The Fragmentation of Public Policy Analysis: The Example of U.S. Regulatory Policy

Melvin J. Dubnick

Emporia Kansas State College

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Political science and economics are in a state of transition. The focal points of both disciplinces are converging in the study of public policy. Both are seeking a new relevance in action-oriented rather that discipline-oriented research.[1] Both are in search of a new professional fulfillment in applying rather than discovering scientifically verified regularities.[2]

The "shift in intellectual gears" which characterizes this change in focus is anything but complete. In fact, the movement toward a policy focus is barely discernible in most of the major texts of both disciplines and is often obscured among the more traditional studies which continue to dominate the major journals. Yet, the shift in focus is having an impact, and this is perhaps most evident in the analysis of government regulation in the United States. This paper will concentrate on the change toward a public policy focus as it is manifested in the study of economic regulation. The state of analysis in the issue-area is examined and related to the fragmented condition of public policy analysis in general. Finally, consideration is given to the direction students of government regulation should take in meeting the challenge of policy analysis. What results is an agenda for research which is as much a personal statement of objectives for this writer as it is a plea for more work in this area by those interested in the policy sciences.

1. Toward A Policy Focus

The study of government regulation has passed through two phases and is now entering its third. The first phase focused analytic attention on the structures and procedural decision-rules of economic regulation; the second was concerned with the behavior patterns as well as the institutional contexts characterizing the regulatory process; and the emerging third phase places regulatory policy--i.e. the output produced by those structures, procedures, behaviors, and contexts--at the focal point of analysis.

The first phase developed with the reform movement of the late 1800's and early 1900's and remained dominant until the Second World War. Three issues were salient to analysts of regulation during that period: the institutional form of government, its relationship to the three constitutional branches of government, and the need to guarantee equity and justice in the procedures by which regulation was carried out. Each of these issues reflected a set of positive presumptions on the part of those analysts regarding the need for and possibility of government intervention in the economy. Never questioning the need for regulation, reform-minded political scientists and economists debated the organizational form that regulation should take and the operational techniques to be used. The ultimate goals were economy, efficiency, and equity of performance; and these criteria were regarded as attainable if one were to follow the "principles of administration" and due process of law set forth in the works of contemporary public administrationists and European administrative law. For early institutionalists, the administrative systems of continental Europe were models to be copied [3]; for New Deal students of the science of administration, one need only follow the basic principles of that science if one was to achieve the desired levels of economy and efficiency[4]; and for the students of law concerned with the fair and equitable treatment of all parties before a regulatory body, certain administrative procedures must be institutionalized so as to guarantee justice and fairness in the due process of law.[5] Each of these goals were considered achievable through manipulation of the decision-rules governing economic regulation, and it was the task of students of government regulation to understand those decision-rules so that they could prescribe and proscribe institutional changes as the need arose.

The second phase witnessed a shift in focus from institutional structures and procedures to the actual patterns of behavior characteristic of regulatory agencies. Evidence indicating the behavior of regulators became increasingly available beginning in the pre-World War Two period and continued to grow as analysts were urged to undertake empirical studies of the operation of the regulatory process. James C. Charlesworth gave voice to this shift in focus is a 1942 article which described the past analysis of regulatory agencies as little more than the historical record of their "statutory creation and amendment, an examination of their constitutional relationship to the three branches of government, a commentary on the independence of their members, and a discussion of whether they currently represent business or the public." Charlesworth reacted to this trend by calling for the study of "how these organizations apply known law to facts. Our problem," he argued "is no longer areas of jurisdiction, but areas of positive responsibliity."[6]

Whether Charlesworth's "call" to empirical analysis was or was not an instigating factor in the regulatory analysis of the following years is not as important as the fact that the study of the regulatory process (from a behavior pattern perspective rather than a legalistic one) did take hold. The work of several analysts along these lines had already made an impression on the literature prior to the War--at least an impression significant enough to draw a warning from Merle Fainsod who, in 1940, noted that the emphasis on process must be offset by the fact the "medium" in which that process occurs is very important. Fainsod suggested the complementary nature of empirical studies of institutional, political, and social contexts for the analysis of the political and legal process of regulation.[7] By the first half of the late 1950's, studies of both the process and its medium were taking center stage,[8] and commentaries such as Louis L. Jaffe's classic monograph on "The Effective Limits of the Administrative Process"[9] reflected findings of this new analytical focus on the empirical facts of the regulatory process.

In 1955 Marver H. Bernstein published his study on Regulating Business By Independent Commission and called for analyses which concentrated on the "realities" of government regulation.[10] In a 1961 article he went even further and challenged previous analyses of the regulatory process which used the irrelevant classifications and dichotomies of legal theory or public administration. Such analyses, he argued, used concepts "that bear little or no relation to regulatory operations," e.g. separation of powers, rule-making versus adjudication functions, regulation versus promotion functions, commission versus noncommission regulation, and so on.

