

NBER WORKING PAPER SERIES

THEORIES OF ECONOMIC REGULATION

Richard A. Posner

Working Paper No. 41

CENTER FOR ECONOMIC ANALYSIS OF HUMAN BEHAVIOR AND SOCIAL INSTITUTIONS  
National Bureau of Economic Research, Inc.  
261 Madison Avenue, New York, N.Y. 10016

May 1974

Preliminary; Not for Quotation

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This report has not undergone the review accorded official NBER publications; in particular, it has not yet been submitted for approval by the Board of Directors.

The research reported herein was performed pursuant to a grant from the National Science Foundation to the NBER for research in the area of law and economics. The opinions expressed herein are those of the author and do not necessarily reflect the views of the National Science Foundation.

# THEORIES OF ECONOMIC REGULATION

Richard A. Posner\*

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## Introduction

A major challenge to social theory is to explain the pattern of government intervention in the market--what we may call "economic regulation." Properly defined, the term refers to taxes and subsidies of all sorts as well as to explicit legislative and administrative controls over rates, entry, and other facets of economic activity. Two main theories of economic regulation have been proposed. One is the "public interest" theory, bequeathed by a previous generation of economists to the present generation of lawyers.<sup>1</sup> This theory holds that regulation is supplied in response to the demand of the public for the correction of inefficient or inequitable market practices. It has a number of deficiencies that we shall discuss. The second theory is the "capture" theory--a poor term but one that will do for now. Espoused by an odd mixture of welfare state liberals, muckrakers, Marxists, and free-market economists, this theory holds that regulation is supplied in response to the demands of interest groups struggling among themselves to maximize the incomes of their members. There are crucial differences among the capture theorists. I will argue that the economists' version is the most promising but shall also point out the significant weak-

nesses in both the theory and the empirical research that is alleged to support it.

## I. The Public Interest Theory of Regulation

### A. The Original Theory

Two assumptions seem to have typified thought about economic policy (not all of it by economists) in the period roughly from the enactment of the first Interstate Commerce Act in 1887 to the founding of the Journal of Law and Economics in 1958. One assumption was that economic markets are extremely fragile and apt to operate very inefficiently (or inequitably) if left alone, the other that government regulation is virtually costless. With these assumptions, it was very easy to argue that the principal government interventions in the economy--trade union protection, public utility and common carrier regulation, public power and reclamation programs, farm subsidies, occupational licensure, the minimum wage, even tariffs--were simply responses of government to public demands for the rectification of palpable, and remediable, inefficiencies and inequities in the operation of the free market. Behind each scheme of regulation could be discerned a market imperfection the existence of which supplied a complete justification for some regulation assumed to operate effectively and without cost.

Were this theory of regulation correct, we would find regulation imposed mainly in highly concentrated industries (where the danger of monopoly is greatest) and in industries that generate substantial external costs or benefits. We do not. Some fifteen years of theoretical and empirical research,

conducted mainly by economists, has demonstrated that regulation is not positively correlated with the presence of external economies or diseconomies or with monopolistic market structure. Few, if any, responsible students of the airline industry, for example, believe that there is some intrinsic peculiarity about the market for air transportation that requires prices and entry to be fixed by the government. The same may be said for trucking, taxi service, stock brokerage, ocean shipping, and many other heavily regulated industries. Even the danger of "market failure" in such traditionally unquestioned areas of regulation as health care, the legal profession, and the safety of drugs and other products is increasingly discounted. The conception of government as a costless and dependably effective instrument for altering market behavior has also gone by the boards.<sup>2</sup> Theoretical revision has both stimulated and been reinforced by a growing body of case studies demonstrating that particular schemes of government regulation--whether of taxicabs, or producers of natural gas, or truckers, or airlines, or stock brokers, or new drugs, or electricity rates, or broadcasting--cannot be explained on the ground that they increase the wealth or, by any widely accepted standard of equity or fairness, the justice of the society.<sup>3</sup>

#### B. A Reformulation

The empirical evidence is sometimes challenged on the ground that the disappointing performance of the regulatory process is the result not of any unsoundness in the basic goals or nature of the process but of particular weaknesses in personnel or procedures that can and will be remedied (at

low cost) as the society gains experience in the mechanics of public administration.<sup>4</sup> Thus reformulated, the public interest theory of regulation holds that regulatory agencies are created for bona fide public purposes but are then mismanaged, with the result that those purposes are not always achieved.

This reformulation is unsatisfactory on two grounds. First, it fails to account for a good deal of evidence that the socially undesirable results of regulation are frequently desired by groups influential in the enactment of the legislation setting up the regulatory scheme. The railroads supported the enactment of the first Interstate Commerce Act, which was designed to prevent railroads from practicing price discrimination, because discrimination was undermining the railroads' cartels. American Telephone and Telegraph pressed for state regulation of telephone service because it wanted to end competition among telephone companies. Truckers and airlines supported the extension of common carrier regulation to their industries because they considered unregulated competition "excessive." Sometimes the regulatory statute itself reveals an unmistakable purpose of altering the operation of markets in directions inexplicable on public interest grounds, as in the reference in the ICC's statutory mandate to the desirability of maintaining "balance" among competing modes of transportation.<sup>5</sup> None of this evidence is decisive against the public interest theory--in each case other groups besides the industry directly regulated supported the legislation. Whether the other groups were also interest groups is discussed later on.

Second, the evidence that has been offered to show mismanagement by the regulatory agency is surprisingly weak. Much of it is consistent with the rival theory (about which more in Part II of this article) that the typical regulatory agency operates with reasonable efficiency to attain deliberately inefficient or inequitable goals set by the legislature that created it. The proclivity of some agencies for concentrating their resources heavily on cases of small individual consequence--a proclivity often thought to be convincing evidence of mismanagement--is in fact consistent with an efficient allocation of resources within the agency.<sup>6</sup> The frequent criticisms of agencies for relying on case-by-case adjudication to make policy rather than engaging in elaborate planning exercises is extremely superficial since it ignores, first, the intrinsic difficulty of forecasting the future and, second, the disastrous consequences for agencies, notably the Federal Communications Commission, that have engaged in such planning.<sup>7</sup> The common argument that the employees of regulatory agencies must be less able than their counterparts in the private sector since they are paid lower salaries<sup>8</sup> ignores the fact that service with an agency frequently increases the later earning capacity of the employee in the private sector. The agency makes a contribution to the employee's human capital. This contribution, when added to his salary, may equal the value of the salary (plus contributions of human capital) that he would have received in the private sector.<sup>9</sup> In sum, one is left puzzled as to why such failures of regulation in the public interest as one observes should be ascribed so confidently to bureaucratic ineptitude.

Third, no persuasive theory has yet been proposed as to why agencies should be expected to be less efficient than other organizations. The motivation of the agency employee to work diligently and honestly is similar to that of the employee of a business firm. Both want to obtain advancement (not necessarily within the employing firm or agency) and to avoid being fired, demoted, or humiliated. To some extent, these motivations are independent of the incentive of the agency's head to enforce standards of diligence and honesty against the employees. Many employees will want to demonstrate the possession of excellent qualities in order to improve their prospects for superior private employment anyway. In any event, the agency head's incentive is clear. He derives few benefits from the slackness of his staff--not even the famous "quiet life." His life would not be so quiet, for many employees would be restless and dissatisfied, knowing that their opportunities for private employment were being impaired by the agency's reputation for laxity and sloth.

