

#### The Economics Profession and the Making of Public Policy

Robert H. Nelson

Journal of Economic Literature, Vol. 25, No. 1. (Mar., 1987), pp. 49-91.

#### Stable URL:

http://links.jstor.org/sici?sici=0022-0515%28198703%2925%3A1%3C49%3ATEPATM%3E2.0.CO%3B2-D

Journal of Economic Literature is currently published by American Economic Association.

Your use of the JSTOR archive indicates your acceptance of JSTOR's Terms and Conditions of Use, available at <a href="http://www.jstor.org/about/terms.html">http://www.jstor.org/about/terms.html</a>. JSTOR's Terms and Conditions of Use provides, in part, that unless you have obtained prior permission, you may not download an entire issue of a journal or multiple copies of articles, and you may use content in the JSTOR archive only for your personal, non-commercial use.

Please contact the publisher regarding any further use of this work. Publisher contact information may be obtained at <a href="http://www.jstor.org/journals/aea.html">http://www.jstor.org/journals/aea.html</a>.

Each copy of any part of a JSTOR transmission must contain the same copyright notice that appears on the screen or printed page of such transmission.

JSTOR is an independent not-for-profit organization dedicated to and preserving a digital archive of scholarly journals. For more information regarding JSTOR, please contact support@jstor.org.

# The Economics Profession and the Making of Public Policy

By ROBERT H. NELSON
U.S. Department of the Interior

Robert H. Nelson has been a member of the economics staff of the Office of Policy Analysis of the U.S. Department of the Interior since 1975. He thanks Christopher Leman for his particular helpfulness over many years in identifying literature on American government and for comments and criticisms from the viewpoint of a political scientist on several drafts of this article. In addition, Donald Bieniewicz, Robert Crandall, Robert Davis, Herbert Fullerton, Jon Goldstein, Joan Hartmann, Ted Heintz, Evan Kwerel, Larry Lane, Ross Marcou, John Schefter, Eugene Steuerle, Richard Stroup, Richard Wahl, and Jeffrey Wasserman—all past or present first-hand observers of the policy-making process—read earlier drafts and made helpful comments.

Most economists hope that their work will have an impact on public policy. Yet, few economists devote much time or effort to studying the mechanisms by which economic writings and research are translated into public policy results. Many economists also know little about the roles of economists in government, including their roles as economic analysts in their own right and as conduits for academic and other outside research into policy-making circles.

This article explores these subjects, both at a theoretical level and by examining case studies of a variety of major policy areas where economists have sought over the years to influence government decisions. The role of economists in the making of public policy is a special case of a fundamental concern long addressed

by the political science profession and other writers on American politics—the proper role of professional experts in the American governing scheme. This article finds that the current views of many economists on this topic can be traced back to the political theories and writings of the progressive era. The case studies draw upon both political science sources and the writings of those economists who have had experience working in or closely with government. In the course of developing the case studies and other discussions, the article provides a brief review of the history of economist involvement in government over the past 50 years.

The main themes of the article can be summarized as follows. Economists tend to view their proper professional role in

the governing process as that of experts separate from politics, value judgments, and other subjective and normative factors. However, this view has not held up well in the light of experience. Economists coming into direct contact with government decision making have found that they cannot limit their role to that of neutral technicians: to do so would be to make themselves irrelevant and ultimately excluded. Instead, the more effective economists serve as active proponents for a way of thinking derived from basic economic training and for the policy conclusions it yields. Accepting the necessity and legitimacy of this behavior, Charles Schultze (1982, p. 62) has stated that an economist in government appropriately serves as a "partisan advocate for efficiency" and other economic principles.

In practice, economists involved with government must also tailor their advocacy of market methods, efficient resource use, and other economic approaches to the political environment in which they work. They modify proposals to make them attractive in terms of equity or to avoid infringing on real or perceived "rights." Economists in government agencies also recognize that they are members of an organization with its own history and traditions to which they must conform to some degree. In short, economists who apply economic methods in government develop and exercise skills in bureaucratic and political tactics, which are necessarily interwoven with their exercise of economic expertise.

To be sure, there are a few tasks—such as the development of national income, price, and other economic statistics—that closely follow the model in which economic knowledge is applied without consideration of political factors. Economists involved with some "economic" agencies, such as the Treasury and the

Federal Reserve, also have traditionally had a greater scope for technical analyses done with relatively little concern for politics. In other agencies economists face strong opposition and are able to have a significant impact only with the help of skillful entrepreneurship and political advocacy.

Economists in the world of policy find that opposition to their ideas arises, not only from ordinary bureaucratic and interest-group resistance, but for ideological reasons as well. Many participants in policy debates perceive economists as advocates for a set of values and an outlook—an ideology really—that conflicts with their own values. For example, proponents of environmental protection often believe that the application of beneto environmental analyses protection measures is morally offensive. In such cases economists advocating the use of economic tools are required to defend their positions on ideological and philosophical grounds. If they are to be effective, they must develop skills in these areas.

A better understanding of the role of economists and economic research in making government decisions may prove of general value to the economics profession in two ways. First, some economists may be thinking of entering government or of seeking some other close involvement in policy development. This article seeks to provide an idea of what to expect and of the strategies and approaches that might be successful. The article may also be useful to economists who would like their economic writings and research to have a greater and more immediate impact on policy. Economists out of government may hope that their efforts will furnish useful material for government economists and others who directly advocate economic ideas in the political arena. Yet, if the writings and research of economists take a form that makes them unsuited to the world of government, this hope will not be realized. Indeed, the evidence presented in this article suggests that the members of the economics profession could have a greater influence by placing more emphasis on writing skills, by setting their policy studies in an historical and institutional context, by showing awareness of political factors, by sometimes incorporating these factors directly into their analysis, and generally by addressing a broader range of considerations than economists usually do.

Over the years a number of prominent members of the economics profession have criticized tendencies toward excessively abstract and institutionally naive economic studies (John Dunlop 1977; Robert Gordon 1976; Wassily Leontief 1971; Robert Solow 1985b). Many economists, however, may cast their work in forms less relevant to policy because their view of a proper professional role encourages such behavior. To make economics more practical and influential in government may demand some modification of the political theory underlying this conception of a proper professional role—the view that economics should be applied in the policy arena as a strictly "technical" subject for "experts" who are independent of politics.

The article is organized as follows. The first section explores three policy roles for economists and other experts offered by political theories. It argues that many economists currently subscribe to one such theory stemming from the progressive era, now nearly a century old, that has become obsolete. The next three sections illustrate the main themes of the article by examining the past roles of economists and economic ideas in three areas. In the first, economic regulation, the profession has had its greatest recent success as an advocate of deregulation. The profession has had the least success in the second area, which involves efforts

to employ the market mechanism for various social purposes. And economists have had a mixed record in the third area, efforts to improve the economic efficiency of administrative actions of a command and control nature.

The fifth section briefly examines the role of economists in the limited set of "economic" agencies, where they have traditionally had an especially important role. The concluding sections explore the nature of the job of a government economist and suggest some changes that might be made in the character and conduct of economic research and training, if the profession is to have a greater influence on policy.

A recurrent theme of the argument here is the influence of progressive-era conceptions. More than most economists realize, the ideas that have shaped their views of themselves in relation to government, as well as many of the institutions most important to the profession, are founded on the political theories and general outlook of the progressive movement. Yet many of the political and philosophical assumptions of the progressive era have failed to stand the test of time and experience. Because the basic mindset of the profession has not changed, economists today face an important challenge.

#### I. Three Roles of Economists in Policy Making

The role assigned to economists and other professional experts in public policy making is an important element in broader political theories of the workings of government. Three different roles prescribed for professionals in government correspond to three stages in the thinking of American students of government: (1) the progressive outlook dominant from 1885 to 1920, (2) the focus on interest-group competition and incremental pol-

icy making from 1945 to 1970 and (3) the increasing awareness of the political impact of ideology in the 1970s and 1980s.