> The categories under rewiew here have been the principle conceptual tools available for analysis of the regulatory. They have not made affirmative contributions to the analysis of what happens in regulatory operations. Their major use has been to provide a basis of objection to what takes place because it does not fit the categories.[11]

A similar argument was made by Mark S. Massel who noted that traditional critiques of the regulatory process are insufficient in that they are only concerned with the procedural and technical factors of the process--not the political and substantive factors. It would appear, he speculated, "that much of our preoccupation with procedural problems simply permits us to avoid the tough policy issues."[12]

Out of these various self-criticisms came embryonic theories of regulation which were intended to summarize the regulatory process and explain some of the factors which determined the quality of regulatory policies. It was at this point that the third and most recent phase in the analysis of government regulation was brought into the mainstream. To understand what the shift in focus meant and how it happened, it is necessary to examine the state of regulatory analysis in economics and its contribution to the deveolpment of the third phase.

The study of policy impacts laid dormant for many years as political scientists and lawyers concentrated on "matters of procedure, responsibility, and equity."[13] Meanwhile, that reform-oriented school of economists who had been concerned with regulation--the institutionalists--were driven into a state of obscurity by the "triumph of Keynesianism" in the late 1930's. It was not until the revival of price theory in the early 1960's that attention began to focus on the effects of regulatory policy. The impact of "regulatory bias" on the regulated firm was the topic of a now classic 1962 study by Harvey Averch and Leland L. Johnson. Other studies, mainly out of the orthodox "Chicago School" of economic analysis, were concerned with the influence of rate regulation and entry or behavior restrictions imposed by the most prominent of the federal regulatory agencies, i.e. the Interstate Commerce Commission, the Civil Aeronautics Board, the Federal Power Commission, the Federal Communications Commission, the Securities and Exchange Commission, etc.[14]

The link between those who focused on the behavior patterns and institutional medium of the regulatory process and those concerned with the effect of regulation on the price system and firm behavior comes in the focus on regulatory policy. Among those studying the process leading to such policies, Marver H. Bernstein, in his 1961 article, suggested some initial hypotheses which link the effectiveness of regulation to the qualities of the regulatory process.[15] Several years later, Lee Loevinger suggested some initial "theoretical principles" upon which a "theory of regulation" could be constructed.[16] And more recently, James Q. Wilson developed several propositions useful in relating the causes and nature of economic regulation to its effects.[17] From among the "Chicago School" economists who anaylzed the impact of regulatory policy, George J. Stigler and Roger G. Noll emerged with theories of regulation based on the assumption that the actors involved are rational, optimizing individuals characterized by "utility-maximizing behavior." Thus, Stigler holds to the thesis that, "as a rule, regulation is acquired by the regulated industry and is designed and operated primarily for its benefit."[18] Noll's theory, based on a related thesis, attempts to explain the behavior of regulators who "attempt through decisions to maximize some objective function."[19] As these various theories develop, connections were and are being made between the analysis of the causes and consequences of regulatory policy. At the heart of these connections is the new emphasis of regulatory policy as the focal point for analysis.

II. On the State of the Analysis

This new focus on policy in the analysis of government regulation is an emerging trend rather than a dominating force. Many political analysts continue to investigate the process of regulatory decision-making without reference to policy output or outcome, while most economists who study government regulation continue to concentrate on the analysis of policy effects without reference to the causes or conditions of policy formluation.

In political science, for instance, a recent issue of the <u>Policy</u>

Studies Journal[20] contained a symposium on economic regulatory policies which, with a few exceptions,[21] reflected a greater concern for policy description and the policy-making process than it did for regulatory policy effects. In economics, journals such as The Bell Journal of Economics and the Journal of Political Economy usually contain studies which describe the costs and benefits of regulation in areas ranging from savings interest, railroads, natural gas and motor freight transport to broadcasting, stock exchange transactions, and electric utilities.[22] Other, more general studies along the lines of the Averch-Johnson analysis on the behavior of regulated firms, have also proliferated since the early 1960's.[23] Thus there is little overt evidence within each discipline of the developing connection between studies of causes and consequences; to the contrary, economists and political scientists appear to be heading in mutually exclusive directions.

Nevertheless, there are indications that a new and inclusive policy focus is beginning to take hold. James Q. Wilson's article on "The Politics of Regulation" represents a recent attempt by a political scientist to bridge the gap relating causes to consequences; but the most substantial recent work in this area has come from the "price theory" economists. For example, Paul W. MacAvoy and Roger Noll have studied the correlation between variations in regulatory decision-rules (pricing strategies) and the effects of the resulting regulations on natural gas supplies;[24] and how such decision-rules are determined has been the focus of analyses by Paul L. Joskow and Victor P. Goldberg.[25] Beyond these and similar efforts, however, there seems to be little advancement along the lines indicated by the new focus on policy.