Furthermore, the agency's head is answerable both to the legislature and (if he desires promotion or reappointment) to the executive branches. Legislative oversight of agencies is too little emphasized. Unlike business firms government agencies must go to their capital markets--the legislative appropriations committees--every year. There is competition among agencies for the largest possible slice of the appropriations pie and the agency that has a reputation for economy and hard work enjoys an advantage in the competition, for only in the exceptional case will it be to the legislators' advantage that the agency's personnel be lining their pockets (whether with

pecuniary income or with nonpecuniary income such as leisure).<sup>10</sup>

One objection to the foregoing argument is that the agency differs from the private firm in not competing in any product market. But that is to say only that the agency is like a private monopolist, and there is no convincing theoretical or empirical support for the proposition that the internal management of monopolistic firms is any laxer than that of competitive firms. Another objection is that the agency has little incentive to minimize costs because, unlike a business firm, it cannot keep the profits generated by its cost savings. Yet most employees of business firms do not share in the profits of the enterprise, and they are somehow motivated to work efficiently. Moreover, I have suggested several ways in which agency employees, from the head of the agency down, do "profit" from efficient management, and lose if the agency is managed inefficiently.

### C. A Further Reformulation of the Public Interest Theory

The idea that regulation is an honest but frequently an unsuccessful attempt to promote the public interest becomes somewhat more plausible if we introduce two factors often ignored. The first is the intractable character of many of the tasks that have been assigned to the regulatory agencies. The clearest example is the regulation of price levels under public utility and common carrier statutes. These statutes require the agencies to determine the costs of the regulated firms and to hold their prices to those costs, and there are good grounds for believing that the necessary instruments of measurement and control simply do not exist.<sup>11</sup> The agencies are asked to do the impossible and it is not surprising that they fail and in

attempting to succeed distort the efficient functioning of the regulated markets. But this does not explain why legislatures assign such tasks to agencies.

The second factor is the cost of effective legislative supervision of the agencies' performance. In a recent article on legal rulemaking, Isaac Ehrlich and I point out that legislative bodies are a type of firm in which the costs of production are extremely high and, moreover, rise very sharply with increases in output.<sup>12</sup> The reason is that legislative "production" is a process of negotiation among a large group, the legislators, and the analysis of transaction costs in other contexts suggests that bargaining among a number of individuals is a costly process (and explains why legislatures require only a majority and not a unanimous vote in the conduct of their business). Because costs of bargaining rise rapidly with the number of bargainers, a legislature cannot respond efficiently to a growth in workload by increasing the number of its members. Hence, as the business of a legislature rises, it can be expected to delegate more and more of its work to agencies, and to exercise progressively less control over those agencies. This theory has various testable implications. It suggests for example a "life cycle" theory of administrative regulation. The agency is created at a time when the legislature has a strong interest in the problem to be dealt with by the agency. But as time passes, and other problems come before the legislature, the legislature finds itself unable at reasonable cost to continue to devote time to properly monitoring the agencies created previously. The theory also implies that administrative failure

will become, on average, a more serious problem over time, with the growth of the size and complexity of the economy. As we shall see shortly, however, answers to these questions might not discriminate adequately between the version of the public interest theory suggested here and some versions of the capture theory of regulation.

D. Behavioral Assumptions of the Public Interest Theory

A serious problem with any version of the public interest theory is that the theory contains no linkage or mechanism by which a perception of the public interest is translated into legislative action. In the theory of markets, it is explained how the efforts of individuals to promote their self-interest through transacting bring about an effective allocation of resources. There is no comparable articulation of how a public perception as to what legislative policies or arrangements would maximize public welfare is translated into legislative action. It is not enough to say that a voter will vote for the candidate who promises to carry out the policies that the voter perceives to be in the public interest; other policies might benefit the particular voter more. Policies that benefited 51 percent of the voters might impose much greater costs on the other 49 percent, in which event the majority would be confronted with a conflict between principle and interest --and no body of theory or of evidence suggests that they would be likely to vote the former.

There are two possible ways around this problem. One, suggested by Ronald Coase, emphasizes the moral differences between private and political action. The assumption that market behavior is normally motivated by fairly narrow considerations of self-interest is plausible because most market decisions are social goods rather than bads. To be sure, a decision to sell a new product may harm a competitor or a locality or a group of workers or of customers, but the decision makers can be reasonably confident that these harms are more than offset by the gains to others. Where, however, an individual votes for policies designed to exploit his fellows, he can hardly avoid confronting the moral implications of his action and the moral code may constrain him from voting in that manner.

A second approach is to observe the potentiality for collusion among politicians. There are only two important political parties in this country, and there are barriers not only to the formation of additional parties but to the takeover of either of the major parties by disgruntled members or outsiders. Thus there would appear to be opportunities for the politicians who dominate the parties to agree to impose some of their own policy preferences on the electorate. They could also use their monopoly power to obtain pecuniary income--and doubtless do--but I am assuming that they take at least some of their monopoly profits in the form of satisfaction from imposing on the public their conception of the public interest (which might differ from the conception held by the electorate and from the desires of any particular interest group). If

this analysis is accepted, it becomes plausible to suppose that some policies are adopted because they conform to the public interest--as conceived by the politicians.

## II. Some Versions of the Capture Theory

### A. The Marxist

The theory that economic regulation is not about the public interest at all, but is a process by which interest groups seek to promote their (private) interests, takes several distinct forms. One, which is put forward by Marxists and by Ralph Nader-type muckrakers, can be crudely summarized in the following syllogism. Big business--the capitalists--control the institutions of our society. Among those institutions is regulation. The capitalists must therefore control regulation. The syllogism is false. A great deal of economic regulation serves the interests of small-business--or nonbusiness--groups, including dairy farmers, pharmacists, barbers, truckers, and, above all, union labor. Such forms of regulation are totally unexplained (and usually either ignored or applauded) in this version of the interest-group or "capture" theory.

### B. The Political Scientists' Formulations

A more interesting version of the "capture" theory derives from political science, and in particular from Bentley and Truman and their followers, who emphasize the importance of interest groups in the formation of public policy.<sup>13</sup> The political scientists have developed some evidence of the importance of interest groups in legislative and administrative processes, but unfortunately their work is almost entirely devoid of theory. They do not tell us why some interests are effectively

represented in the political process and others not, or under what conditions interest groups succeed or fail in obtaining favorable legislation.<sup>14</sup>

A few political scientists have proposed the rudiments, at least, of a usable theory. This theory--which the term "capture" describes particularly well--is that over time regulatory agencies come to be dominated by the industries regulated.<sup>15</sup>

This formulation is more specific than the general interest group theory. It singles out a particular interest group--the regulated firms--as prevailing in the struggle to influence legislation, and it predicts a regular sequence, in which the original purposes of a regulatory program are later thwarted through the efforts of the interest group.

