of opportunities foregone by the decision maker as a result of selecting a particular course of action. The cost of a vacation trip, for example, is the value attached

<sup>&</sup>lt;sup>4</sup>MacAvoy, Regulated Industries, p. 122.

<sup>&</sup>lt;sup>5</sup>I.M. Kirzner, *The Perils of Regulation: A Market-Process Approach* (Coral Gables, Fla.: Law and Economics Center, 1978); I.M. Kirzner, *Perception, Opportunity and Profit* (Chicago: University of Chicago Press, 1979).

<sup>&</sup>lt;sup>6</sup>E.C. Pasour, Jr., "Cost of Production: A Defensible Basis for Agricultural Price Supports?" American Journal of Agricultural Economics 62 (May 1980): 244–48.

by the decision maker to the boat or automobile which cannot be purchased if the trip is taken. Thus, opportunity cost stresses the relationship between the act of choice by the decision maker and the value of the perceived opportunities foregone. Since the opportunities foregone are not actually experienced, cost as it influences choice involves an ex ante evaluation by the entrepreneur of uncertain future outcomes.<sup>7</sup> More than 40 years ago, Coase indicated why the evaluation of profit opportunities will vary depending upon the entrepreneur's attitude toward risk and subjective assessment of the future:

Consider now a businessman trying to decide between alternative courses of action, each of which might produce so many different results. It is clear that the choice will depend partially on the attitude to risk-taking of the person deciding. Some businessmen will be influenced much more by possibilities of high profits which are not very probable than will others. There is no one decision which can be considered to maximize profits independently of the attitude of risk-taking of the business man.<sup>8</sup>

The ex ante planning process, and consequently cost, inevitably involves subjective entrepreneurial judgments about the future. Subjectivity enters cost calculations for inputs owned and rented by the firm as well as when placing a value on the entrepreneur's own time. Consider the commonly used procedure in estimating product cost by adding together the market prices of resources used in the production process. Summing up outlays incurred in this manner is not likely to provide the relevant choice-influencing cost that affects entrepreneurial activity even in the case of nonspecialized inputs. Opportunity costs to the decision maker continue to fluctuate with price movements in the market even in the case of inputs already purchased.<sup>9</sup> This problem of lack of identification between the price of purchased inputs and opportunity costs is, of course, much more serious during periods of rapidly rising prices and economic change. Market outlays are generally equal to opportunity costs for nonspecialized resources, but only under highly restrictive equilibrium conditions.<sup>10</sup>

<sup>9</sup>Ibid, p. 111.

<sup>10</sup>Buchanan, Cost and Choice.

<sup>&</sup>lt;sup>7</sup>James M. Buchanan, *Cost and Choice* (Chicago: Markham Publishing Company, 1969); E.C. Pasour, Jr., "Cost and Choice—Austrian vs. Conventional Views," *Journal of Libertarian Studies* 2 (Winter 1978): 327–36; K.I. Vaughn, "Does It Matter That Costs Are Subjective?" *Southern Economic Journal* 46 (January 1980): 702–15.

<sup>&</sup>lt;sup>8</sup>R.H. Coase, "Business Organization and the Accountant," pp. 95–132, in *L.S.E. Essays* on *Cost*, eds. J.M. Buchanan and G.F. Thirlby (London: Weidenfeld and Nicolson, 1973), p. 104.

Subjective considerations on the part of the entrepreneur are also inevitable and even more important in determining the overhead costs of machinery and other capital equipment. The relevant depreciation cost (including obsolescence) hinges on the unknown future and, consequently, expectations are crucial in the estimation of interest and depreciation costs. Estimates of interest and depreciation costs must be based on historical "cost" records of the business firm or on expectations of future conditions. Since the relevant cost estimates are necessarily expectations rooted in uncertainty, overhead cost estimates by outside observers may vary widely from the opportunity costs perceived by the entrepreneur.