A principle reason for the slow development of policy-oriented regulatory analysis is found in its "fragmented" condition; and this, in turn, is symptomatic of a crisis in public policy analysis in general. The current state of public policy analysis can best be described in terms of a "scientific revolution" (in the Kuhnian sense[26]) wherein a new analytic paradigm is evolving out of the chaos of a "multiple-paradigm" social science.[27] Public policy analysis is an interdisciplinary mixture of various tools, models, and theories, each being used where appropriate to answer the unique questions raised by policy analysts. It is, as Duncan MacRae, Jr. terms it, an "applied social science," and as such it provides a framework within which the work of various scientific disciplines--from engineering and medicine to political science and public administration--can be combined for "mutual support" and to meet growing "societal needs."[28] Thus we find the political scientist using benefit/cost analysis, the economist developing theories of political behavior, the sociologist becoming increasingly involved in public program evaluations, and so on. Perhaps in response to the logic of contemporary social theory, or perhaps in response to political and social pressures felt by all the social sciences over the last decade, analysts previously concerned with the due process of law, the level of unemployment, social alienation, and similar matters have turned their attention to (i.e. their focus upon) questions related to public policy, its causes, and its consequences.

Yet, in the development of this shift toward public policy, the academic roots of the many analysts has taken its toll. The payment comes in the form of a disorderly scientific revolution--a fragmented revolt which has been developing in several directions at once while maintaining a common and consistent focal point. The institutional/behavioral orientation of political science, the structural-functionalist mainstream in sociology, the neo-classical and Keynesian perspectives of contemporary economics, etc., have all contributed to the new analytic perspective, but <u>not in an integrative fashion</u>. There has not emerged the metaphysical or sociological paradigm[29] needed to bind these policy analysts together. The revival of the neo-Marxist approach and the study of "political economy" represent partial responses to the resulting crisis, but these have not accomplished the task of affecting a change in the fragmented quality of contemporary policy analysis.

The end result is reflected in the fact that it is impossible to obtain an agreement as to what constitutes public policy analysis. For one group it is the study of the response of political institutions to their surroundings;[30] for others it is the analysis of policy outputs,[31] public choices,[32] or those factors which condition or cause general levels of public policy;[33] still others regard policy analysis to be the evaluation of policy effects through program evaluations[34] or more general studies of environmental impacts.[35] This diversity of concern is complemented by a methodological fragmentation nurtured by the fact that each discipline brought its own "bag of tricks" to the analysis of public policy. While a logical positivism characterizes almost all these methods, contentions regarding particular tools, data sets, or criteria for verification have been common.[36]

Given this background, it is little wonder that the study of regulatory policy is itself so fragmented. Realizing this to be the situation, one is faced with a choice: to either work consciously and systematically for an integration of regulatory policy analysis through the development of an organizing theoretical framework, or to allow that integration to develop naturally, i.e. without the use of a single metaphysical or sociological framework to determine what is or is not acceptable. There is a case to be made for both sides.

On the one hand, there are those who argue that the disciplinary "confines" which restrict policy analysis in general (and, by logical extension, regulatory policy analysis in particular) must be breached if applications of the knowledge obtained are to be fruitful and useful. Such application will not come about "automatically." For Charles O. Jones "it seems inevitable that if policy analysis within the academy is to make its contribution to . . . [the] 'world of action,' some means must be found for one discipline to capitalize on the expertise of another." What this suggests is "that we find more effective methods for interdisciplinary communication and translation of findings. . . ."[37] The implications of this view are obvious: it is incumbent upon us as policy analysts to deliberately develop those integrative frameworks that will facilitate interdisciplinary work.

On the other hand, there are those who foresee a cost to a deliberate integration--a cost possibly too great to bear for an emerging field. Integration calls for reformulation, and this means somethings are retained while others are thrown out. Given our current state of knowledge, can such action be taken with any certainty that what is being discarded should, in fact, be discarded? The alternative to integration is to accept the present disorder of policy analysis (read regulatory policy analysis) as an opportunity for competing methods and models to be tested. This will offer analysts the time needed "to clarify and sharpen theoretical distinctions rather than obfuscate them. Integrative efforts may have the latter tendency."[38]

The challenge to analysts of regulatory policies rings loud and clear. The question is, which course are students of government regulation to take?