Unfortunately, the theory is still unsatisfactory. First, it is confusingly similar to, and in practice probably indistinguishable from, some versions of the public interest theory discussed in Part I. Second, which I have generously called it a "theory," it is actually a hypothesis that lacks any theoretical foundation. No reason is suggested for characterizing the interaction between regulatory agency and regulated firm by a metaphor of conquest, and surely the regulatory process is better viewed as the outcome of implicit (sometimes explicit) bargaining between the agency and the regulated firms. No reason is suggested as to why the regulated industry should be the only interest group able to influence an agency. Customers of the regulated firm have an obvious interest in the outcome of the regulatory process--why may they not be able to "capture" the agency as effectively as the regulated firms, or more so? No reason is suggested as to

why industries are able to capture only existing agencies-- never to procure the creation of an agency that will promote their interests--or why an industry strong enough to capture an agency set up to tame it could not prevent the creation of the agency in the first place.

The "theory" answers none of these questions. In addition it is contradicted by three important bodies of evidence. First, not every agency is characterized by a pristine virtue; often there is no occasion for conquest. As mentioned earlier, there is now considerable evidence that a major purpose (in fact) of the original Interstate Commerce Act was to shore up the railroads' cartels.<sup>16</sup> Later amendments, typically passed at the behest of the Commission itself, seem to have been less rather than more favorable to railroads (an example is the Hepburn Act which gave the ICC the power to fix maximum rates). The sequence is opposite to what the capture hypothesis predicts.

Second, the theory has no predictive or explanatory power at all when a single agency regulates separate industries having conflicting interests. The ICC is again a conspicuous example. It regulates competing modes of transportation--truckers, railroads, and barge lines--and the theory does not tell us which one the ICC can be expected to favor. This difficulty is not limited to the agency with a multi-industry "clientele." There are always competing groups within industry. The interests of the trunk airlines are not identical to those of the regional or of the local service lines: which will the CAB decide to promote? The interests of the telephone companies, primarily AT&T, are in conflict with those of Western Union and other "record" carriers:

which competing group will the Federal Communications Commission promote?

Third, the capture theory ignores a good deal of evidence that the interests promoted by regulatory agencies are frequently those of customer groups rather than those of the regulated firms themselves. Indeed, not only many examples of specific regulatory policies, but some of the structural characteristics of the regulatory process, seem best explained by reference to the influence on the regulatory process of interest groups consisting of customers of the regulated industry.<sup>17</sup>

### C. The Economic Theory of Regulation

What I shall call "the economic theory of regulation" was proposed by George Stigler in a pathbreaking article.<sup>18</sup> The theory seems at first glance merely a refined version of the capture theory just discussed. It discards the unexplained, and frequently untrue, assumption of pristine legislative purpose; it admits the possibility of "capture" by interest groups other than the regulated firms; and it replaces the "capture" metaphor, with its inappropriately militaristic flavor, by the more neutral terminology of supply and demand. But it insists with the political scientists that economic regulation serves the private interests of politically effective groups.

More is involved, however, than merely a recasting of the work of the political scientists. The economic theory is more precise and hard-edged--easier to confront and test with a body of data--than the political theory (which, as I pointed out, is not really a theory at all). Moreover, the economic theory is committed to the strong assumptions of economic theory generally,

notably that people seek to advance their self-interest and do so rationally. A political scientist can argue that regulation is more likely to be imposed in a declining industry because adversity is a greater spur to effort than opportunity<sup>19</sup> (an example that assumes that regulation is normally obtained for the benefit of the regulated firms). The economist is reluctant to accept such an explanation. He does not distinguish between a profit forgone and a loss incurred--the former is a cost too, indeed the same kind of cost.<sup>20</sup> (I note parenthetically that the hypothesis is contradicted by a good deal of evidence.<sup>21</sup>)

It is, of course, a weakness rather than a strength in a theory that it is so elastic as to fit any body of data with which it is likely to be confronted. The political science theory of regulation is such a theory. Exceptions to the general rule that regulatory agencies are captured by the regulated firms are explained away by facile references to the personality of the legislators, public opinion, ignorance, folk wisdom,<sup>22</sup> etc. The economic theory insists that regulation be explained as the outcome of the forces of demand and supply. Outcomes that cannot be so explained count as evidence against the theory.

### III. A Closer Look at the Economic Theory of Regulation

#### A. The Theory

I shall now try to describe the economic theory more precisely and to state what I believe to be its strengths and weaknesses. The theory is based on two simple but important insights. The first is that since the coercive power of government can be used to give valuable benefits to particular individuals or groups,

economic regulation--the expression of that power in the economic sphere--can be viewed as a product whose allocation is governed by laws of supply and demand. The second insight is that the theory of cartels may help us locate the demand and supply curves.

Viewing regulation as a product allocated in accordance with basic principles of supply and demand directs attention to factors bearing on the value of regulation to particular individuals or groups--since, other things being equal, we can expect a product to be supplied to those who value it the most. It also directs our attention to the factors bearing on the cost of obtaining regulation. The theory of cartels illuminates both the benefit and the cost side. The value of cartelization is greater, the less elastic the demand for the industry's product and the more costly, or the slower, new entry into the industry (or cartelized markets within the industry) is.

The theory identifies two major costs of cartelization (besides punishment costs, which are relevant only where cartelization is forbidden by law). The first is the cost to the sellers of arriving at an agreement on the price to be charged by and the output of each seller--this agreement determines the profits of each cartel member. The second cost is the cost of enforcing the cartel agreement against nonparticipants or defectors. Cartels are plagued by "free rider" problems. After the sellers agree to charge the price that maximizes their joint profits, each seller will have an incentive to sell at a slightly lower price, because his profits are likely to be higher at the much greater sales volume that a slightly lower price will enable him to obtain. If enough sellers submit to the temptation, the cartel will col-

lapse. A cartel is particularly fragile if members are able to conceal price cuts from one another: then each has the hope of being able to obtain substantial short-term profits before the other members realize that he is cutting price and match him.<sup>23</sup>

Since the effect of common methods of regulation (entry control, minimum rates, exemption from the antitrust laws) is the same as that of cartelization--to raise prices above competitive levels--the benefit side of cartel theory is clearly relevant. The cost side also seems relevant. The members of the industry must agree on the form of regulation. And just as the individual seller's profits are maximized if he remains outside of the cartel (as long as his competitors remain inside), so any individual or firm that would be benefitted by a type of regulation will have some incentive to avoid joining in the efforts of his group to obtain the regulation. If the regulation is forthcoming, he will benefit from it--he cannot be excluded from the protection of a general regulation, just as a seller cannot be excluded from the benefits of his competitors' charging a monopoly price--but, unlike the active participants in the coalition, he will benefit at no cost.