The use of objective cost estimates can be useful to the decision maker. There is no reason, however, to expect objective cost estimates by external observers to correspond to the costs relevant to the act of choice by a particular decision maker.<sup>11</sup> The inability of outside observers to objectively estimate cost as it influences entrepreneurial choice means that conventional regulation cannot achieve its stated objective. While regulators can affect profitability by varying price, they cannot effectively set price on the basis of marginal-cost calculations. To understand why, consider the informational problems inherent in governmental attempts to regulate price under competitive conditions as well as natural monopoly.

## Marginal-Cost Pricing under Competition

In a world of nonspecialized resources, a change in demand has no effect on production cost and cost can be defined independently of product demand. In the real world, however, land, labor, productive facilities, and entrepreneurship are specialized to the firm in the sense that the resources of any particular firm cannot be precisely duplicated.<sup>12</sup> If one firm owns a superior input (e.g., unusually productive land), the return to the superior input is capitalized into higher resource prices. Competition bids up the price of specialized resources so that firms with superior resources face production outlays similar to those of other firms with less-productive resources. An increase in product demand which increases the expected product price will increase returns to specialized resources and, consequently, resource outlays. Thus, when production conditions involve specialized resources, cost of production cannot be defined independently of demand. Moreover, under these conditions the best

<sup>&</sup>lt;sup>11</sup>G.L.S. Shackle, *Epistemics and Economics: A Critique of Economic Doctrines* (London: Cambridge University Press, 1972).

<sup>&</sup>lt;sup>12</sup>Milton Friedman, Price Theory (Chicago: Aldine Publishing Co., 1976), p. 147.

estimate of production cost is product price. Competition brings about an increase in marginal costs so that production outlays on a per-unit basis will tend to be equal to the expected product price. Any observed difference between production outlays and product price may be taken only as an indication of the efficiency of the capital market in revaluing assets.<sup>13</sup>

Consider the tobacco price support program, which is a government-sanctioned cartel that restricts production through acreage or poundage allotments to individual producers. When product price is supported by the government above the market-clearing price, the right to produce acquires a value, namely, the allotment value. Thus, the tobacco cartel raises production costs because the cost of the allotment is an opportunity cost to the individual producer. This phenomenon of program benefits being capitalized into input prices has been characterized by Gordon Tullock as the "transitional gains trap." When such programs are initiated, land prices increase and owners of land receive a windfall gain.<sup>14</sup> In the case of the tobacco program and other agricultural cartels, many current producers purchased production rights (allotments) after the program was initiated and, hence, did not receive the initial gain. Once begun, there is no way to avoid the trap, i.e., to terminate a government subsidy program without imposing losses on program participants.

Moreover, as long as some inputs are less than perfectly elastic in supply, there is no way to avoid this ratchet effect in which a mandated increase in product price leads to an increase in production outlays. Yet, economists in land-grant colleges throughout the United States and in the Department of Agriculture are devoting countless man-days to empirical estimates of production costs as a basis for determining the level of agricultural price supports.

When politics creates profit opportunities (as in the case of agricultural price supports), investment will take the form of attempts to secure access to the profits. Moreover, "rent-seeking" behavior is not restricted to competitive industries. Richard Posner contends that obtaining and maintaining a monopoly privilege is itself a competitive activity, and that, at the margin, the costs of obtaining the governmental privilege are equal to the benefits. Thus, the "transitional gains trap" theory is applicable to noncompetitive as well as competitive industries.<sup>15</sup>

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<sup>&</sup>lt;sup>13</sup>Ibid, p. 146.

<sup>&</sup>lt;sup>14</sup>Gordon Tullock, "The Transitional Gains Trap," The Bell Journal of Economics 6 (Autumn 1975): 671–78.

<sup>&</sup>lt;sup>15</sup>Richard A. Posner, "The Social Costs of Monopoly and Regulation," *Journal of Political Economy* 83 (August 1975): 807–27.

In the case of public utilities (natural monopolies), for example, the objective of regulation presumably is not to increase price but to prevent monopoly pricing by setting a maximum price at the competitive level. As the following discussion demonstrates, however, informational problems in setting price on the basis of cost are no less demanding in this case than for the competitive conditions described above.