#### The Progressive Neutral Expert

The progressive movement of the turn of the century was a highly moral movement that sought to reform American government, to make it once again serve "the public interest," in an age when big business, corrupt urban political machines, and other new social elements seemed to be threatening traditional American values (Richard Hofstadter 1955). But it was also a movement that sought to introduce scientific methods and techniques into government, to make government more "businesslike," borrowing from the rational administrative methods that were then changing the face of American capitalism (Samuel Hays 1959, pp. 265-66). The progressive outlook reflects, above all, the ideas of an age in which public confidence in science and human progress (hence "progressive") reached a peak never again equalled. The progressives were the first to grapple with the social, political, and economic consequences of the vast expansion in the role of science in society that occurred in the second half of the nineteenth century. Their political theories sought to define a mutual working arrangement between the sources and providers of expert knowledge and the democratic political process.

Woodrow Wilson (1887) established his early academic reputation in part as a theorist of the progressive movement. Wilson and other progressives argued that government functions are of two essentially different types—those that involve questions of basic policy and social value and those that are administrative or instrumental in nature. In the progressive view, decisions of the former type belong to the realm of "politics"; decisions of the latter type belong to a

separate realm of "administration" (Frank Goodnow 1900, pp. 83–86).

Progressives further contended that there was a true "science of administration." As a result, the administration of government programs was largely a mechanical or engineering problem, to be left to the appropriate experts. They would apply the principles of the administrative and social sciences to particular problems, guided by the policies laid down by legislation. Administrative science represented an application to the public sector of the methods of scientific management by which Frederick Taylor (1911) sought to revolutionize American business management. The progressive emphasis was on efficient means, not on the ends of government activity. Thus, two leading historians of progressive thought, Dwight Waldo (1948, p. 19) and Samuel Hays (1959), both characterized the central thrust of progressive ideas as the "gospel of efficiency."

With efficiency elevated to a transcendent social goal, progressives did not have much use for a priori theories and metaphysical speculations that were not-and in many cases could not betested against the evidence. Instead, progressives sought to be hard-headed, empirical, and scientific. Government policies and administrative actions were to be based on carefully conducted investigations and on theories that were fully verified by the facts. Indeed, extensive gathering of data and measurement of social phenomena became a main progressive aim. This was crucial to the advance of scientific knowledge that would make it possible to transform heretofore subjective and political decisions into objective and technical decisions. As Waldo described the attitudes that came to the fore in the progressive era:

In their apotheosis of "research," "facts," and "measurement," there is an extremely close parallel between the public administration and

the scientific management movements. . . . Facts, research, and measurement are assumed to answer questions not only of "What is the case?" but of "what should be done?" In the spirit of the scientific maxim, "When we can measure, then we know," the assumption is made that measurement "solves problems." (Waldo 1948, pp. 57-58)

The progressive emphasis on rational administrative efficiency helped to bring about the rise of the modern presidency and the relative decline of the elected legislature—leading, for example, to the creation of the Bureau of the Budget (now Office of Management and Budget) in 1921. Progressives also devised new governmental institutions such as the independent economic regulatory commission, beginning with the Interstate Commerce Commission in 1887. The most important independent commission was the Federal Reserve Board, created in 1913. While the great expansion in the size of the federal government did not actually occur until the New Deal and the years during and after World War II, this expansion was built upon a foundation of progressive ideas and institutions, and the influence of these ideas and institutions is still widely felt in American life today.

The idea of professionalism and the development of professional associations were closely tied to the progressive movement. Richard Ely, who with several collaborators founded the American Economic Association in 1885, later noted that its founding was part of a reaction against the prevailing laissez faire views among economists of the time. The original organizers sought change by laying "special stress on the necessity for governmental intervention in order to secure 'all the conditions of a sound industrial system" (Ely 1938, p. 134). In the prospectus sent out by Ely to enlist support for the new association, he echoed emerging progressive views: "We regard

the state as an educational and ethical agency whose positive aid is an indispensable condition of human progress. While we recognize the necessity of individual initiative in industrial life, we hold that the doctrine of laissez faire is unsafe in politics and unsound in morals; and that it suggests an inadequate explanation of the relations between the state and the citizens" (Ely 1938, p. 136). The desire to attract the full community of economists into the profession soon led to the elimination of most such views from the official stance of the American Economic Association (A. Coats 1960, 1985). Nevertheless, the progressive influence on the development of the economics profession continued to be substantial.

The development of separate fields and professions of economics, politics, forestry, engineering, and other areas of inquiry reflected the progressive faith in specialized expertise, and the perceived greater need for technical experts to perform tasks newly required by an evolving modern political and economic system. In the progressive governing scheme, professional associations were needed to provide a pool of administrative and social science authorities who could advise and participate in government in an expert, nonpartisan way. Professional associations also established the boundaries of the professionally accepted knowledge that could legitimately be applied for social and governmental purposes.

While the terminology has changed in some ways, most members of the economics profession today still see their policy-making role fundamentally in the progressive vein. The proper role for an economist is typically regarded as that of a professional expert who advises government in technical and scientific matters and takes social values and political preferences as given. Once these values and preferences have been expressed by

political leaders, economic expertise can be applied to make the governing process work as efficiently and as effectively as possible. For example, the standard procedure of specifying an objective function (based on social values and democratic preferences) and then finding the maximizing solution (the technically efficient answer) is a direct translation from progressive themes.

However, departing somewhat from the original progressive "dichotomy" of politics and administration, the current concept of economists is more of a "trichotomy." Ideally, democratic politics is now seen as properly sandwiched between professional experts on each side. First, economic and other professionals define options and lay out the technically feasible menu for political choice, characterizing the economic and other impacts. Then, the political process has the responsibility of weighing social values against these options and of making the socially preferred choice. After this, it is again professional experts of various kinds who should carry out the implementation of whatever political decisions have been reached. While this is an important modification, the central thrust of the progressive vision—that the arenas of politics and technical expertise can and should be kept separate—is nevertheless preserved.

## The Entrepreneur for Efficiency

The nineteenth century was "the age which worshipped progress" (Henry Aiken 1962, p. 298). However, Robert Nisbet (1980, p. 317) has said of the twentieth century that when its "identity . . . is eventually fixed by historians, not faith but abandonment of faith in the idea of progress will be one of the major attributes." The progressive era ended with World War I, which was only the first in a series of wars, mass murders, threats of nuclear destruction, and other events

in the twentieth century that posed a fundamental challenge to the progressive vision—indeed, shattered its credibility for many intellectuals. One of those who experienced the disillusionment was Bertrand Russell, who commented that "we all felt convinced that nineteenth century progress would continue, and that we ourselves should be able to contribute something of value. For those who have been young since 1914 it must be difficult to imagine the happiness of those days" (Morton White 1962, p. 451).

In one particular field, the study of government, a later generation found that the progressive governing scheme was based on excessive optimism about the role of disinterested reason. Although economists generally were not paying close attention, progressive views of the governing process were largely abandoned by intellectuals in the fields of political science and public administration after World War II. The critics could observe that the progressive movement itself had frequently shown contradictory elements: it advocated government by experts, separated from politics, and yet often made these same ideas the goals of a moralistic crusade with prominent experts of the day leading political campaigns for social reform. Skeptical investigators then generally found that the actual practice of government seldom corresponded to the progressive ideal (Glendon Schubert 1957). Herbert Simon (1946, 1947) examined the scientific 'principles" of administrative practice and found that, instead of science, they really consisted of little more than a set of practical "proverbs." Waldo (1948, p. 128) found that "either as a description of the facts or a scheme of reform, any simple division of government into politics-and-administration is inadequate."

David Truman (1951) offered a new, more realistic description of the governing process. Rather than the progressive

vision of a government objectively pursuing "the public interest," based on social science and other expert knowledge, government was actually driven by a concompetition among groups. Public policies in practice were determined by the resulting political bargaining among the affected interests. Moreover, political leaders and interest groups did not respect progressive boundaries between the properly political and the properly expert; instead, interest-group bargaining often figured prominently in administrative and other technical decisions. The Truman view became the dominant view in the political science profession in the 1950s and 1960s, the results sometimes regarded with favor (Robert Dahl 1961, 1967) or in other cases subject to strong criticism (Theodore Lowi 1969). Although economists generally made few contributions to this literature, one important exception was John Kenneth Galbraith (1956) and his concept of a system of "countervailing powers."