III. Facing the Problem: A Proposed Strategy

Among political scientists who have oriented themselves to public policy, there exists a rather large majority which would consider that challenge a moot one, since a general systems framework seems to fulfill the function of an integrating framework. In various forms,[39] this framework has itself become symbolic of the field and has even been adopted as the logo for the new Policy Studies Journal. Is this the integrative mechanism it seems to be? In short, do we already have the metaphysical basis for policy analysis?

Considering the criteria used in evaluating potential integrating framework and the fact that policy analysis is in such disarray, the answer to those questions is negative. True, the systems model does permit analysts to perceive the general picture; and it also permits them to "locate" their particular interests relative to the work of others in the field. But is this a sufficient basis for organizing an emerging field? I'm afraid not. In fact, an argument can be made that the systems perspective has perpetuated the fragmentation of policy analysis by defining disciplinary jurisdictions. Thus, even though political scientists may consider policy impact studies or program evaluations to be relevant and valid undertakings, they also tend to perceive such analyses as outside their domain. With a few exceptions, this has been the case as students of policy causes have left the study of policy effects to economists and vice versa.[40] Facilitating a compartmentalization of perspective, the systems framework acts as an obstacle in the development of theories and models which might encompass the broader perspective and which would span the variables relating policy causes and consequences. From this view, it is not difficult to explain why political scientists and economists develop their theories of public policy in mutually exclusive terms, for while the former attempt to explain policy formulation the latter defines the function of the analyst in terms of measuring and evaluating policy effects. The models used by each discipline are almost exclusive of the other's; and any perceived overlap (such as the common focal point discussed here--policy) often seems "forced" upon them.

What is lacking in the systems framework? In one word: substance! The systems framework provides policy analysts with an empty shell to be filled as the analyst sees fit. It does not contain "propositions about politics and public policy which aan be directly tested"; nor does it do a more than superficial job in pointing "out where to look for explanations of public policy" or suggesting "the conditions under which we should expect to observe particular policy outcomes."[41] Those criteria can only be met by a framework which supplies theoretical statements "which says that one class of phenomena will be connected in a certain way with another class of phenomena."[42] The systems model does not offer the analyst such statements, although it is useful as a "container" for "holding" various theories. An integrative device capable of drawing a fragmented policy analysis field together would have to contain a set of theoretical statements developed at a very general level, i.e. it must be more than an empty shell.

Is there a theoretical scheme presently available which can fill the vacuum? A review of the literature indicates the presence of many theories competing for salience, but the absence of any single substantive perspective capable of meeting the standards of the community of scholars involved. This condition is not only indicative of the fragmented revolt, but is also the basis for accepting Elinor and Vincent Ostrom's suggestion that we undertake a strategy of theory development through a process "crucial testing." Using this approach, policy analysts would "array alternative sets of hypotheses" and "test those by reference to empirical evidence."[43] The resulting research "plays its most effective role in simultaneously reducing the warrantability of one theory and increasing the warrantability of another theory."[44]

The analysis of regulatory policy is ripe for this latter strategy. While there presently exist no widely accepted general theories of regulation capable of integrating the field, there are a number of more specific theories which offer alternative explanations for different facets of government regulation. Some of these are simply models carried over from analyses which focused on matters of structural, procedural, behavioral, or contextual factors. For instance, several models were developed under the institutional and behavioral foci of earlier analyses for the purpose of explaining why regulatory agencies were formed or the logic under which they operated.[45] Explaining the existence of the agencies, the early reformists hypothesized them as responses to the demands of the public for government intervention in the "public interest"; a different model regards such agencies as tools of the "ruling class"--that is, the capitalists who are seeking a friendly, certain, stable environment; while a third model sees regulatory bodies developing in response to technical economic conditions such as those created by modern inventions like the telephone and similar types of "natural monopolies." In regard to the dynamics of the regulatory process, the "public-interest" and "capture" theories have dominated the field for years. Within the systems framework, these models were not so much changed as they were extended in order to touch upon the concern for regulatory policy. So the models which once were used only to explain the creation and development of institutional forms are now used to explain the policies through those forms; and those constructed for the purpose of explaining the regulatory process are likewise identified as casual theories for regulatory policy. The old wine, therefore, has been poured into the new system bottle with its focus on policy rather than institutions or behaviors. The same point can be made for the economists' models used in studying policy impacts: The neoclassical concern for the efficiency of the markets allocation of resources has been translated into a model, for focusing on the efficiency of the regulated sector of the market.

The "linking" models of Stigler, Noll, Joskow, Goldberg, and Wilson discussed above are of a different breed, for they constitute theories which either (1) connect casual and conditioning factors with policy outputs and outcomes through regulatory policy, or (2) attempt to explain the relationship of policy effects on the casual and conditioning variables through the feedback process. Here are where the bridges are being built and where the new policy focus is coming into its own, From these tentative theories a new perspective is being developed which is doing more than extending old models to policy. From these are evolving new, more inclusive models which relate factors formerly separated by analysis. But, what is most important, from these new models and those derived from the more limited perspective, one can develop a substantive body of hypotheses suspectible to empirical testing, the ultimate goal being <u>a theory of regulation</u> which can prove useful for both the policy analyst and the policymaker.