## Price Regulation of the Natural Monopoly

There has been a great deal of discussion concerning efficient resource use in "decreasing cost" industries where economies of scale cause average costs to decrease throughout the relevant range of production. If price were set equal to marginal cost in this case, the firm's outlays would exceed the receipts and the firm would incur a loss. Many economists have argued the merits of administered marginal-cost pricing coupled with a subsidy to prevent losses to the firm. An alternative is to set price equal to average cost so that no subsidy is required. Coase summarizes the problems with much of the literature dealing with the advantages of marginal-cost pricing:

As I see it, the argument for marginal cost pricing, like many propositions in modern welfare economics, is more concerned with diagrams on a blackboard than with the real effects of such policies on the working of the economic system. I have referred to this type of economics as 'blackboard economics' because, although factors are moved around and prices are changed, and some people are taxed and others subsidized, the whole process is one which takes place on the blackboard. This is not the way in which one operates with a social system.<sup>16</sup>

The "blackboard economics" nature of analyses relating to the relative merits of marginal versus average cost pricing has received little attention in the literature on economic regulation. The discussion of marginal-cost pricing typically proceeds as if the relevant data concerning costs and returns are *given* to the entrepreneur as well as to the outside observer (or regulator). As Kirzner has aptly pointed out, however, if one assumes that the problem is one of allocating given means among given ends, the entrepreneurial element has been assumed away.<sup>17</sup> If the means and ends are given, profit maximization becomes wholly computational and there is no room for

<sup>&</sup>lt;sup>16</sup>R.H. Coase, "The Theory of Public Utility Pricing and Its Application," The Bell Journal of Economics 1 (Spring 1970):119.

<sup>&</sup>lt;sup>17</sup>I.M. Kirzner, Competition and Entrepreneurship (Chicago: University of Chicago Press, 1973).

entrepreneurial activity. If this point—that marginal-cost pricing merely assumes that data are available—appears unimportant, consider the following discussion of the principles of public-utility regulation by Abba Lerner:

[T]he case where marginal cost is above average cost is an *easy* case.... It is not too difficult to get the capitalist to charge a price equal to marginal cost and to keep the excess of this price over average cost.... But where marginal cost is below average cost.... the right public utility price can be established only if the government steps in and takes the negative rent which nobody else wants.<sup>18</sup>

In this discussion, there is an implicit assumption that data on costs and demand are either given to the regulator or that the regulatory agency can readily obtain these data. It is implied that the hard problem is a political one of implementing marginal-cost pricing. What is the reality? Can regulatory agencies obtain the data required to set price on the basis of marginal cost? Thirlby summarizes the problems confronting a regulatory agency (or other outside observer) in monitoring the extent to which a seller is equating marginal cost and price:

When it is understood that a reckoning of cost ... depends upon the forecasting of events and outcomes of the future, and when it is understood that any individual is uniquely situated in relation to past events on which such forecasts are based, it becomes clear that the results of the reckoning is dependent for what it is upon the unique knowledge and attitude (towards uncertainty and risk) of the unique and uniquely situated individual who calculates it.... The cost (as well as the revenue) calculation, or residual elements in it, is ultimately a matter of subjective opinion....<sup>19</sup>

When the subjective nature of the decision-making process is realized, it becomes clear that no method of cost accounting can reproduce on paper the mental processes of an entrepreneur. Thus, there seems to be no reason to think that regulators will ever be able to monitor the extent to which various pricing rules are followed.

Despite the subjective nature of costs and the uncertainty concerning demand, informational problems associated with cost and demand estimation are neglected or minimized in proposals to regulate price. Marginal-cost pricing, for example, assumes that the regulator has information on demand and cost conditions. From the standpoint of cost, however, it is not a question of a public utility

<sup>&</sup>lt;sup>18</sup>A.P. Lerner, "Conflicting Principles of Public Utility Rate Regulation," in *The Crisis* of the Regulatory Commissions, pp. 25–26.