Another economist outside the professional mainstream, Charles Lindblom (1959), characterized government decision making in a famous article as "the science of 'muddling through,'" thereby capturing another central theme of post World War II political theory. Contrary to the optimistic progressive design, it almost never happened that broad policies were clearly set by political leadership, and then turned over to experts to be administered in a rational, systematic fashion (Paul Appleby 1949; Norton Long 1949). Instead, policy and implementation were achieved as a joint product, resulting from a gradual evolution, in which the byword was incremental change (Eugene Bardach 1977). Social values were not determined exogenously; rather, they emerged-indeed, could only be discovered—as part of a continuous interaction among and within

legislative, judicial, and administrative bodies (Lindblom 1965). Aaron Wildavsky (1964) found that it was wholly impractical to try to approach federal government budget making from first principles. In normal times the government funding priorities were discovered only as the result of annual debates about small adjustments for large numbers of individual budget items.

As economists gained practical experience in government, they generally found that the criticisms of progressive political concepts were well founded. As Schultze (1968, pp. 2-3) put it, "political values permeate every aspect of the decision-making process in the majority of federal domestic programs. There is no simple division of labor in which the 'politicians' achieve consensus on an agreedon set of objectives while the 'analysts' design and evaluate—from efficiency and effectiveness criteria—alternative means of achieving those objectives." Given the workings of American government. Schultze explicitly rejected the progressive role of maintaining expert independence from politics. If public policies were to be determined by political negotiations among interest groups and other advocates, and if government economists wanted to have a significant impact in the process, their role would have to be as advocates as well, in their case seeking to promote more efficient use of resources. Professional economists might best be regarded as spokesmen for the diffuse and otherwise weakly represented interests of the general citizenry, acting as a counterweight to the pervasive special interest pressures exerted by the beneficiaries of particular government programs (Arthur Okun 1970; George Shultz 1974). Economists would further have to learn how to operate in the world of incremental policy making, seldom able to achieve basic change, more typically hoping to make modest adjustments

toward greater efficiency in existing programs.

Economists in government generally discovered that, if they hoped to have much impact, they would have to campaign actively for economic approaches. Offering expert advice, but without vigorously seeking to promote it, would be likely to leave economic and other social science ideas unrepresented at the point of decision (Michael Patton et al. 1977, pp. 155–61). It also risked labeling the government economist as irrelevant and unnecessary. In a world of interest-group competition, economists would have to adopt many of the tactics and methods of political advocacy.

The desire to have some influence, for example, led not only the chairman and members of the Council of Economic Advisors, but also the CEA staff to become actively involved in political and bureaucratic maneuvering. Based on his experiences on the CEA staff in 1963–1964, Burton Weisbrod candidly acknowledged that:

We were not expert political strategists; . . . even if we had been, we were not in a position to actually play that role. On the other hand, I think it's an exciting and intriguing kind of role. . . . I think it was, as a practical matter, hard for us not to try to play amateur political strategist and think about how could we get this thing through that group, who would accept what, and what kind of friends and allies you needed to do what. So I guess we all played that in varying degrees, and I think some staff people did quite a lot of it . . . tried to get through to the right people and sway their views. (William Allen 1977, pp. 67-68)

If they are to play such roles successfully, economists not only need to know economics well, but also how to be effective policy advocates. It is often important to find allies, and to seek to build a coalition of supporters. Policy economists must attend to the elements of policy entrepreneurship: how to gain access to key decision makers, how to select the more

promising from the less promising issues, how to state their arguments most convincingly to noneconomists, when the timing is right. A new type of literature has appeared in recent years—the "tipsfor-policy-economists" article (Alain Enthoven 1975: Christopher Leman and Robert Nelson 1981; James Verdier 1984). The new field of policy analysis is rapidly creating a large literature on the proper relationship of government analysts and political leadership, how analysts can make themselves heard by decision makers, and in general how to play an entrepreneurial role in the arena of policy (Arnold Meltsner 1976; Aaron Wildavsky 1979). Explicitly or implicitly, such writings consider that policy economists and other policy analysts are part of the political process (Hank Jenkins-Smith 1982), that a basic measure of success is impact on the final policy result (Robert Behn 1985), and that tactical and political skill are as important as scientific and technical knowledge (Behn 1981).

### The Ideological Combatant

In its effort to assert a much greater role for scientific rationality in governing affairs, one of the great attractions of the progressive movement was the prospect that it might diminish ideological and religious conflict. Throughout human history such conflict had taken a vast toll in life and property. The progressives offered the hope that, by separating the governing process into two domains—the first scientific and expert ("objective") and the second political and value oriented ("subjective")—they could limit the arena of social conflict to the latter. Moreover, as scientific knowledge increased, and as expert agreement encompassed wider areas of social concern, the first domain of scientific rationality and technical expertise would steadily expand. In the long run the number of social decisions involving political and social value judgments—where "irrational" considerations were unavoidable—might be reduced to such a degree that social divisions and antagonisms would become relatively harmless. In the more utopian statements of this faith, the general spread of science would allow mankind to become a happy community without war, class struggle, religious hostility, or other banes of human history (Frank Manuel and Fritzie Manuel 1979).

The experiences of the twentieth century, however, fundamentally challenged not only the political theories of the progressive movement; they also challenged basic assumptions about the future of ideology and religion. This century certainly saw no decline in their strength, or in the degree of destructive conflict they provoked—in fact, the opposite seemed to be the case. In American life in the past two decades there has been an expansion rather than contraction of ideological disagreement (Nathan Glazer 1985). Indeed, the focus of much of the most recent controversy has been the progressive vision itself with its emphasis on a dominant role for scientific rationality in government and human affairsthe critics now attacking progressive views as a false and harmful ideology.

The environmental movement has been in many ways a reaction against the core progressive assumptions. Many environmentalists have doubted that science and technological advance would actually yield much gain to the human spirit. Finding more to criticize than to admire in the practical results of modern science, they have looked instead to nature as a source of spiritual inspiration (John McPhee 1971; Roderick Nash 1967: William Tucker 1982). A related if more traditional reaction is a turn to religion and a growing conviction that religious forces should reassert some of their former prominence in political and governmental decisions (Peter Berger

1969; Michael Novak 1982; U.S. Catholic Bishops 1984). A growing libertarian trend of thought is another mode of recoil from the progressive vision. Faith in scientific rationality is seen as having misled the public, promoting an excessive and dangerous confidence in the efficiency and benevolence of modern government (Friedrich Havek 1952). After studying the rise to power of Hitler, Stalin, and other twentieth century forces for evil, social critic Paul Johnson (1983, p. 730) blamed much of it on ideologies of scientific rationality. He perceived "a growing disesteem for the social sciences, which had done so much to usher in the age of politics and to advance its illusory claims. Economics, sociology, psychology, and other inexact sciences—scarcely sciences at all in the light of modern experience—had constructed the juggernaut of social engineering, which had crushed beneath it so much wealth and so many lives."

As American political scientists observed the significant political impact of these and other new ideological forces, they were compelled to reassess their earlier great emphasis on interest groups. They now found that ideology was often as significant as interest-group power in the political process. James Wilson (p. 19), for example, commented in 1981 on his new recognition of "the growing importance for policy making of the ideas of political elites. A political scientist such as myself, trained in the 1950s when politics was seen almost entirely in terms of competing interests, was slow to recognize the change." Because ideological debate has played a greater role in public policy making, economists have been pressed to assume a new role, as defenders of economic ideas against ideological attacks. They have had to become critical analysts of the logic and reasoning of their ideological opponents.