While described easily enough, such an undertaking is, to say the least, ambitious. Nevertheless, the development of an "empirically warrantable"[46] theory of regulation is an objective worthy of considerable time and effort given the values (social and political, as well as economic) at stake.

Where does one begin? The critical step would involve an inventory of the propositions related to government regulation derived from the past and present literature of political science, economics, history, and law. The inventory would be structured to reflect the most general question faced by a theory of economic regulatory policy: What are the relationships between the causes and consequences of economic regulatory policy? Building upon and within this comprehensive problem, the resulting propositional inventory will represent a survey of the literature dealing with the two-way relationship of these variables as well as the intervening factors (structural, procedural, and so on) which presently receive most of the attention.

The next step would involve the gathering of evidence to test the various propositions inventoried. The development of research designs for this purpose is not a matter to be taken lightly and each step (i.e. each choice of variables, indicies and measures, populations and samples, etc.) should be accomplished with great care. For the present, however, one factor needs to be emphasized, and that is the level and units of government focused upon for this research. Analysts of regulation in the U.S. have had a consistent bias for research at the federal level and an even stronger bias to concentrate on the regulatory policies issued by major independent agencies such as the I.C.C., the F.C.C., and so on. The results are obvious in the literature as the findings derived from that sampling have been generalized and applied across the board. It was through such narrowly focused research that the theories of "capture" were derived and extended to <u>all</u> government regulation; it was through such biased investigations that findings indicating price inefficiencies resulting from some government regulation policies have been adopted as the "conventional wisdom" of most policy analysts and policy makers regarding <u>all</u> regulatory policies. This tendency to concentrate on federal independent regulatory commissions and to extrapolate and apply research findings to other government units must be offset by studies at state and local levels that consider various institutional sources of economic regulation. Thus an effort should be made to test the propositions of our inventory using these generally overlooked populations. In addition, the use of state and local regulators and regulations as units of analysis facilitates the use of comparative analysis, and this fact alone is sufficient justification for us to bias our choice of analytic units in this direction. "Studies which merely describe one political institution or event," notes Thomas R. Dye, "without identifying or explaining similarities and differences among. . . data, cannot contribute substantially to the development of any explanatory theory...."[47]

Having systematically collected and empirically tested various hypotheses regarding government regulation, we would then be in a position to propose a tentative theory of regulation which would provide that substantive framework so necessary for integrating the work of regulatory policy analysts. Such a general theory of regulation should be capable of generating models useful not only for academic explanation through analysis, but also for policy prescription through synthesis. This is a theme which underlies the current shift to policy analysis--the need for the social sciences to evolve into policy sciences which analyze for a purpose. Thus, the theory of regulation we seek should be not only as valid as we can verify it to be; it must also be useful for the purpose of policy making.

The problem described here and the proposal for research put forth represents a concern on my part for the state of policy analysis in general and regulatory policy analysis specifically. The fragmented condition of both can be overcome, but not by diving into untested waters. Paradigm revolutions, unlike their political counterparts, are gradual. They evolve over time and must develop through several stages before they achieve the status of a "normal science." The construction of a valid and useful theory of regulation is a major ingredient in that development and consideration should be given to contributing substantial research resources to that project.

FOOTNOTES

[1]See James S. Coleman, Policy Research in the Social Sciences (Morristown, N.J.: General Learning Press, 1972), pp. 2-3. Also see discussion in Charles O. Jones, "Policy Analysis, Political Science, and Public Administration" (paper presented at the 1975 National Conference on Public Administration, Chicago, Illinois, April 1-4, 1975), pp. 1-5.

[2]The distinction between professional and scientific purposes has been adopted from the work of Don K. Price by Austin Ranney, "The Study of Policy Content: A Framework for Choice," in Political Science and Public Policy, edited by Austin Ranney (Chicago: Markham Publishing Co., 1968), pp. 13-18; and by Thomas R. Dye, Understanding Public Policy, 2nd edition (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1975), pp. 3-4.

[3] This positive view of the European administrative model is obvious in Woodrow Wilson's "The Study of Administration," Political Science Quarterly, 2 (June 1887), 197-220, especially at 202, 204-205, 220. For an analysis of Wilson's paradigm and his reform perspective, see Vincent Ostrom, The Intellectual Crisis in American Public Administration, revised edition(University of Alabama: The University of Alabama Press, 1974), pp. 23-29. Despite his symbolic position as a leader of a reformist perspective during this era, Wilson's specific views regarding regulation were quite ambiguous. For an interesting view, see William Diamond, The Economic Thought of Woodrow Wilson (Baltimore: The Johns Hopkins Press, 1943), pp. 55-60, 102-112.