<sup>&</sup>lt;sup>19</sup>G.F. Thirlby, "Economists' Cost Rules and Equilibrium Theory," in L.S.E. Essays on Cost, pp. 280–81.

discovering the relation between price and output. The real world never contains an actual entity corresponding to the marginal-cost curve, and the amount of output a firm will attempt to produce at any given price depends upon a number of factors including the time horizon, expected input prices, technology, expected environmental controls, and expected taxation policies.

The problem of determining the demand curve facing the utility is no less difficult. As in the case of cost, demand cannot be accurately described as the relation between price and the quantity taken of a given commodity. The amount of product which buyers will purchase per unit of time at any price also depends upon a number of factors including consumer income, length of adjustment period, prices of substitutes and complements, and expected product improvements. Thus, the real world never contains an actual entity corresponding to the demand curve for potatoes, electric power, or any other product.<sup>20</sup> Furthermore, demand conditions are not given to the firm; they have to be discovered by trial and error.

The heroic nature of the assumption that the demand curve is known becomes clear when actual empirical estimates of demand are analyzed, and it is found that demand estimates vary widely due to such factors as the econometric procedures used and the time horizon or length of run that is chosen. A recent study by Resources for the Future, for example, reviewed the literature concerning the estimates of price elasticities of energy demand. The findings were that statistical research

may only confuse the decision maker. For any given consuming group, one can find a range of statistical results wide enough to support virtually any predisposition about the importance of the price effect. Statistical estimates of the price elasticity of demand  $\ldots$  are close to zero in some studies and very large in others. These measures also vary by product, by consuming group, by region, by season, and by time period.<sup>21</sup>

What are the implications of the preceding analysis for price regulation? Proposals to improve public-utility regulation place little emphasis on informational problems. MacAvoy, as previously mentioned, cites better administrative processes as the critical step in improving price regulation. Specifically, in his 1979 study he identifies the use of past-period estimates of costs to establish future

<sup>&</sup>lt;sup>20</sup>Leland B. Yeager, "Methodenstrait over Demand Curves," *Journal of Political Economy* 68 (February 1960): 53–64.

<sup>&</sup>lt;sup>21</sup>Douglas R. Bohi, "Price Elasticities of Energy Demand: An Introduction," *Resources*, no. 65 (Summer 1980), p. 11.

revenues as a major problem and recommends "profit constraints based on current and future costs of investments for providing service" (p. 122). Since cost involves an ex ante appraisal of uncertain future outcomes, however, there seems little reason to expect that the regulator's estimate of choice-influencing cost will correspond to, or even closely approximate, that of the decision maker. What, for example, is the cost of generating electricity by nuclear power? What is the likely length of delay in approval of plant construction? What is the probability that a plant once in operation will be closed temporarily or permanently? These and numerous other factors will have a critical influence on cost. Yet, since the answer to these questions will only be revealed by the passage of time, there is no reason to expect the regulator and the regulated firm to answer these and similar questions in the same way.

There is also the problem that costs to the firm would be different if the constraints within which the firm operates were different. Arzak and Edwards seek to explain why "internal inefficiency" may exist in regulated or unregulated firms. They cite "X-inefficiency" and "managerial discretion" as reasons for "the failure to optimize the rate and direction of technological change."<sup>22</sup> To be meaningful from the standpoint of entrepreneurial choice, however, efficiency must pertain to the entrepreneur's information and his goals. The costs and returns of acquiring various kinds and amounts of technological information vary widely from firm to firm depending upon such factors as size, age of present capital assets, and experience of managers. Thus, there is no reason to expect that the optimal amount of technological information should be the same for every firm. Consequently, there is no known way to identify X-inefficiency or to demonstrate empirically that the operation of a firm is inefficient on the basis of the costs and returns that motivate entrepreneurial choice.

In recent years, there has been renewed interest in the use of competitive principles in utility regulation. Harold Demsetz suggests franchise bidding as an alternative to conventional rate-ofreturn methods of controlling natural monopolies. He contends that competition at the stage of awarding the franchise would be sufficient to achieve competitive pricing even though increasing returns to scale might dictate that only one firm provide the service.<sup>23</sup> After

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<sup>&</sup>lt;sup>22</sup>Enrique R. Arzak and F.R. Edwards, "Efficiency in Regulated and Unregulated Firms: An Iconoclastic View of the Averch-Johnson Thesis," in *Problems in Public Utility Economics and Regulation*, ed. Michael A. Crew (Lexington, Mass.; D.C. Heath and Co., 1979), p. 45.