Many economists are uncomfortable

with or reject outright the notion that at bottom their views also constitute an ideology. Nevertheless, any basic way of thinking about social issues rests on fundamental assumptions and values that involve some elements of faith. Economists have such a way of thinking and in this sense they can be said also to have an ideology. While the profession is not monolithic, and includes environmentalist and libertarian critics of progressive views, the outlook of the mainstream of the profession is still very much influenced by progressive thinking. Mainstream economists do not exhibit the same buoyant optimism of the older progressives, but their beliefs still typically reflect many of the assumptions and values of that movement: faith in the social benefits and powers of science and rational analysis; emphasis on achieving efficiency in government; belief in the feasibility and desirability of separating social values and their political and metaphysical elements—which are seen as driven by "subjective" considerationsfrom scientifically rational and therefore "objective" elements; belief in the basic progressive goal to advance "the public interest"; emphasis on facts and figures and on empirical research as the true basis for knowledge; and a conviction that government should be actively used for achieving social goals—if preferably by manipulating the competitive market mechanism, rather than command and control methods.

Economists have differed from most early progressives in their emphasis on the role of self-interest in human affairs and in their preference for private markets as a means of organizing economic activity. But it has been the assumption of self-interest—especially in a market context—that has allowed economists to contend that individual and social behavior can be scientifically modelled and understood by rational methods, thereby

satisfying a basic prerequisite for achieving progressive aspirations. Indeed, the mainstream of the economics profession has served over the past quarter century as the leading advocate on the American intellectual scene of an ideology of scientific rationality in government decisions—one might even label it "neoprogressivism." The economic ideas of opportunity cost, marginal trade-offs, benefit-cost analysis, property rights, incentives, supply and demand, and a few others are critical elements in the scheme of analysis and policy characteristic of economists.

Contemporary students of government tend to see economists' way of thinking as a valuable contribution to policy debate and negotiation, but not as itself a definitive answer. Political scientist Steven Rhoads (1985) considers that economists play an important and proper role as proponents of their particular framework for thinking about government affairs—in seeking to make converts to what he describes as "the economist's view of the world." Laurence Tribe (1972, p. 76) has said that the policy sciences provide a "sort of lens" that may shed useful light; however, complete objectivity is an impossibility because every "language (and the policy sciences are surely languages, at least in part) imposes its own categories and paradigms on the world of experience."

The economist's way of thinking, and the values that underlie it, can be illustrated by noting some of the ideas and values to which economists in government typically find themselves opposed. Economists encounter many advocates of social policies based on asserted absolute "rights" or values: protecting the environment from all harm; protecting human life from all risk; maintaining the genetic, wildlife species, wilderness, and other heritages of nature at any cost. Residents of local communities, workers in

plants, and farmers and other representatives of particular "lifestyles" frequently seek government actions and financial support to protect them from market and other forces for change, also asserting the social "value" of their current occupation, profession, neighborhood, or region and a "right" to its preservation. Members of various professional groups in government often come to view their standards of proper professional practice as an ultimate social goal. For example, many professional foresters see a sustained and uniform timber yield as virtually a moral imperative (Nelson 1985). Indeed, it is common in government agencies to view the achievement of certain physical output goals as a social value in itself. Other participants in policy debates consider that prices should not be determined by market forces but instead by ethical considerations—as in the defense of usury laws or in the recent "comparable worth" debate.

One might suggest that economists should confine themselves to technical elements and avoid policy debates that necessarily involve a challenge to the values of others. As a practical matter, however, to accept this view would be to remove economists from many of their significant functions. As advocates for efficiency and other economic concerns, economists cannot simply retire from the field whenever the opposition asserts that contrary social values require a different answer. As noted above, social values in practice are seldom clearly argued out in advance; rather, they emerge from the clash of interests and ideas in politics. Economists can only discover the true extent of public support for their ideas by pressing their own thinking and its underlying values.

Because economists usually regard ideology and values as belonging to the "irrational" part of the world, they tend not to characterize their proper professional role as involving such considerations. This, however, is not the view of some economists who have closely observed the role of the profession from positions in government. According to Carl Kaysen (1968, pp. 82–83), who served in the White House under President Kennedy, in many areas of microeconomic policy:

The confidence of economists' policy recommendations is essentially ideological: it rests on their commitment to the competitive market as an ideal, and the consequent belief that any step in the direction of the ideal is desirable. The role of the economist in policy formation in these areas is almost diametrically opposite

in these areas is almost diametrically opposite to that envisaged in the formal theory of policymaking. . . . He functions primarily as a propagandist of values, not as a technician supplying data for the pre-existing preferences of the policy makers. Some of his propaganda is directed at those participants in political decision-making to whom the advisers are directly responsive, aimed at shaping their values in the direction of the adviser's own. Much of it is directed through his political superiors to other participants in the political process-including the general public-and the adviser becomes, in fact, a supplier of arguments and briefs which seek to gain wider support for economists' political values.

Indeed, economists have had the greatest success in government as proponents for markets, for efficiency-related values, and generally for their framework for viewing the world, rather than as technical analysts of particular policy details. A number of writers have examined the impact of economics and other social science research on government decisions (Henry Aaron 1978; Garry Brewer 1973; Nathan Caplan et al. 1975; Walter Jones 1983; Laurence Lynn 1978; and Carol Weiss 1977a). They generally believed that social science research had much to offer, but still tended to reach pessimistic conclusions concerning the policy impact of technical calculations resulting from well-defined "problem-solving" efforts. However, a few basic and

simple economic ideas have often had a major influence. Sir Alec Cairneross (1985, p. 4) found from his long experience that it was the "way of thinking" of economists that had the greatest effect and represented their greatest contribution to policy. As Weiss (1977b, p. 544) puts it, the most important role of social science research is that it "provides the intellectual background of concepts, orientations and intellectual generalizations that inform policy."

In an adversarial political system, if the policy-making opponent is a special interest, economists are involved in a contest that pits economic ideas against interest-group political clout. However, if the policy-making adversary represents an ideology, it is a political conflict of ideas versus ideas. The challenge is in some ways greater because the economist cannot so easily claim the high ground of principle. This role also calls for different types of skills, rewarding less the ability to do a good benefit-cost analysis of a project, and more the ability to penetrate and criticize the philosophical underpinnings of social and political values and theories. The capacity to think rigorously and logically about broad questions, rather than facility in using expert analytical techniques, is at a premium in this arena (Thomas Schelling 1981).

The next three sections of this article illustrate the different roles of professional economists by examining their activity and their influence in three fields of contemporary policy contention: (1) economic deregulation; (2) wider governmental manipulation of market mechanisms; and (3) greater efficiency of administration by command and control. In the latter two cases, the economics profession proposed some new specific methods, but basically remained true to the progressive outlook. But in the first case, advocacy of economic deregulation, a

new ambivalence toward the progressive vision appeared. The economist critics did sound like traditional progressives in stressing efficiency and making it the standard for showing the failure of economic regulation. However, they sounded more like nineteenth century liberals—in laissez-faire reaction whom the progressive movement was formed-in also stressing the inability to separate politics from most areas of government and the inherent defects of the political process. Indeed, the deregulation movement may mark the beginning of a new trend in the intellectual history of the economics profession, in which doubts about the role of rational scientific methods in the governing process will come to have a greater influence on the mainstream of the profession. The profession may find itself turning to new modes of reasoning about public policy issues, less "scientifie" in form and approach, more philosophical, and explicitly incorporating politics and ideology as a legitimate subject for discourse.

#### II. The Economics Profession and the Deregulation Movement: A Success Story

The leading part played by the economics profession in the deregulation movement of the past decade represented a particularly successful exercise of influence on government, comparable to the earlier acceptance of Keynesian theories and the need for macroeconomic management. A recent book by Thomas McCraw (1984) studies the history of American regulation by examining the leading public symbols of regulatory developments in four eras of major change. In the three previous eras, the leading public figure was always a lawyer, but now for the first time it was a professional economist, Alfred Kahn. In a major recent Brookings study of deregulation,

Martha Derthick and Paul Quirk (1985, p. 246) similarly conclude that "if economists had not made the case for procompetitive deregulation, it would not have occurred—at least not on the scale the nation has witnessed."

Economists made three major contributions to economic deregulation. First, they helped to undermine the progressive-era ideology which provided the intellectual foundations for economic regulation. Second, economists showed that regulation resulted in an inefficient use of resources in specific cases. And, third, the profession provided key policy entrepreneurs for the political struggle to achieve deregulation.