The theory of cartels teaches that the reluctance to cooperate in maintaining a monopoly price is most likely to be overcome if the number of sellers whose actions must be coordinated is small, which tends to reduce the costs of coordination and of policing, and if the interests of the sellers are identical or nearly so, which should reduce the cost of securing agreement.<sup>24</sup> Likewise in the regulatory sphere, the fewer the prospective beneficiaries of a regulation, the easier it will be for them to

coordinate their efforts to obtain the regulation. Also, it will be more difficult for one of them to refuse to participate in the cooperative effort without causing the effort to collapse. Thus, all will tend to participate, knowing that a defection is likely to be matched promptly by the defection of the remaining members of the group, leaving the original defector worse off than if he had not defected. The homogeneity of the interests of the members is also significant. The more homogeneous their interest in the regulation in question, the easier (cheaper) will it be for them to arrive at a common position and the more likely will it be that the common position does not so disadvantage one or more members as to cause them to defect from the group.<sup>25</sup>

The analysis of cartels is plainly relevant to the development of an economic theory of regulation, but it is not that theory. If it were, we would observe the same industries obtaining regulatory protection as form durable cartels. We do not. Many industries, such as agriculture, certain occupations, many branches of retail trade, and some manufacturing industries such as textiles, which have obtained favorable regulation, lack the characteristics that predispose a market to cartelization, in particular fewness of sellers. Casual observation suggests that highly concentrated industries are actually less likely to obtain favorable regulation than less concentrated industries,<sup>26</sup> reversing the usual expectation with regard to the incidence of cartelization.

There are two reasons why the pattern of regulation and the pattern of private cartelization are different. First, the

demand for regulation (derived from its value in enhancing the profits of the regulated firms) is greater among industries for which private cartelization is an unfeasible or very costly alternative--industries that lack high concentration and other characteristics favorable to cartelizing. They lack good substitutes for regulation. (This point suggests, incidentally, a testable--in principle anyway--hypothesis of the economic theory of regulation: among randomly selected unconcentrated industries the presence of cartel-like regulation will be negatively related to the price elasticity of demand for the industry's product at the competitive price. The qualification is critical, and makes the test difficult to carry out in practice.)

Second, whereas cartelization is the product purely of the cooperative action of the firms, favorable regulation requires, in addition, the intervention of the political process. Some industries may be able to influence that process at lower cost than others and these may not be the same industries that are able to cartelize at low cost. In particular, the political dimension of regulation requires two modifications of the theory of cartels as applied to regulation. First, as proposed in a paper by Professor Stigler on the free-rider problem, which appears as an appendix to this article, each member of an industry will have an interest in participating in the coalition seeking protective regulation when there is a significant asymmetry among the positions of industry members. Protective regulation can take a variety (greater than in the case of private cartelization) of forms--limitation of entry, cash subsidy, tariff, etc.--and the choice of the form may, assuming asymmetry among the positions of

the industry's members, affect differentially the welfare of those members. If so, each will want to participate in the industry campaign for regulation so that the choice of the form of regulation to seek will reflect his views. The free-rider problem will still be easiest to overcome where the number of firms in the industry is small, but if the asymmetry condition is fulfilled even the presence of many firms may not erect an insurmountable obstacle to the formation of an effective coalition. This suggests that it may be cheaper for large-number industries to obtain public regulation than to cartelize privately.

Second, the determinants of political influence must be worked into the supply side of the market in regulation. But before this can be done it is necessary to specify the character of the political system under discussion: the political system of the Soviet Union--or of the City of Chicago--is not identical to that of the United States.

One can distinguish three distinct forms of political system all of which play some role in the actual political systems of democratic countries such as the United States. One system I will call "entrepreneurial": favorable legislation is sold<sup>27</sup> to the industries that value it most. For the reason just mentioned, these would not be the same industries that form private cartels. The costs of cooperative action are irrelevant under this system: the government can use its taxing or other powers of coercion to enable the industry to overcome any free-rider problem it might have, in order that the industry can raise the maximum purchase price for the legislation.

The next system to be considered is the "coercive": legislation is awarded to groups that are able to make credible threats to retaliate with violence (or disorder, or work stoppages, or grumbling) if society does not give them favorable treatment. We lack good theories of threats or violence but as a first approximation it would seem that the number of people in the group would be an important determinant of its ability to make credible threats of serious disorder or violence (as opposed to threats of minor sabotage, annoying and costly but not deeply threatening).

The third system is the "democratic": legislation is awarded by the vote of elected representatives of the people. This system, like the coercive, emphasizes the importance of numbers: not of threateners but of voters. The groups are not identical, but there is great overlap, so we are led to predict that the economic legislation of dictatorial regimes will broadly resemble that of democratic ones--as seems on casual observation to be the case. Willingness to pay is also important in the democratic as in the entrepreneurial political system, since legislators are elected in campaigns in which the amount of money expended on behalf of a candidate exerts great influence on the outcome. However, unlike the case of an entrepreneurial system, in a democratic system the free-rider problem remains a serious one: it may limit the ability of an industry or other interest group to make substantial campaign contributions.

The foregoing analysis suggests that while the characteristics that predispose an industry to successful cartelization may

also help it to obtain favorable government regulation, one characteristic that discourages cartelization--a large number of parties whose cooperation is necessary to create and maintain the cartel--encourages regulation. Large numbers have voting (and, potentially, coercive) power and also increase the likelihood of an asymmetry of interests that will encourage broad participation in the coalition seeking regulation. In addition, large numbers, and other factors that discourage private cartelization, increase the demand for protective legislation.

The economic theory can thus be used to explain why we so often observe protective legislation in areas like agriculture, labor, and the professions, where private cartelization would hardly be feasible. This is an important advance over the other theories that we have examined. However, the economic theory has not been refined to the point where it enables us to predict specific industries in which regulation will be found. This is because the theory does not tell us what (under various conditions) is the number of members of a coalition that maximizes the likelihood of regulation. Formally, this is the number beyond which the loss of group cohesiveness caused by adding another member would outweigh the increase in the feasibility and attractiveness of regulation by virtue of the greater voting power and greater demand for regulation (due to the greater difficulty of privately cartelizing).

I used to think that there was one case in which the theory yielded an unequivocal, and testable, prediction. That is where the number of firms in the industry is small, thereby facilitat-

ing the organization of the industry for effective political action,<sup>28</sup> but the number of employees in the industry is great.<sup>29</sup> Since the profits from protective regulation can be divided between the employees and the firms through collective bargaining, it should be possible for the firms to induce the employees to "lend" their voting power to obtaining such regulation. The industry does not quite have the best of both worlds, because the firms' profits from favorable legislation and hence their incentive to seek it will be diminished by the amount of the payoff to the employees, which may be considerable. Legislation favorable to the industry, by raising prices, will reduce output and hence the industry's demand for inputs, including labor. The reduction in demand will harm not only the employees who are laid off but the remaining employees as well--the diminution in the number of employees reduces their voting power which they might want to exercise in other areas. These costs will presumably be considered by the union when it negotiates for its share of the profits conferred by the regulation being sought by the firms.