<sup>&</sup>lt;sup>23</sup>Harold Demsetz, "Why Regulate Utilities?" Journal of Law and Economics 11 (April 1968): 55-65.

exploring problems associated with awarding and monitoring franchise agreements, Williamson and Goldberg conclude that the Demsetz approach may not be superior to the conventional rate-of-return method of regulation.<sup>24</sup>

# Implications and Conclusions

Shortcomings of the rate-of-return approach to price regulation have long been recognized, and there is a near consensus that price regulation is not achieving its stated purpose. There are two main problems. First, conventional methods of regulation assume that regulators can obtain information upon which entrepreneurial decisions are based. However, as suggested above, there is no known way for the regulator to measure the costs and returns that motivate entrepreneurial choice. These problems are no less important in competitive markets than in the case of natural monopoly. Furthermore, as Kirzner suggests, knowledge of least-cost methods of production can be discovered only through the competitive process, and regulators are unable to simulate the entrepreneurial discovery process of the market:

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? ... There is no entrepreneurial process at work, and there is no proxy for entrepreneurial profit or loss that might easily indicate where errors have been made and how they should be corrected.<sup>25</sup>

A second problem is that regulation not only distorts the discovery process of the market, it also creates new profit opportunities for regulators as well as for regulated firms. Even if the regulator could obtain the information required to implement marginal efficiency rules, he does not have the incentive to efficiently utilize the information. Regulators are not motivated to minimize cost since they will not personally reap the rewards. There is an implicit assumption in much of the discussion related to optimal pricing rules that regu-

<sup>&</sup>lt;sup>24</sup>Oliver E. Williamson, "Franchise Bidding for Natural Monopolies: In General and with Respect to CATV," *Bell Journal of Economics* 7 (Spring 1976): 73–104; Victor E. Goldberg, "Competitive Bidding and the Production of Pre-Contract Information," *Bell Journal of Economics* 8 (Spring 1977): 250–61.

<sup>&</sup>lt;sup>25</sup>I.M. Kirzner, The Perils of Regulation, pp. 15-16.

lators act solely to maximize social efficiency without regard to their own self-interest. The evidence, however, suggests that self-interest is no less important for regulators than for decision makers in the private sector.<sup>26</sup>

In evaluating policy alternatives, information problems and problems of program implementation are too often ignored or minimized.<sup>27</sup> Blackboard analyses of the relative merits of marginal-cost versus average-cost pricing provide little useful information in economic regulation. As Hayek stressed a generation ago, the marginal efficiency rules of theoretical welfare economics do not provide the solutions to the economic problem which society faces:

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 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 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.<sup>28</sup>

The carefree use of marginal efficiency rules may be attributed to the assumption of perfect knowledge in neoclassical price theory. The presumption of perfect knowledge assumes away the central task of economic theory, which is to account "for the way information is brought to bear on the decisions of market participants and on the extent to which the market directs relevant information to those who can make the (socially) best use of it."<sup>29</sup> The social fragmentation of knowledge and the best way to utilize existing knowledge was a central feature of the Lange-Mises-Hayek economic calculation debate of a generation ago.

Proposals to replace the process of competition by planned pricing systems are subject to the informational problems that Hayek stressed. The fact that there are sizeable economies of scale or that production does not conform with the standards of the model of perfect competition does not imply that government intervention is warranted. The

<sup>28</sup>F.A. Hayek, *Individualism and Economic Order* (Chicago: University of Chicago Press, 1948), pp. 77–78.

<sup>&</sup>lt;sup>26</sup>J.M. Buchanan et al., *The Economics of Politics*; Alan Peacock, "On the Anatomy of Collective Failure."

<sup>&</sup>lt;sup>27</sup>Charles Wolf, Jr., "A Theory of Nonmarket Failure: Framework for Implementation Analysis," *Journal of Law and Economics* 22 (April 1979): 107--39.