The intellectual developments came well before the eventual political successes. Like many other institutions of American government, the independent regulatory commission had its intellectual roots in progressivism (Marver Bernstein 1955, pp. 36-39). Progressives conceived the independent commission as a way of ensuring that regulators would be kept insulated from politics and therefore able to apply expert knowledge about the regulated industry in the publie interest. However, the critical assault on progressive political ideas following World War II left the intellectual foundation much weakened. While political scientists first rejected the general themes of progressive theories of government, economists later reasoned similarly in making an attack on the concepts specifically justifying economic regulation. The arguments of the "public choice" school-led by economists such as Anthony Downs (1957), James Buchanan and Gordon Tullock (1962), and Maneur Olson (1965)—played a key part in this assault. Public choice scholars focused on the private incentives of political actors and, in a number of ways, echoed in a new language the interest-group theories of post-World War II political scientists

such as Truman and Dahl. In comparison with the political scientists, however, the economists tended to be much more pessimistic about the implications for government.

For example, considering all the potential private gains, and the interestgroup focus of American politics, the progressive idea of an independent regulatory commission acting strictly in the public interest, on the basis of expert knowledge, independent from politics, now seemed utopian (Roger Noll 1971). Indeed, historical studies generally confirmed what theory suggested, that economic regulatory agencies were fre-"captured" by limited but quently powerful political constituencies. As a result, they failed to protect the much more diffuse and, therefore, politically weaker public interest (Paul MacAvoy 1970; Noll and Bruce Owen 1983). George Stigler (1971) suggested that the regulatory agency might best be regarded as a possession of its clientele group, specifically promoted by the regulated industry to advance its own interests. The administrators of regulatory agencies usually were not leading experts in the economics of the regulated industry; they were much more likely to be lawyers, appropriately so because the agencies were concerned most of all with maintaining fair and equitable procedures in the distribution of regulatory benefits among favored clienteles.

Besides these broader themes, a second key contribution of economists to the deregulation movement was to undertake detailed studies of specific regulated industries (Stephen Breyer and MacAvoy 1974; Richard Caves 1962; George Douglas and James Miller 1974; John Meyer et al. 1959). Such studies typically showed how far the regulatory process had departed from the progressive ideal of maximizing efficiency. In practice, regulatory agencies typically maintained ar-

tifically high prices by protecting corporate owners, management, and union members from competition. Economists sought to document the large cost to the American consumer and economy that resulted from these and other regulatory distortions.

By the mid-1970s a strong intellectual case had been built by economists for deregulation in a number of major industries. The question then was whether political theory and economic analysis could be translated into policy. The means by which this actually occurred has been most closely studied in the case of airline deregulation, which has been the leading public symbol of deregulation, and which helped to spur deregulatory efforts in other areas such as trucking and railroads (Derthick and Quirk 1985).

The leadership of a gifted and inspired policy entrepreneur is often a critical ingredient in making any major changes in public policy. The first such entrepreneur for airline deregulation was Stephen Breyer, who was not an economist but a lawver with substantial knowledge of economics. Brever served while on leave from Harvard Law School as staff director for an investigation by the Senate Subcommittee on Administrative Practice and Procedure. He spent much of 1974 assembling a large collection of materials produced over the preceding decade or two-much of it by economists—that cumulatively made a strong case for airline deregulation. He then shaped this material to make the case persuasive to Congress and Washington policy makers, and organized highly visible hearings in early 1975, chaired by Senator Ted Kennedy, which made the case accessible to wide press and other public notice.

Breyer (1982) has recently recounted his orchestration of the hearings, including coordination with Ford administration economists such as George Eads and

James Miller. Brever found that two types of studies were particularly effective in convincing policy makers of the inefficiency of airline regulation. The first was data on the in-state and therefore unregulated California and Texas markets, showing that air fares were much lower than in similar regulated interstate markets. The second was analyses of the actual costs of operating over potential service routes at different load levels. These showed that these costs were well below existing fares with load levels that it seemed reasonable to attain. Brever indicates that these studies particularly appealed to Congress, because legislators could easily understand the concepts behind them, and because they were based on hard data.

Aided by Ford administration support for deregulation, the Kennedy hearings provided a basis for a considerable loosening of regulatory controls by the Civil Aeronautics Board, acting within its administrative discretion. However, in order to achieve a more complete and lasting deregulation, legislation was necessary. The leading player in this drama was Alfred Kahn, the chairman of the Civil Aeronautics Board in 1977 and 1978. Indeed, Kahn had been an amateur actor in his youth and sometimes professed that the stage was his true love. On the national stage Kahn now vigorously preached a message of greater airline efficiency achieved through market competition. Technically speaking, the basic message was not much beyond price theory at the undergraduate level. Although a leader in his field. Kahn's success was achieved not because he was a master of economic theory; rather, as McCraw (1984, p. 287) put it, "he spent an enormous amount of time making speeches, writing letters, and cultivating the press. In fact, one of his greatest strengths-perhaps his greatest-was as communicator and educator." Moreover,

Kahn proved an adept political strategist; McCraw (p. 294) describes how he:

moved to consolidate the supporters and mobilize them in favor of new legislation. He did this by a masterly orchestration of diverse forces. Like a gifted conductor managing an intricate composition, he brought every player, every instrument, into the piece at the appropriate time. He made sure that the movements of the symphony did not get out of proper sequence, as they were forever threatening to do. Kahn managed the media, the Congress, the White House, and most important of all the CAB itself, giving each its individual cues, its required up- or downbeat. Exploiting the momentum that had been building since the early 1970s, he said all the right words, called in all the right clichés.

Other professional economists played leading entrepreneurial roles in the deregulation movement, including Charles Schultze as chairman of the Council of Economic Advisors, and Darius Gaskins, who served at the CAB, with the Department of Energy, and as chairman of the Interstate Commerce Commission during the period when trucking and railroad deregulation were enacted. Gaskins was joined at the ICC by another professional economist, Marcus Alexis, who served as commissioner, and later acting chairman. Alexis (1983) has recently reviewed the steps that led to deregulation of the trucking industry. Deregulation in this case faced strong opposition from the American Trucking Association and the Teamsters Union, who both perceived accurately that it would undermine the economic position of many of their members. However, it had the strong support of the White House and of Senator Kennedy-the latter no friend of the Teamsters Union. The positions of professional economists such as Gaskins and Alexis as members of the Interstate Commerce Commission gave them the opportunity, much as Kahn had had at the CAB, to take further steps toward deregulation through administrative rulemaking, a process that had already moved well

along under their predecessors. They were aided by support from the courts, which were becoming more aware of and sympathetic to the intellectual arguments against regulation being advanced by economists. Alexis (p. 128) concludes that it was only fear of more radical administrative deregulation by the economist-led ICC that permitted trucking deregulation to get through Congress.

Major steps have also been taken in the past decade to deregulate the securities, banking, oil, natural gas, and telecommunications industries. While professional economists did not play a role so publicly visible and so entrepreneurial as they did in the deregulation of the transportation industry, numerous individual policy analysts made lesser but important contributions. Moreover, the intellectual groundwork laid by professional economists—both in criticizing general theories of economic regulation and in analyzing the results in specific industries—was a critical factor in creating a climate where deregulation could occur (Derthick and Quirk 1985).

A key to the success of Kahn and other economist promoters of deregulation was that they were able to draw upon an alliance of three important groups. Consumer groups and their representatives generally backed deregulation because it promised lower prices. Thus, Ralph Nader was a supporter; Senator Kennedy was particularly impressed in 1975 that air fares for in-state flights in California were about half those of equidistant flights from Boston to Washington. Liberals in some cases could be enlisted to support deregulation because of ideological hostility to big business and the resistance to deregulation often offered by the regulated members of an industry. The economic literature developing the "capture" theory of regulation was particularly important in attracting support from critics who saw big business as seeking

protection from competition. Finally, political conservatives in some cases favored deregulation as a way to promote free markets and to reduce the general scope and power of government.