The major problem with this hypothesis is that the small number of firms is a factor that, by reducing the costs of private collusion, reduces the industry's demand for favorable legislation. So the economic theory is not refuted by observing that the most conspicuous example of such an industry--the automobile industry--seems to have been unsuccessful either in obtaining favorable regulation or in warding off unfavorable regulation (such as safety and emission controls). Anyway, the automobile example--like so many in this field--is ambiguous.<sup>30</sup>

As this example suggests, the economic theory is still so spongy that virtually any observations can be reconciled with it. Consider, as a further example, the apparent paradox that so many regulated industries appear to be either extremely atomistic (like agriculture) or extremely concentrated (like local telephone or electrical service). The former would appear to encounter substantial free-rider problems in organizing a politically effective group; the latter would appear to have little demand for regulation. The moderately concentrated industry would seem to have the optimal structure in terms of the costs of obtaining legislation and the benefits to be derived from it. But theory can worm its way out of this hole, too. For the small-number case, we can point out: (1) even a naturally monopolistic industry would gain from legislation that increased the demand for its product (e.g., by suppressing substitutes) or prevented entry;<sup>31</sup> (2) even if the members of the regulated industry do not gain from regulation, other groups, for example groups of customers, may;<sup>32</sup> and (3) concentration or monopoly may itself be the result of regulation. In the large-number case, we can point out that the reluctance of each member of a coalition to participate substantially in it may be dominated by the number of members who participate, albeit very modestly. Is industry X, having 10 members, likely to spend more money on trade association activities than industry Y, which differs only in that it has 10,000 members? Free-rider problems are presumably not serious in the case of industry X. Let us assume that each member of that industry contributes \$1000 for a total of \$10,000 and that this approximates the optimal expenditure for the industry. Free-rider problems may be serious in industry Y, so serious

that it would be impossible for the industry to raise \$1000 from each member were that necessary to reach an optimal level of expenditures. But the industry does not have to raise that amount from each member in order to match industry X--to do that it need only raise \$1 from each member.

As part of the search for a harder-edged theory of regulation, it has been suggested that the geographic concentration of the people who would benefit from favorable regulation is an important element since a legislator will exert greater efforts on behalf of a voter bloc large enough to influence the outcome of an election materially. But it has not been demonstrated that this is a generally valid proposition. If the same number of voters are more widely dispersed, no legislator will pay as much attention to their demands but more legislators will pay some attention and the net effectiveness of the interest group in the legislature may (it is an empirical question whether it will) be greater. The proposition also ignores the importance of the President in the legislative process. A Presidential candidate has little reason to respond to the desires of voter blocs concentrated in states in which the vote is not expected to be close. Thus we are at a loss to say whether observing a geographically concentrated--or dispersed--group obtaining--or failing to obtain--regulation confirms or refutes the economic theory of regulation. And this illustrates the essential deficiency of the economic theory of regulation in its present form. At best it is a list of criteria relevant to predicting that an industry will (or will not) obtain favorable legislation. It is not a coherent theory yielding unambiguous and therefore

testable hypotheses.

Another sort of weakness is that the theory, pushed to its logical extreme, becomes rather incredible because it excludes the possibility that a society concerned with the ability of interest groups to manipulate the political process in their favor might establish institutions that enabled genuine public interest considerations to influence the formation of policy. One can certainly argue that the U.S. Constitution, in establishing an independent judiciary, did just this (this point is discussed further below). The constitutional requirement of payment of compensation in eminent domain cases is a similar example.<sup>33</sup> More generally, the many features of law and public policy designed to maintain a market system are more plausibly explained by reference to a broad social interest in efficiency than by reference to the designs of narrow interest groups.<sup>34</sup> One can of course say that on some issues the relevant interest group consists of everyone, or almost everyone, in the society. But this usage robs the interest group concept of its utility by collapsing it into the public interest theory.

#### B. The Evidence

Let us turn now to the empirical evidence bearing on the economic theory of regulation. There are a fair number of case studies--of trucking, airlines, railroads, and many other industries--that support the view that economic regulation is better explained as a product supplied to interest groups than as an expression of the social interest in efficiency or justice.<sup>35</sup> I shall discuss in a moment the question just how much support for the economic theory of regulation these studies really provide.

But first I want to discuss another type of empirical evidence, so far largely neglected, that provides additional support for the economic interest group approach. This is evidence concerning the procedures employed in the regulatory process.

A corollary of the economic theory of regulation is that the regulatory process can be expected to operate with reasonable efficiency to achieve its ends. The ends are the product of the struggle between interest groups but, as suggested earlier, it would be contrary to the usual assumptions of economics to argue that wasteful or inappropriate means would be chosen to achieve those ends. We saw that the evidence traditionally adduced to show that regulatory agencies are inefficient is highly ambiguous. I want to go beyond that evidence and note some general features of the regulatory process that suggest it is well designed to achieve the ends posited by the economic theory of regulation.

One is the delegation of regulatory authority by legislatures to administrative agencies. As mentioned earlier, legislatures cannot continuously regulate a complex area; they must delegate much of the regulatory function either to the courts or to administrative agencies. In the area of economic regulation the legislative choice has generally been the administrative agency rather than the court. Lawyers defend this choice on the ground that the public interest purposes assumed to lie behind the legislation can be achieved more efficiently due to (1) the agency's specialization and (2) its independence from political control. The first reason seems specious. Courts have long handled highly complex economic questions, such as those

which arise in antitrust cases, no less efficiently (or more inefficiently) than the agencies--is a merger case tried to a federal district court apt to be mishandled worse than one tried before the FTC, or the ICC?<sup>36</sup> The second reason is illogical. The choice is not between agency and direct legislative regulation--the latter is assumed to be impracticable. The choice is between agency and court and the court is more insulated from political control than the agency. The terminal character of many judicial appointments, the general jurisdiction of most courts, the procedural characteristics of the judicial process, and the freedom of judges from close annual supervision by appropriations committees, all operate to make the courts freer from the interest group pressures operating through the legislative process, and more disposed to decide issues of policy on grounds of efficiency, than any other institution of government--specifically the administrative agency, where these features are absent or attenuated.<sup>37</sup> If I am correct in suggesting that the judicial process is designed to resist interest group pressures, it would seem to follow that the delegation phenomenon should count as evidence in support of the interest group theory of regulation.

My article Taxation by Regulation<sup>38</sup> presented some additional evidence of the influence of interest group pressures on the structure and procedures (as distinct from the substantive outcomes) of the regulatory process. The article suggests that a number of standard features of public utility and common carrier regulation, including controls over construction of new plant and over abandonment of service, the duty of the common carrier to serve all comers, and the tendency to impose public utility and

common carrier controls on industries that sell services rather than goods, are best explained on the theory that regulation is designed in significant part to confer benefits on politically effective customer groups. Much regulation, I argued, may be the product of coalitions between the regulated industry and customer groups, the former obtaining some monopoly profits from regulation, the latter obtaining lower prices (or better service) than they would in an unregulated market--all at the expense of unorganized, mostly consumer, groups.<sup>39</sup>

Since that article was written, an example has occurred to me where regulation may be the product of an alliance between the industry and a supplier group. A perplexing feature of airline regulation is that although the CAB has evidently been effective in facilitating cartel pricing by the airlines, it has (until very recently<sup>40</sup>) exercised no control whatever over non-price competition. The effect of unrestricted nonprice competition when price competition is constrained is to increase the costs of the competing firms and thereby reduce their profits, but, under plausible assumption, by less than if they competed in price.<sup>41</sup> It seems that the higher costs in the airline industry have gone largely into equipment purchases. The airlines compete with one another by purchasing newer and more comfortable aircraft and by offering more flights and therefore greater convenience to travelers. The airlines may have purchased more equipment than they would if they were competing in price as well as in service (although a possibly offsetting fact is that the demand for air travel is less than it would be if the industry's prices were lower). If so, this would suggest that

an apparently inexplicable omission in the regulatory scheme may actually be the calculated result of a coalition of interest groups

The body of empirical evidence supporting the economic theory of regulation has, however, several shortcomings.