<sup>&</sup>lt;sup>29</sup>I.M. Kirzner, Perception, Opportunity and Profit, p. 32.

relevant question is whether price regulation or unregulated markets can make the best use of existing and decentralized knowledge.

In light of the problems associated with informational and political failure, it should not be surprising when economic studies find regulation to be ineffective or counterproductive. Stigler and Friedland, for example, were unable to find that the regulation of electrical utilities had any significant effect on utility rates.<sup>30</sup> In a follow-up study, Gregg Jarrell concluded that state regulation of the electric utility industry actually brought about *higher* prices and profits.<sup>31</sup> As previously indicated, MacAvoy found that regulation has recently reduced profitability and quantity of output. Thus, as Gary Becker suggests, it may be preferable even in the case of public utilities not to regulate rather than to regulate and suffer the effects of political imperfections.<sup>32</sup>

A necessary first step in evaluating the potential for economic regulation is to understand why regulators cannot obtain the data which motivates entrepreneurial choice. Even if political failure were no problem, there is no way for regulators to obtain the data required to set prices on the basis of marginal efficiency rules. The entrepreneur is given data on neither ends nor means, and if these data were given, the entrepreneurial role would become trivial. Moreover, since choice is necessarily among imagined alternatives, "choice-making under certainty becomes internally contradictory."<sup>33</sup> More attention to the informational problems inherent in all economic regulation by the state appears long overdue.

The assumption that economic regulation is required for industries with substantial economies of scale also warrants more attention. Can government promote competition more effectively in such cases by maintaining freedom of entry or by price setting and restricting competition? Competition can arise not only from other producers of the same product but also from new products. Consequently, abolishing the statutory monopoly enjoyed by public utilities to permit freedom of entry may be a more effective means of increasing

<sup>&</sup>lt;sup>30</sup>George J. Stigler and C. Friedland, "What Can Regulators Regulate?" *Journal of Law and Economics* 5 (October 1962): 1–16.

<sup>&</sup>lt;sup>31</sup>Gregg A. Jarrell, "The Demand for State Regulation of the Electric Utility Industry," Journal of Law and Economics 21 (October 1978): 269–96.

<sup>&</sup>lt;sup>32</sup>Gary S. Becker, "Competition and Domocracy," Journal of Law and Economics 1 (October 1958): 105–9.

<sup>&</sup>lt;sup>33</sup>James M. Buchanan, What Should Economists Do? (Indianapolis: Liberty Press, 1979), p. 281.

competition than attempts to modify or "fine-tune" current methods of regulation.<sup>34</sup>

Finally, government intervention to regulate price should be evaluated in terms of a principled approach rather than on case-by-case opportunism based on notions of Pareto optimality. Each proposed intervention to regulate price should be appraised for its repercussions on the system as a whole—for its anticipated "legal, political, social, and ethical repercussions."<sup>35</sup> Economic theory can help show us why the apparent merits of a specific intervention are not the only relevant considerations and why it is that ". . . when we decide each issue solely on what appear to be its individual merit, we always over-estimate the advantages of central direction."<sup>36</sup> Yeager makes a persuasive case for a principled approach to economic policy:

If we avoid appraising and comparing alternative economic systems as wholes, if we avoid forming and acting on a coherent conception of the good society, we shall make momentous choices in ignorance and by default. The opposite approach, respecting principles, would go far . . . toward reinstating the wisdom of the Founding Fathers regarding the scope and power of government.<sup>37</sup>

His conclusion seems equally applicable for price regulation.

<sup>34</sup>S.C. Littlechild, *The Fallacy of the Mixed Economy* (London: Institute of Economic Affairs, 1978).

<sup>35</sup>Leland B. Yeager, "Economics and Principles," Southern Economic Journal 42 (April 1976): 569.

<sup>36</sup>F.A. Hayek, Rules and Order, vol. 1 of Law, Legislation and Liberty (Chicago: University of Chicago Press, 1973), p. 57.

<sup>37</sup>Yeager, "Economics and Principles," p. 569-70.

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