Kahn and other economist entrepreneurs not only did not try to stay aloof from politics; they plunged into it with a skill that many professional politicians might envy. One main task was to build alliances with influential interest groups by persuading them that they would gain. The economic entrepreneurs for deregulation also actively entered into ideological combat. They criticized the ideology of economic regulation, and they appealed to broader ideological attitudes of influential groups opposed to regulation. Kahn was not only a prominent professional expert on regulation but the virtual leader of a "crusade." This aspect of his work was just as important as substantive argument in energizing a political process in which inertia is always great. While the deregulation movement was unusually successful, these elements will often be found where policy entrepreneurs—economists or otherwise have been able to achieve major changes in policy.

Finally, in assessing the role of economists in the deregulation movement, a few further points about the professional literature of economic regulation are worth noting. First, this literature shows a rediscovery by economists of earlier traditions in political economy; indeed, many of the basic themes were as old as Adam Smith. Second, it was largely developed in a qualitative rather than a mathematical form. Third, many of the leading intellectual contributions were contained in books rather than journal articles. And, fourth, research institutions with almost daily contact with government-especially the Brookings Institution and the American Enterprise Institute—played an important part in

sponsoring and disseminating studies of the political economy of economic regulation.

#### III. Manipulating the Market Mechanism: A Diminishing Confidence in the Economics Profession

The deregulation movement involved the rejection of a progressive political institution, the independent regulatory commission, and of the progressive theories that supported it. This, however, was an exception; in most areas the thinking of the modern economics profession is still strongly influenced by progressive ideas. Indeed, as the original progressive concepts fell into disfavor after World War II, economists moved to fill the breech. They could agree with the critics that the early progressive aim of achieving social goals through direct administration—using comprehensive planning and other command and control methods—often worked poorly. However, modern economists have instead proposed to achieve social goals through a rational use of the market mechanism. Instead of relying on government managers expert in administrative science, what is really needed are expert government economists who can manipulate the market for selected social purposes. Instead of the old progressive dichotomy of politics and administration, economists have proposed a new dichotomy of political definition of objectives, followed by expert achievement of these objectives through manipulation of the market mechanism.

The critical precedent was Keynesian economics, which asserted that macro-economic stability could be achieved by proper use of fiscal, tax, and other policy instruments. Other prominent policy proposals of economists such as the negative income tax, education vouchers, and environmental pollution taxes similarly

sought to use the market to achieve some major social policy objective (Milton Friedman 1962). Given almost any social problem, the first and natural response of most professional economists is to look for a potential means of manipulating the market mechanism—to solve the problem by arranging for what might be called a "planned market" (Nelson 1983, pp. 57-60). Schultze (1977, pp. 5-6) has provided the most systematic and eloquent statement of this case, finding that "there is a growing need for collective influence over individual and business behavior that was once the domain of purely private decisions. But as a society we are going about the job in a systematically bad way. . . . Instead of creating incentives so that public goals become private interests, private interests are left unchanged and obedience to the public goals is commanded."

A significant part of the research activity of the economics profession is based at least implicitly on this political and economic model. Economists estimate regressions, undertake studies of market operation, and generally seek to develop an accurate theoretical understanding of the laws of market mechanisms. Besides sheer intellectual curiosity, the chief public policy purpose is to provide the expertise that will enable government to know when and how to manipulate the market.

Despite a great investment of intellectual capital, however, the stock of this approach has been declining in recent years. The reasons are not all the same and the problems may eventually be solvable, but successive proposals of this type, such as the negative income tax or environmental pollution taxes, have been rejected. The one great success for a time seemed to be macroeconomic management of the economy. But even this great field of market management has lost its luster in recent years.

The Council of Economic Advisors

The Council of Economic Advisors was created by the Employment Act of 1946 (Stephen Bailey 1950), reflecting the growing influence of Keynesian ideas (Walter Salant 1985). The Keynesian approach was viewed by leading interpreters in the post World War II period as a means of preserving private markets, while also manipulating the private market to achieve employment, national income, and other social goals. For example, Lawrence Klein (pp. 153, 166) wrote in 1947 in *The Keynesian Revolution* that:

The Keynesian economic system is essentially a machine which grinds out results according to where the several dials controlling the system are set. The functional relations are the building-blocks of the machine, and the dials are the parameters (levels and shapes) of these functions.

From Keynes' point of view the economic system . . . solved appropriately the problem of resource allocation; it failed only in its solution of the unemployment problem. The line of least resistance seemed, evidently, to be to improve the conditions of employment while still maintaining the capitalistic market mechanism for allocation of economic resources.

Control over spending, taxes, and other elements of macroeconomic policy is too central to the governing process to be assigned to an independent commission. Nevertheless, although CEA has no direct governing authority, and its ultimate form inevitably reflected political compromises, the basic rationale for the Council was similar to that for the independent regulatory commission (Edward Flash 1965, pp. 14-15). The members were to be a team of distinguished professionals called to Washington to advise the government on the consequences of alternative economic policies. This was to be done in a nonpolitical way, based on economic science. In fact, the first chairman, Edwin Nourse, took the position that the CEA

should not participate in political discussions, even those occurring within the executive branch. Instead, following the progressive precept, he considered that politics and expert matters should be kept strictly separate (Hugh Norton 1977, pp. 110–11; Nourse 1953, p. 107).

The guiding ideal was that the CEA would tell the president and other interested parties what would happen to employment, GNP, inflation, and other key concerns if they were to set the dial at this or that point on the Keynesian "machine" envisioned by Klein. Once the president knew his options, he could apply a political judgment to make a decision, and the CEA would then also be able to tell him how to implement it.

This was the guiding philosophy behind another major entrepreneurial success of the economics profession, the adoption of the Kennedy tax cut in 1964 and other macroeconomic policy measures of the early to mid-1960s. More broadly, during these years the federal government first clearly accepted the macroeconomic management role prescribed by a Keynesian approach (Herbert Stein 1984, pp. 112-13). As in other successes, there was a gifted policy entrepreneur, in this case Walter Heller. Indeed, Heller and Kahn may well rank the two most successful policy entrepreneurs produced by the economics profession in the postwar period. It is worth examining the Heller operating style, as a case study of an unusually successful practice of economic policy entrepreneurship.

Erwin Hargrove and Samuel Morley (1984) interviewed ten former chairmen of the CEA between 1977 and 1983 for an oral history project. In one part of the discussion, Heller was asked to describe "how the Council develops political resources to work in this rough world and be effective." Heller replied:

You're asking how we learned to operate in the political milieu and how we structured our operations. Operating in the political milieu meant primarily to me the very narrow political milieu called the White House. First, it was, to my way of thinking, a matter of establishing our credibility and our judgment and sagacity not just with Kennedy but with the people around him. I spent a great deal of time on that . . . directing our memos and often following them up with conversations. When Sorensen began to see the nature of our reasoning and the way we sorted out the things for the anti-recession program, he was clearly pleased. He even suggested one time that economists could reason almost as well as lawyers. That was terribly important. Ralph Dungan, Myer Feldman, Pierre Salinger and Arthur Schlesinger were among others with whom we kept in touch.

The idea was to get all of these people to understand that we knew what we were talking about, that Kennedy would make better policy if he listened to us, that they ought to be clued in on what we were trying to do in spite of the fact that this was an arcane subject to a bunch of lawyers. In that sense, the first job was to become an accepted part of the inner circle. If I had simply stood on my dignity in my office as Chairman of the Council and said, "Let them come to me," I'd have waited a hell of a long time. One had to prowl the corridors of the White House, those corridors of power. (Hargrove and Morley 1984, pp. 185–86)

Heller also considered that it was very important to influence a broader public, as well as the circle of advisors around the president. As he tells it, "I found out fairly early in the game that you couldn't operate just inside, that to get the kind of political leverage that you wanted on the President, you had to have an outside presence. After we got our feet on the ground, I began to accept television invitations. Kennedy encouraged me to do this and made a point of watching such appearances as those on 'Meet the Press'" (Hargrove and Morley 1984, p. 188).