1. Most of the evidence is consistent with any version of the interest group theory. The evidence relating to the internal efficiency of regulatory agencies does not enable one to discriminate among any specific such theories (such as the economic theory), because none asserts that regulatory agencies are inept.<sup>42</sup> Only the public interest theory is damaged by such evidence. The case studies on the substance of regulatory policy suffer from the same inadequacy. To show that the Interstate Commerce Act was enacted to benefit the railroads, or the Civil Aeronautics Act the airlines, or that the licensure of physicians benefits them rather than their patients, or that much regulation seems subservient to special-interest customer groups, is to show only that interest groups influence public policy. For these case studies to support the economic theory of regulation they would have to demonstrate that the characteristics and circumstances of the interest groups were such that the economic theory would have predicted that they, and not some other groups, would obtain the regulation that we observe them enjoying. Otherwise any legislation that benefitted some group at the expense of the general public would count as support for the economic theory of regulation.

I am aware of only three studies that have tried to test the economic theory of regulation, as distinct from the general interest group theory: two by Professor Stigler (of

highway weight limitations for trucks and of occupational licensure)<sup>43</sup> and one by Charles P. McPherson (of tariffs).<sup>44</sup> Only the results of one of the studies (trucks) clearly support the theory.<sup>45</sup>

2. The empirical research has not been systematic. The researcher does not draw a random sample of, say, the economic legislation passed in the last ten years and ask how much of that legislation can be explained by the economic theory of regulation. Instead he picks the cases that seem from a distance to support the theory<sup>46</sup> and seeks to determine whether that initial impression was correct. I am not criticizing these studies. Had they shown that trucking, and airline, and railroad regulation could not be explained by reference to the operation of interest groups, the significance for scholarship would have been immense. But even a lengthy series of case studies cannot provide much support for the economic theory of regulation given that the industries studied do not appear to be--and were not selected as--typical and that apparent counterexamples abound. The "consumerist" measures of the last few years--truth in lending and in packaging, automobile safety and emission controls, other pollution and safety regulations, the aggressiveness recently displayed by the previously dormific Federal Trade Commission--are not an obvious product of interest group pressures,<sup>47</sup> and the proponents of the economic theory of regulation have thus far largely ignored such measures. Nor have there been case studies of industries that fail (or never try) to obtain favorable regulation. Furthermore, there is a serious question whether it is proper to define the subject of study as "economic" regulation. Criminal laws, civil rights legislation, legislative reapportionment, and

other "noneconomic" regulations affect economic welfare no less than the conventional forms of economic regulation and it seems arbitrary to exclude them from the analysis: presumably they obey the same laws of social behavior that we think explain economic regulation.

3. Some of the case studies of regulation have produced evidence difficult to reconcile with the economic theory. I refer in particular to studies which indicate that maximum-price regulation has little or no effect on the price levels of public utilities<sup>48</sup> and that some forms of regulation generate costs in resource misallocation that seem large in relation to the benefits to the favored interest group.<sup>49</sup> Both sorts of evidence may seem to confirm the influence of interest groups in the regulatory process but it is only the crudest form of interest group analysis that they support. There is no basis in the economic theory of regulation for ineffectual regulation--for trying and failing to limit the prices of the regulated firms. The obvious explanation is that maximum price controls are a figleaf which the regulatory process uses to conceal from the public its domination by an interest group. But the economic theory of regulation--as thus far developed--does not predict that regulatory agencies will practice fraud on the general public.<sup>50</sup>

Nor does the theory predict that legislatures will choose unnecessarily expensive methods of conferring benefits upon effective political groups. Perhaps they do not. Although it has been estimated that hundreds of millions of dollars a year could have been saved had oil companies received outright grants

from the Treasury rather than oil import quotas which, in the process of enriching the companies and the owners of domestic oil-producing property, induce consumers to make inefficient substitutions for oil,<sup>51</sup> the underlying assumption--that there is a large avoidable deadweight loss--may well be incorrect: an increase in income tax rates to finance an outright grant to the oil companies could have costly substitution effects (e.g., leisure for work) of its own. If the assumption is correct, the implications for the economic theory of regulation are disturbing. It is in everyone's interest to use a more rather than a less efficient way of transferring money to the oil companies. Professor Stigler, in his search for a rational explanation of the quotas, has argued that it would be impracticable to give money to the oil companies directly because then firms would have an incentive to create oil-company affiliates in order to be entitled to the subsidy.<sup>52</sup> However, that danger could be averted by limiting the subsidy to oil companies in being as of the date of the grant. The CAB gave cash subsidies to the airlines for many years: its control over entry prevented the subsidies from attracting new entrants. A similar pattern has prevailed with the merchant marine. And entry controls are not even necessary: the cash grant can be limited to the firms in the industry at the date of the grant (or some earlier date to prevent entry in anticipation of the grant).

4. The empirical evidence depends heavily on a confident rejection of the public interest rationales in which all legislation is--for reasons not yet illuminated by the economic theory of regulation--cloaked. Sometimes these rationales have

just enough plausibility to make such rejection questionable. The oil import quota case is again an interesting one. The recent Arab oil embargo suggests that it is not palpably absurd to adopt governmental policies designed to reduce U.S. dependence on the oil produced by the Arabs. Professor Stigler has argued that if this were the actual purpose behind the oil import quota system, it would have been carried out not by a quota system but by a tariff since the revenues generated by a tariff would go to the taxpayers rather than to the oil companies' stockholders.<sup>53</sup> But the argument proves only that the purpose behind the system may have been a mixture of public interest considerations and interest group pressures.<sup>54</sup>

5. The effects of economic regulation are difficult to trace. A tax on gasoline might help the railroad industry. The cartelization of the airline industry under the CAB's aegis benefits surface transportation (the demand for which is increased by anything that increases the price of a substitute service). These complications make it difficult to identify the industries that benefit from and those that are injured by regulation. It is superficial to point to an industry as an example of an effective political group because it enjoys a high tariff without considering the impact on it of other governmental policies, including many ostensibly imposed on different industries. We do not know whether to regard automobile emission controls as a sign of the industry's inability to ward off adverse regulation or as a token of how limited, and late, government regulation of the automobile industry has been.

6. An important but as yet unexplained datum is the characteristic public interest rhetoric in which discussions of public policy are conducted and the policies themselves framed. The use of language that, if the economic theory of regulation is correct, is utterly uninformative and indeed misleading is not costless; presumably it is employed only because there are offsetting benefits. These benefits must have to do with increasing the costs to members of the public of obtaining accurate information about the effect of the actions of their legislative representatives on their welfare.