More definitive were the views of reform-minded institutionalist economists like John R. Commons. See Allan G. Gruchy, Modern Economic Thought: The American Contribution, reprinted edition (New York: Augustus M. Kelley, Publishers, 1967) and Joseph Dorfman, The Economic Mind in American Civilization. Volume Three: 1865-1918 (New York: The Viking Press, 1949).

[4]The tradition of a science of administration calls to mind names from Frederick Taylor to Gulick and Urwick, and principles such as POSDCORB. The classic in this area is Luther Gulick and L. Urwick, editors, Papers on the Science of Administration (New York: Columbia University, Institute of Public Administration, 1937). The President's Committee on Administrative Management (Brownlow Committee) issued a report in 1937 highly critical of the institutional structure of regulatory commissions. That report termed those commissions the "headless fourth branch" and called for their integration into the executive branch. For a summary of that position, see John M. Gaus, "The Case for Integration of Administrative Agencies," The Annals, 220 (May 1942), 33-39. For counter-arguments, see James M. Landis, The Administrative Process (New Haven: Yale University Press, 1938), pp. 47ff.; and Harvey Pinney, "The Case for Independence of Administrative Agencies," The Annals, 221 (May 1942), 40-48.

[5]The debate over this matter culminated in the passage of the Administrative Procedure Act of 1946. For an analysis and history of the "politics of adjudication," see Marver H. Bernstein, Regulating Business By Independent Commission (Princeton, New Jersey: Princeton University Press, 1955), Chapter 7.

[6]James C. Charlesworth, "The Regulatory Agency: Detached Tribunal or Positive Administrator?" The Annals, 221 (May 1942), 17-20.

[7]Merle Fainsod, "Some Reflections on the Nature of the Regulatory Process," in Public Policy: 1940, edited by C. J. Friedrich and Edward S. Mason (Cambridge, Mass.: Harvard University Press, 1970), pp. 297-323.

[8]See, for example, Samuel P. Huntington's "The Marasmus of the I.C.C.: The Commission, The Railroads, and the Public Interest," Yale Law Journal, 61 (April 1952), 467-509.

[9]Louis L. Jaffe, "The Effective Limits of the Administrative Process: A Reevaluation," Harvard Law Review, 67 (May 1954), 1105-1135.

[10]Bernstein, Regulating Business by Independent Commission, chapter 9.

[11]Marver H. Bernstein, "The Regulatory Process: A Framework for Analysis," Law and Contemporary Problems, 26 (Spring 1961), 329-346; quote at 335.

[12]Mark S. Massel, "The Regulatory Process," Law and Contemporary Problems, 26 (Spring 1961), 181-202; quote at 202.

[13]Thomas K. McCraw, "Regulation in America: A Review Article," Business History Review, XLIX (Summer 1975), 175.

[14]See McCraw, 171-175; also Harry M. Trebing, "Realism and Relevance in Public Utility Regulation," Journal of Economic Issues, VIII (June 1974), 209-233. In regard to the Averch-Johnson effect, see Harvey Averch and Leland L. Johnson, "Behavior of the Firm Under Regulatory Constraint: A Reassessment," American Economic Review: Papers and Proceedings, LXIII (May 1973), 90-97.

[15]Bernstein, "The Regulatory Process. . .," 345.

[16]Lee Loevinger, "Regulation and Competition as Alternatives," The Antitrust Bulletin, XI (January-April 1966), 117-138.

[17]James Q. Wilson, "The Politics of Regulation," in Social Responsibility and the Business Predicament, edited by James W. McKie (Washington, D.C.: The Brookings Institution, 1974), pp. 135-168. For Wilson's critique of the regulatory process, see his "The Dead Hand of Regulation," The Public Interest, no. 25 (Fall 1971), 39-58.

[18]From George J. Stigler's "The Theory of Economic Regulation," Bell Journal of Economics and Management Science, 2(Spring 1971), 3-21; reprinted in George J. Stigler, The Citizen and the State: Essays on Regulation (Chicago: The University of Chicago Press, 1975), pp. 114-136; quote at p. 114.

[19]Roger G. Noll, "The Behavior of Regulatory Agencies," Review of Social Economy, 29 (March 1971), 15-19.

[20]Policy Studies Journal, 4 (Autumn 1975), 4-62.

[21]See James A. Dunn, Jr., "Public Ownership of U.S. Railroads In Comparative Perspective," Policy Studies Journal, 4 (Autumn 1975), 49-53; also Alan Stone, "Business Regulation: The System Is The Problem," Policy Studies Journal, 4 (Autumn 1975), 58-62.