Maintaining policy influence at the top level of government typically involves maintaining close personal relationships with the key decision makers. This depends as much or more on social as on professional skills. It also involves being generally useful, including tasks that may have little if any relationship to professional training and qualifications. Heller shows his flexibility and his bureaucratic savvy in relating an incident from his relationship with President Johnson:

When we were formulating the 1966 budget (really, the first truly Johnson budget) in December of 1964, Johnson suddenly said to me (I happened to be the one closest by), "Walter, I need a billion dollars more; I need to cut the 1966 deficit in my budget by a billion dollars." And I thought, "Well, that's very interesting." The next sentence, however, rocked me. He said, "I want you to have the billion dollars here within one hour." I'm not kidding. This is a paraphrase, but substantive: "I want a billion dollars more revenue in my fiscal 1966 budget. And I want it here within an hour."

Well, I remember Charlie Schultze telling me that if we immediately reduced the withholding rate under the 1964 tax cut to 14 percent rather than 15 percent we would get less revenue in fiscal year 1965, but we would get more in 1966 because there would have to be year-end makeup payments. So I called Charlie and I said, "Charlie, how much was there in that?" He said, "\$800 million." I said, "A transfer from fiscal year 1965 to 1966." Of course, Johnson felt he had no responsibility for 1965. And I said, "Well, isn't that great?" We in CEA had wanted a 14 withholding rate because that would give us about a billion and a half dollars a year more of economic stimulus. Anyhow, I now have \$800 million. Then I called Kermit Gordon and said, "Kermit, here's my problem, and I have \$800 million of it." He said, "You know, it's a funny thing. I was just recalculating miscellaneous revenues and found an extra \$200 million." I rushed back to Johnson's office within the hour and said, "Mr. President, I've got your billion dollars." Then I said, "Should I check it with Doug Dillion? The Secretary of the Treasury ought to have something to say about this." "No, no," he said, "He's down at Hobe Sound; you're here." That was pretty free-wheeling. (Hargrove and Morley 1984, p. 211)

Part of Heller's success was that he truly believed that economics had the

macroeconomic answers and that it was his mission to do what it took to educate the president and the country. In his confidence he accurately represented much of the profession at the time. Robert Solow (1971, p. 154), for example, addressed a business convention in 1966, stating that most economists believed "short-run macroeconomic theory is pretty well in hand. The basic outlines of the dominant theory have not changed in years." By 1975, however, Joseph Pechman (p. 59) was puzzling that "the high rate of price increases during the recent periods of sluggish demand is a mystery that economists have not solved." More recently, many leading economists have been disavowing any exact predictive capabilities, emphasizing the highly conditional nature and mainly organizational usefulness of macroeconomic forecasts (Alan Blinder 1985; Solow 1985a). The professional agreement on macroeconomic theory that Solow had perceived as recently as 1966 had become in the 1980s a wide range of competing views and concepts (Barry Bosworth 1980; James Dean 1980).

To the public, the scientific credentials of a profession are measured by its ability to achieve consensus on a recognized body of theory and associated facts and observations. The theory should also provide a basis for successful prediction; if the test of successful prediction cannot be met, public, as well as professional, acceptance of its scientific legitimacy will be undermined. Indeed, growing public skepticism about the scientific credentials of professional economists have raised a challenge to their earlier influential role. It is no longer as widely accepted that economists have special professional expertise that should be given automatic deference.

Supply-side economics marked a watershed in the declining influence of professional economists in the formulation

of macroeconomic policy. Supply-side concepts gained great influence in the face of the disapproval of most leading economists (Paul Roberts 1984). A journalist, George Gilder (1981), was the most prominent advocate of the broad features of macroeconomic policy in the early Reagan administration (Leonard Silk 1984, pp. 185–87). The president to a degree became himself the chief administration economist, at times doubting publicly the utility of the professional economic advice he received, and finally questioning whether the continued existence of the CEA was even desirable.

The disdain of the Reagan administration was disheartening-if not bafflingto many professional economists. Yet, the declining influence of the CEA during the Reagan years may eventually prove to be, not a special case but an extension into macroeconomic policy of a more general development—the erosion of progressive-era categories and concepts as a basis for governing. Indeed, as discussed above, professional economists made a major contribution to this trend by their own criticism of economic regulation and their own proposal to eliminate or restrict the powers of independent economic regulatory commissions. The CEA might suffer the same fate, and it could be for many of the same reasons. Irving Kristol (1983, p. 185) has expressed the view that "the very existence of an official governmental body called the Council of Economic Advisors would have been unthinkable and pointless without a high degree of faith in such a methodology fof Keynesian macroeconomic predictability and expert controll."

After the first chairman, Edwin Nourse, subsequent CEA chairmen abandoned as impractical his view that the CEA should stay removed from political discussions (Gardner Ackley 1982, pp. 209–12; Heller 1967, pp. 14–26).

Once the CEA members and staff decided to assume an advocacy role in the political and bureaucratic process, they left themselves vulnerable to the question: is the president better served by economic advisors with some knack for politics, or perhaps better by politicians with some knack for economics? The economics profession has no ready defense for the former position. This is not to suggest that the CEA should have tried to avoid a political role. That strategy would probably have left it ineffective and irrelevant.

The CEA is in effect driven to be highly political, in order to have enough impact to justify its continued existence, but at the same time an important—if declining—part of its political support is derived from the claim that it is a nonpolitical, expert professional group. It was probably inevitable that, at some point, the tension between these roles would become difficult to sustain. In some ways the CEA's dilemma illustrates a much broader and more fundamental current concern-how does any expert government organization establish and maintain its political legitimacy in a political climate now marked by deep skepticism toward most claims of neutral technical expertise?

#### Use of Market Mechanisms to Protect the Environment

Another recent disappointment of the economics profession has been the slow progress in the use of market mechanisms to protect the environment. There was wide agreement among economists in the 1970s that pollution taxes or fees were the most efficient way to achieve protection of air and water quality (William Baumol and Wallace Oates 1979; Allen Kneese and Schultze 1975; Edwin Mills 1978; Larry Ruff 1970). Yet, this advice has been almost entirely ignored

(Mark Nadel 1983, p. 245). Unlike deregulation and the macroeconomic policy of the early sixties, the policy entrepreneurship of the economics profession fared poorly in this case, even though it enjoyed the support of something close to a professional consensus.

The case further provides a good illustration of two main themes of this article. First, political considerations are often an overriding factor in the success or failure of an economic policy proposal; thus, policy entrepreneurs need to pay close attention to political circumstances in deciding where to commit and how to expend their entrepreneurial energies-at least to the extent that they are concerned with short-term results. Second, it is often difficult to separate ideology from considerations of alternative means of achieving economic efficiency. In the case of environmental regulation, economists had what amounted to an ideological preference for an efficiency-enhancing mechanism that, unfortunately, offered poor political prospects. In its effort to encourage the use of market mechanisms, the profession put by far the greatest part of its support behind proposals for pollution emissions fees. By comparison, it neglected a competing idea, creation of a system of marketable pollution permits (J. H. Dales 1968), which was a similarly efficient but politically more promising means of manipulating market incentives to achieve environmental protection.

John Whitaker (1976, pp. 73–75), who served President Nixon in the early 1970s as his policy assistant for the environment, later wrote a book on this experience in which he explained why the administration, after a brief flirtation, found the emissions fee approach politically impossible. One critical obstacle—however arbitrary and irrelevant to policy it may seem—was simply the committee structure of Congress. Because it would be

considered a tax, a fee proposal would have gone to the Ways and Means Committee in the House and the Finance Committee in the Senate. Yet, these committees had little expertise in environmental matters, no great interest, and almost certainly would have opposed an emissions tax. Further complicating matters, leaders of the environmental committees were very reluctant to lose control over such a critical element of environmental policy.

Whitaker (p. 75) also notes the concern in the administration that some environmental groups opposed emission fees as a "license to pollute." The Nixon administration believed that a fee would be hard to explain to the public, partly because it could not show a precise and visible timetable for achievement of fixed pollution-reduction targets. Anderson and his associates (1977, pp. 155-59) add that industry and EPA staff also opposed emissions fees. Industry disliked the idea of paying a new tax and calculated—probably correctly—that the most likely alternative, command and control regulation, would offer more room for strategies of avoidance and delay in enforcement. Another important political factor was that an emissions fee would treat old and new facilities equally. For environmental activists, however, there were advantages in much tighter regulatory controls for new facilities—the approach in fact followed. In this way they could hope to achieve sharp pollution reductions in the long run, but, in the short run, would face a weaker and politically less well organized opposition. Older regions of the country also tended to favor much tighter controls on new uses, because they would serve to protect their existing industries from entry of potential new competitors in other regions (Robert Crandall 1983, pp. 129-30).