Recent developments in the economic theory of fraud may prove helpful in explaining the prevalence of misleading rhetoric in discussions of public policy. The propensity to engage in fraud seems to be related to such factors as the difficulty (cost) of the buyer's determining the performance characteristics of the product (by inspection, use, or whatever) and the value of the buyer's time. The greater the cost of determining the product's performance characteristics, or of the time spent by the buyer in trying to ascertain those characteristics, the more fraud we can expect to find. Where the product is legislation, the cost of determining its quality is often extremely high. With respect to the value of the buyer's time, it is important to note that a legislative proposal must be "sold" to two groups: the legislators and the electorate. Our earlier discussion of the costs of legislation implied that the cost of a legislator's time is very high, which in turn implies that the amount of time he can effi-

ciently devote to appraising the merits of proposed legislation is small.

The introduction of considerations based on the economic analysis of fraud, or more broadly of the costs of information, suggests room for the possibility of reviving the public-interest-miscarried theory of regulation in a way that it can be made rigorous and empirically testable.

### Conclusion

This article has offered a number of criticisms of both the traditional public interest theory of regulation and the newer economic theory which conceives regulation as a service supplied to effective political interest groups. Neither theory can be said to have, as yet, substantial empirical support. Indeed, neither theory has been refined to the point where it can generate hypotheses sufficiently precise to be verified empirically. However, the success of economic theory in illuminating other areas of nonmarket behavior leads one to be somewhat optimistic that the economic theory will eventually gell: the general assumption of economics that human behavior can best be understood as the response of rational self-interested beings to their environment must have extensive application to the political process.

## F o o t n o t e s

\*Professor of Law, University of Chicago Research Associate, National Bureau of Economic Research. I wish to thank Gary S. Becker, Ronald H. Coase, Paul W. MacAvoy, B. Peter Pashigian, and George J. Stigler for their helpful comments on an earlier draft.

This paper was originally given at a conference on regulation sponsored by the National Bureau of Economic Research, and is part of a series of studies in the area of law and economics being carried out by the Bureau under a grant from the National Science Foundation. It is not an official Bureau publication since it has not undergone the full critical review accorded National Bureau publications, including approval by the Bureau's board of directors.

1. The theory is more often assumed than articulated. Some representative works embodying it are James C. Bonbright, *Principles of Public Utility Rates* (1961); Kenneth Culp Davis, *Administrative Law Treatise* (1958) and 1970 supplement thereto; Henry J. Friendly, *The Federal Administrative Agencies: The Need for Better Definition of Standards* (1962).
2. Some examples of the emerging theory of "government failure" are Jack Hirshleifer, James C. DeHaven & Jerome W. Milliman, *Water Supply: Economics, Technology, and Policy* 74-82 (1960); Richard A. Posner, *Regulation of Advertising by the FTC* (American Enterprise Institute, Nov. 1973), and *Natural Monopoly and Its Regulation*, 21 *Stan. L. Rev.* 548 (1969).
3. See, e.g., William F. Baxter, *NYSE Fixed Commission Rates: A Private Cartel Goes Public*, 22 *Stan. L. Rev.* 675 (1970); *Cabinet Task Force on Oil Import Control, The Oil Import Question* (1970); Ronald H. Coase, *The Federal Communications Commission*, 2 *J. Law & Econ.* 1 (1959); George W. Hilton, *The Consistency of the Interstate Commerce Act*, 9 *J. Law & Econ.* 87 (1966); William A. Jordan, *Airline Regulation in America: Effects and Imperfections* (1970); Edmund W. Kitch, Marc Isaacson & Daniel Kasper, *The Regulation of Taxicabs in Chicago*, 14 *J. Law & Econ.* 285 (1971) Paul W. MacAvoy, *The Regulation-Induced Shortage of Natural Gas*, 14 *J. Law & Econ.* 167 (1971); Sam Peltzman, *Entry in Commercial Banking*, 8 *J. Law & Econ.* 11 (1965), and *An Evaluation of Consumer Protection Legislation: The 1962 Drug Amend-*

ments, 81 J. Pol. Econ. 1049 (1973); and, for a general summary of the literature, William A. Jordan, Producer Protection, Prior Market Structure and the Effects of Government Regulation, 15 J. Law & Econ. 151 (1972).

4. An interesting example of this point of view is provided by E. Pendleton Herring, Public Administration and the Public Interest (1936), which argues that the challenge to public administration is to develop techniques of overcoming the interest group pressures that threaten to deflect legislative programs from serving the public interest. He may underestimate the difficulties of doing this because of a certain economic naivete that leads him to suggest in places that opposing group interests can be harmonized in a way that vindicates the public interest. Ordinarily harmony is achieved at the expense of the public interest. We give several examples later on.
5. National Transportation Policy, 49 U.S.C. preceding § 1.
6. Richard A. Posner, The Behavior of Administrative Agencies, 1 J. Leg. Studies 305-23 (1972).
7. See, e.g., Richard A. Posner, The Appropriate Scope of Regulation in the Cable Television Industry, 3 Bell J. Econ. & Management Sci. 98 (1972); William S. Comanor & Bridger Mitchell, The Costs of Planning: The FCC and Cable Television, 15 J. Law & Econ. 177 (1972).
8. The question is never asked whether their jobs might be less risky or require less skill than the private-sector jobs with which they are compared.
9. See Richard A. Posner, Economic Analysis of Law 391 (1973); Ross D. Eckert, What Do Regulatory Commissions Maximize? (unpublished manuscript, Dept. of Econ., Univ. of So. Calif., 1972).
10. One could argue that the legislator may not have much incentive to ride herd on the agency: he will not get paid more and his popularity with the voters will be increased only marginally. But this ignores the fact that the actual audit will be conducted by an employee of the legislative body, who will have the same incentive to conduct a searching audit as any privately employed auditor.
11. See, e.g., Richard A. Posner, Natural Monopoly and Its Regulation, 21 Stan. L. Rev. 548 (1969).
12. Isaac Ehrlich & Richard A. Posner, An Economic Analysis of Legal Rulemaking, 3 J. Leg. Studies 257 (1974).

13. See Arthur F. Bentley, *The Process of Government* (1908); David B. Truman, *The Government Process: Political Interests and Public Opinion* (1951). For specific application of the approach to regulatory agencies see *id.* at 416-21. For the position of Herring on the role of interest groups in regulation see note 4 *supra*. It is interesting to note that "interest group" is not a pejorative term for most of the political scientists, since they are either indifferent to or unaware of the fact that the economic costs of regulation procured by an interest group normally exceed the economic benefits.
14. The vagueness of the theorizing in Truman's book, *supra* note 13, especially at 506-07, 515, is typical.
15. See Marver Bernstein, *Regulating Business by Independent Commission* (1955); Samuel P. Huntington, *The Marasmus of the ICC: The Commission, the Railroads, and the Public Interest*, in *Public Administration and Policy: Selected Essays* 58 (Peter Woll ed., 1966); Avery Leiserson, *Interest Groups in Administration*, in *Elements of Public Administration* 314 (Frix Morstein Marx ed., 1946); Harmon Ziegler, *Interest Groups in American Society* 278-91 (1964).
16. See George W. Hilton, *supra* note 3; Gabriel Kolko, *Railroads and Regulation, 1877-1916* (1965); Paul W. MacAvoy, *The Economic Effects of Regulation: The Trunk-Line Railroad Cartels and the Interstate Commerce Commission Before 1900* (1965).
17. See Richard A. Posner, *Taxation by Regulation*, 2 *Bell J. Econ. & Management Sci.* 22 (1971).
18. *The Theory of Economic Regulation*, 2 *Bell J. Econ. & Management Sci.* 3 (1971). For an attempt to marshal empirical support for the theory see Jordan's article on producer protection, *supra* note 3. Stigler, it should be noted, builds on earlier work by economists on the political system. See James Buchanan & Gordon Tullock, *The Calculus of Consent* (1962); Anthony Downs, *An Economic Theory of Democracy* (1957); Mancur Olson, Jr., *The Logic of Collective Action* (1965).
19. James Q. Wilson, *The Politics of Regulation* 8 (Brookings Institution, forthcoming).
20. Ronald Coase, however, suggests the interesting possibility that when a business is in decline, managers may find it profitable to shift their attention from improving their business operation to improving the political environment, another potential source of profits. There is a further point: the costs of becoming informed about opportunities for enhanced profits through government regulation may be greater than the costs of perceiving losses that regulation might reduce.