[22]The list of studies in this area has become voluminous. Consider, for example, the following list: David H. Pyle, "The Losses on Savings Deposits From Interest Rate Regulation," Bell Journal of Economics and Management Science, 5 (Autumn 1974), 614-622; Robert M. Spann and Edward W. Erickson, "The Economics of Railroading: The Beginning of Cartelization and Regulation," Bell Journal of Economics and Management Science, 1 (Autumn 1970), 227-244; various studies on natural gas regulation by Paul W. MacAvoy, such as "The Effectiveness of the Federal Power Commission," Bell Journal of Economics and Management Science, 1 (Autumn 1970), 271-303; also on the same subject, see Erickson and Spann, "Supply Response in a Regulated Industry: The Case of Natural Gas," Bell Journal of Economics and Management Science, 2 (Spring 1971), 94-121; on motor freight transport, see James Sloss, "Regulation of Motor Freight Transportation: A Quantitative Evaluation of Policy," Bell Journal of Economics and Management Science, 1 (Autumn 1970), 327-366; on broadcast regulation, see Harvey J. Levin, "Economic Effects of Broadcast Licensing," Journal of Political Economy, LXXII (April 1964), 151-162; also William S. Comanor and Bridger M. Mitchell, "Cable Television and the Impact of Regulation," Bell Journal of Economics and Management Science, 2 (Spring 1971), 154-212, Robert W. Crandell, "F.C.C. Regulation Monopsony, and Network Television Program Costs," Bell Journal of Economics and Management Science, 3 (Autumn 1972), 483-508; in regard to stock transactions, see Richard R. West and Seha M. Tinic, "Minimum Commission Rates on New York Stock Exchange Transactions," Bell Journal of Economics and Management Science, 2 (Autumn 1971), 577-605; and for electric utilities see Leon Courville, "Regulation and Efficiency in the Electric Uitility Industry," Bell Journal of Economics and Management Science, 5 (Spring 1974), 53-74. Of course, this list of examples does not cover areas such as airline regulation [see Theodore E. Keeler "Airline Regulation and Market Performance," Bell Journal of Economics and Management Science, 3 (Autumn 1972), 399-424] rent control [Edgar O. Olsen, "An Econometric Analysis of Rent Control," Journal of Political Economy, 80 (November/December 1972), 1081-1100], consumer protection and safety [see studies by Sam Peltzman: "An Evaluation of Consumer Protection Legislation: The 1962 Drug Amendments," Journal of Political Economy, 81 (September/October 1973), 1049-1091; and "The Effects of Automobile Safety Regulation," Journal of Political Economy, 83 (August 1975), 677-725], and even the regulation of taxicabs [see Edmund W. Kitch, Marc Issacson, and Daniel Kasper, "The Regulation of Taxicabs in Chicago," Journal of Law and Economics, XIV (October 1971), 285-350].

[23]See Averch and Johnson; Richard A. Posner, "The Social Costs of Monopoly and Regulation," Journal of Political Economy, 83 (August 1975), 807-823; Lawrence J. White, "Quality Variation When Prices are Regulated," Bell Journal of Economics and Management Science, 3 (Autumn 1972), 425-436; Dale W. Jorgenson and Sidney S. Handel, "Investment Behavior in U.S. Regulated Industries," Bell Journal of Economics and Management Science, 2 (Spring 1971), 213-264; R. H. Coase, "The Theory of Public Utility Pricing and its Application," Bell Journal of Economics and Management Science, 1 (Spring 1970), 113-128; and Ricahrd Schmalensee, "Regulation and the Durability of Goods," Bell Journal of Economics and Management Science, 1 (Spring 1970), 54-64.

[24]Paul W. MacAvoy and Roger Noll, "Relative Prices On Regulated Transactions of the Natural Gas Pipelines," Bell Journal of Economics and Management Science, 4 (Spring 1973), 212-234; also MacAvoy and Robert S. Pindyck, "Alternative Regulatory Policies for Dealing With the Natural Gas Shortage," Bell Journal of Economics and Management Science, 4 (Autumn 1973), 454-498.

[25]Paul L. Joskow, "Inflation and Environmental Concern: Structural Change in the Process of Public Utility Price Regulation," Journal of Law and Economics, 17 (October 1974), 291-327; and Victor P. Goldberg, "Institutional Change and the Quasi-Invisible Hand," Journal of Law and Economics, 17 (October 1974), 461-492.

[26]See Thomas S. Kuhn, The Structure of Scientific Revolutions, second edition (Chicago: The University of Chicago Press, 1970). Also see Margaret Masterman, "The Nature of a Paradigm," in Criticism and the Growth of Knowledge, edited by Imre Lakatos and Alan Musgrave (London: Cambridge University Press, 1970), pp. 59-89.