21. For example the airline industry was not declining in 1938 when the Civil Aeronautics Act was passed, or the railroad industry in 1887 when the first Interstate Commerce Act was passed. One tends to associate regulation with declining industries primarily because so many regulatory programs were instituted during the depression of the 1930s.
22. See David B. Truman, supra note 13, at 512.
23. For a summary of cartel theory see Richard A. Posner, Oligopoly and the Antitrust Laws: A Suggested Approach, 21 Stan. L. Rev. 1562, 1566-75 (1969).
24. The characteristics that predispose a market to cartelization are discussed in Richard A. Posner, supra note 9, at 116-17.
25. On the other hand, the more successful and profitable the cartel, the greater the costs to consumers, and so the greater the incentive of consumers to organize against the cartel. Professor Stigler has suggested that the role of the "outsider" (e.g., the consumer) is greater in the public regulation than in the private cartelization context (see George J. Stigler, supra note 16, at 16), but it is not clear why a cohesive group of customers would not be equally effective in exacting concessions from a private cartel.
26. For some evidence in support of this hunch see Charles B. MacPherson, Tariff Structures and Political Exchange (unpublished Ph.D. dissertation, Univ. of Chi. Dept. of Econ., 1972).
27. At what price? The government has a monopoly of the sale of regulation so presumably will be able to charge a positive price even if the cost of supplying regulation is zero. In fact the cost is greater than zero, both because the production of legislation is costly (see text at note 12, supra) and because regulation that favors one group imposes costs on others.
28. I assume that the free-rider problem is least serious when the number of parties is very few, albeit larger coalitions might also be able to overcome the problem.
29. The fundamental distinction between number of firms and number of voters undermines Professor Stigler's hypothesis (George J. Stigler, supra note 16, at 7) that small firms will enjoy disproportionate political influence. If the number of employees is proportional to sales, it is not obvious why small firms should be any more important in obtaining favorable regulation than in the formation of a private cartel.

30. Conceivably safety and emission controls hurt foreign manufacturers more than domestic ones. Without evidence, I find this suggestion somewhat implausible, however. For example, the emission controls reduce engine performance, always a big selling point for American cars, which would seem to hurt the domestic manufacturer more. Also, the argument ignores the fact that many imported cars are manufactured by foreign subsidiaries of domestic manufacturers. These foreign entanglements of the domestic companies may however explain why the industry does not enjoy tariff protection. Also to be considered is the fact that while the gasoline tax would seem to reduce the demand for automobiles, the proceeds of the tax are largely earmarked for highway construction--and highways are complementary to automobiles--so the tax may have little adverse effect on the industry after all. The need for further research in this area is dramatically apparent.
31. Even under conditions of natural monopoly, the profit-maximizing monopoly price will reduce entry, albeit of firms having higher costs than the monopolist.
32. See Richard A. Posner, supra note 15.
33. See Richard A. Posner, *Economic Analysis of Law* 22 n. 2 (1973).
34. The role of legal institutions in supporting the market system is a major theme of *Economic Analysis of Law*, supra note 33.
35. See references in note 3 supra.
36. For some evidence, see Richard A. Posner, *A Statistical Study of Antitrust Enforcement*, 13 *J. Law & Econ.* 365 (1970).
37. See Richard A. Posner, supra note 33, chs. 23, 27. An interesting point here is the traditional reluctance of the courts to permit groups to litigate. This comes about through requirements of "standing" to sue and prohibitions against "lay intermediaries" between client and lawyer. A trade association cannot bring a lawsuit seeking a legal rule favorable to its members. The member must sue on his own behalf. This reduces the influence of interest groups in the litigation process. But see *NAACP v. Button*, 371 U.S. 415 (1963).
38. Supra note 15.
39. This extension of the economic theory of regulation helps explain, for example, why the original Interstate Commerce Act was supported by (some) shippers as well as the railroads themselves: the railroads' discriminatory pricing--the target of the Act--both undermined the railroads' cartels and harmed shippers competing with favored purchasers.

40. When it approved capacity-limitation agreements among airlines in certain markets.
41. See George J. Stigler, Price and Nonprice Competition, in his Organization of Industry 23 (1968).
42. The theory, discussed in Part IIB supra, that regulatory agencies eventually knuckle under to the regulated firms comes close to implying that regulatory agencies are ineptly managed (otherwise they would not be so easily conquered). This is an example of the confusing overlap, noted earlier, between this version of the capture theory and the public interest theory.
43. See note 16 supra.
44. Supra note 23.
45. Stigler's tests of occupational licensure produced mixed results. A partial test of the theory is also attempted in B. Peter Pashigian, Public vs. Private Ownership: Consequences and Determinants of Local Transit Systems (unpublished manuscript, Univ. of Chi. Grad. Sch. of Bus., Oct. 1973), again without successful results.
46. However, this does not appear to be true of Professor Stigler's study of state limitations on truck weights.
47. See Sam Peltzman's recent study of the regulation of new drugs by the Food and Drug Administration, supra note 3; cf. my Reflections on Consumerism, 20 U. Chi. L. S. Rec., no. 3 (spring 1973), p. 19.
48. See Thomas G. Moore, The Effectiveness of Regulation of Electric Utility Prices, 36 S. Econ. J. 365 (1970); Raymond Jackson, Regulation and Electric Utility Rate Levels, 45 Land Econ. 372 (1969); George J. Stigler & Claire Friedland, What Can Regulators Regulate? The Case of Electricity, 5 J. Law & Econ. 1 (1962).
49. The oil import quota program is a notable example. See Cabinet Task Force on Oil Import Control, supra note 3, at 28-30.
50. This would be a logical extension of Professor Stigler's remarks on the relevance of information costs in the analysis of the political process (supra note 16, at 11-12), but it has not been made. On the economics of fraud, see Richard A. Posner, Regulation of Advertising by the FTC, pt. 1 (American Enterprise Institute, Nov. 1973), and references cited therein. Possible applications of the economic theory of fraud to the theory of regulation are discussed in the text below.

51. See note 49 supra.
52. George J. Stigler, supra note 16, at 4-5.
53. Id. at 4.
54. Another consideration is that the oil import quota program could be and was established by Executive Order rather than by statute, whereas imposition of a tariff would have required congressional action.