[27]Masterman, pp. 73-74.

[28]Duncan MacRae, Jr., "Policy Analysis As An Applied Social Science Discipline," Administration and Society, 6 (February 1975), 363-388.

[29]Masterman, pp. 61-73.

[30]See Heinz Eulau and Robert Eyestone, "Policy Maps of City Councils and Policy Outcomes: A Developmental Analysis," APSR, LXII (1968), 126; cited in Richard I. Hofferbert, The Study of Public (Indianapolis: Bobbs-Merrill Co., 1974), p. 4.

[31]See Ira Sharkansky, "Environment Policy, Output and Impact: Problems of Theory and Method in the Analysis of Public Policy," in Policy Analysis in Political Science, edited by Ira Sharkansky (Chicago: Markham Publishing Co., 1970), pp. 63, 65-66.

[32]See Vincent Ostrom, Chapter III; also Peter O. Steiner, "The Public Sector and the Public Interest," in Public Expenditures and Policy Analysis, edited by Robert H. Haveman and Julius Margolis (Chicago: Markham Publishing Co., 1970), pp. 21-58.

[33]See Hofferbert, The Study of Public Policy; also his "State and Community Policy Studies: A Review of Comparative Input-Output Analyses," in Political Science Annual, An International Review: Volume Three -- 1972, edited by James A. Robinson (Indianapolis: Bobbs-Merrill Co., 1972), pp. 3-72;
and William Keech and James W. Prothro, "American Government," in Political Science: Advance of the Discipline, edited by Marian Irish (Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1968), pp. 147-151.

[34]See Carol H. Weiss, Evaluation Research: Methods of Assessing Program Effectiveness (Englewood Cliffs, N.J.: Prentice-Hall Inc., 1972).

[35]See Robert H. Haveman, "Public Expenditures and Policy Analysis: An Overview," in Public Expenditures and Policy Analysis, pp. 9-10; also E. J. Mishan, Economics for Social Decisions: Elements of Cost-Benefit Analysis (New York: Praeger Publishers, 1972), Part III.

[36]This point is brought out as inherent in any science by Fred M. Frohock, The Nature of Political Inquiry (Homewood, Ill.: The Dorsey Press, 1967), p. 113; he notes that while the "genuiness" of knowledge is a "product" of the way that knowledge is verified, "the method chosen for verification cannot be ultimately verified, for its acceptance is the prior condition for establishing proof."

[37]Jones, 9-10.

[38]Letter from Vincent Ostrom, November 6, 1975.

[39]See Thomas R. Dye, Politics, Economics and the Public: Policy Outcomes in the American States (Chicago: Rand McNally and Co., 1966), pp. 1-5; Dye, Understanding Public Policy, p. 6; Hofferbert, The Study of Public Policy, pp. 142-143; Randall B. Ripley, The Politics of Economic and Human Resource Development (Indianapolis: Bobbs-Merrill Co., 1972), pp. 9-17, 176; and Ira Sharkansky and Donald Van Meter, Policy and Politics in American Governments (New York: McGraw-Hill Book Co., 1975), pp. 6-11.

[40]See Tom Cook and Frank Scioli, "Policy Analysis in Political Science: Trends and Issues in Emperical Research," Policy Studies Journal, 1 (Autumn 1972), 6-11.

[41]These criteria were set forth in Dye's Politics, Economics, and the Public, p. 3.

[42]Arthur L. Stinchcombe, Constructing Social Theories (New York: Harcourt, Brace and World, Inc., 1968), p. 15.

[43]Vincent Ostrom, "Theory of Public Policy," Policy Studies Journal, 1 (Autumn 1972), 12-13.

[44] Elinor Ostrom, Public Policy Analysis, test edition (Washington, D.C.: The American Association for the Advancement of Science, n.d.), pp. 3/111-4,5. Also see John R. Platt, "Strong Inference," Science, Vol. 146, (16 October 1964), 347-353; T.C. Chamberlin, "The Method of Multiple Working Hypotheses," Science, Vol. 148 (7 May 1965), 754-759; and Stinchcombe on "crucial experiments," pp. 24-28.

[45] For reviews of these models, see McGraw; also Richard A. Posner, "Theories of Economic Regulation," Bell Journal of Economics and Management Science, 5 (Autumn 1974), 335-358; and the discussion in James R. Nelson, Bulletin XI (January-April 1966), 1-36, especially 3-16.

[46] The term is Elinor Ostrom's.

[47] Dye, Politics, Economics, and the Public, p. 11; also see Hofferbert, The Study of Public Policy, pp. 141-148.