In comparison with these political obstacles, the forces likely to resist a market

permit system were less formidable. An important political advantage of a permit system was that, in the same way as a command and control approach, there would be a visible specification of a precise set of pollution standards with a definite timetable for meeting them. Another major political advantage was that the opposition of existing polluting facilities could be limited if a significant portion of existing emissions sources were made exempt. Indeed, if the marketable permits were freely granted and turned out to be in high demand, many existing polluters might receive a large windfall in the form of new property rights with a substantial market value.

Still another important advantage of marketable permits was that it would be easier to devise a plan by which a permit system could be introduced gradually and incrementally. Technically, would limit the damage from any mistakes in initial implementation; there was significant concern, for example, that a considerable and perhaps costly learning period would be necessary to find a suitable set of emission fees. Politically, an incremental strategy would make the adoption of a market approach less visible; it would thus be less likely to become a prominent symbolic issue on which the positions of each side would rapidly harden, preventing any action. Development of a permit system might begin with only a few limited transactions between two parties with no organized market. For example, if party A sought to enter an air shed with no available emissions space, it might simply pay party B to reduce its emissions to create some room. As more and more such two-party trading developed, and the need for formal market institutions began to be apparent, they could gradually be put in place.

Indeed, this is what has actually begun to happen. Starting in the mid-1970s,

EPA slowly began with its "offset" and "bubble" policies and with other actions to lay the groundwork for the gradual and incremental development of markets in air pollution rights. By 1984, about 2,500 offset trades had occurred, rules for "banking" of emissions credits had been approved in several states, and a number of other preliminary steps to the development of full-fledged markets were being taken (Michael Levin 1985). Although professional economists generally supported this development, and a few had actively promoted it (Dales 1968; Bruce Yandle 1978), the profession generally did not play much of a role in advocating and bringing about the shift toward marketable permits as the most promising practical means of using the market to protect the environment.

In part, this seems to have been a case simply of picking the wrong horse. But it is also likely that professional economists in the environmental field were aware of at least some of the practical advantages of a market permit system, but simply could not accept its ideological implications. While an emissions fee and market permit approach might be about equally effective in promoting economic efficiency, they have very different distributional effects and other social consequences. The emissions fee approach in effect represents a system of full public ownership of the nation's air and water domains; private access to these domains as repositories for emissions would have to be obtained by leasing of temporary emissions rights from the government. In contrast, the market permit approach establishes a private ownership system; pollution rights to the nation's air and water domains would be divided up and assigned to individual owners (although rights to pollute beyond acceptable levels would still be government owned). The ideological issue raised in some ways is as deep and as

old as the question of socialism versus capitalism.

A related ideological consideration is that the emissions fee approach would provide the government with greater future flexibility to alter pollution levels. At least in concept, the emissions fee could be raised or lowered at the discretion of government administrators to change pollution levels. By contrast, once market permits had been issued as private property, the government would be more constrained. In concept, if the rights were fully recognized as private property, reductions in pollution levels would then require that the government allocate funds to buy up existing pollution rights, much as though it were buying private land for a park or other public use.

The wide preference among economists for the emissions fee suggests the continuing substantial influence of progressive thinking in the economics profession. It may be recalled that the original progressives abandoned the nineteenth century policy of disposal of public lands and instead advocated their retention in public ownership (Nelson 1985)—much as the emissions fee would in effect now do for the air and water domains. The emissions fee is also a more direct way of implementing the goal of government manipulation of the market mechanism for social purposes, a more recent reinterpretation of progressive themes by the economics profession. Just as taxes played a major role in the Keynesian system that set the basic precedent for this approach, changes in tax parameters would be the instrument to allow government administrators to obtain the environmental results desired.

In summary, in two of the most important policy areas addressed by the economics profession—macroeconomic management and environmental protection—a philosophy of deliberate manip-

ulation of the market mechanism has fared poorly in recent years. For a time in the 1960s this basic strategy seemed to be gaining ground, as much of the general public accepted professional assertions that Keynesian theories provided the basis for future rapid growth and economic stability. But the inability of economists to sustain such claims significantly undermined public acceptance. This, indeed, was but one element in a broader set of developments that generally diminished public faith in the capabilities of experts in government. Others were the persistence of much poverty despite great effort and expenditure, the recognition of past neglect of the environment, the growing doubts about the safety of nuclear power facilities, and the shock of failure in Vietnam. Inability to make any progress in the 1970s toward implementing pollution taxes and fees partly reflected the difficulty of overcoming the new public skepticism, directed in this case at the economic experts who would be needed to plan and help administer a market-based system. The failure to implement pollution fees also partly reflected political miscalculation—which was not the basic problem in the case of macroeconomic management.

#### IV. Economists and Administration: A Mixed Record

It was a main tenet of the progressive movement that the administration of government could be put on a scientific basis. Progressive political theorists took this largely as an article of faith, something that it could reasonably be assumed would be accomplished with the forward march of scientific understanding. In practice, however, the development of administrative theory never advanced very far toward the scientific knowledge and skills to which progressives aspired. Indeed, one of the primary later criti-

cisms of progressive political theories was that the field of administrative science had never lived up to expectations. What were supposed to be the scientific truths of administration in fact were often a series of empty and even contradictory platitudes—for example, alleged "scientific principles" of administration such as that "administrative efficiency is increased by a specialization of the task among the group" (Simon 1946, p. 53).

Although the American Economic Association was a product of progressive influence, the broader progressive movement never looked much to economics as the discipline and subject matter that would provide the scientific basis for government decision making. For example, the conservation movement was one of the more prominent causes of the progressive era. Yet, Edward Mason (1978, pp. 9-10) once remarked that the conservationism of that period "was a political movement. . . . Its economic analysis was practically nonexistent. . . . The best it could do in defining the meaning of conservation was to say that it meant a wise use of resources."

Despite the early progressive lack of interest in economic ideas, since World War II the economics profession has moved to the center of intellectual efforts to sustain the progressive vision. These efforts have taken two important forms. First, as we have seen, economists have sought to substitute "market mechanism" for "administration" in asserting a new version of the old "politics-and-administration" dichotomy. And second, where use of market methods is not feasible or politically acceptable, and direct administration of government programs thus is unavoidable, economists have sought to make economic analysis a central element in administrative decisions. While the old administrative science emphasized topics such as the proper span of managerial control, or government per-

sonnel policies, economists now emphasize the administrative use of economic tools such as benefit-cost analysis, costefficiency studies, risk assessments, demand and supply modeling, and systems analysis generally. The new institution for spreading this decision-making approach is the profession of public policy analysis and the public policy school. A number of new schools of public policy have been established in leading universities, in some cases as successors to the older schools of public administration. Public policy schools have a curriculum that is focused on the application of economic analysis in the context of a new, more realistic understanding of political. legal, and other institutional forces (Wildavsky 1979, pp. 407-19).

While many government decisions are inherently economic in nature, formal economic analysis historically had a minor role (Alice Rivlin 1971; Schultze 1968). It was not until the 1960s and 1970s that a systematic effort was made to introduce economic methods into agency activities throughout the federal government.

#### Economists and Defense Issues

The key precedent for a heavy reliance on economic methods in administrative decision making was set in the Defense Department in the early 1960s. Economists and systems analysts were given a new and prominent role in the Department by Secretary of Defense Robert McNamara. One such economist, Alain Enthoven, subsequently wrote a book (with Wayne Smith) describing his experiences and the benefits obtained from systems analysis. Enthoyen and Smith (1971, pp. 79-81) found that the heart of the argument for a systems analysis office in the Defense Department had been that it would serve as an antidote to the normal politics of bureaucratic decision making. Compared with many other government agencies, they found that decision making in the Defense Department was less subject to outside special interest pressures. However, the Defense Department had unusually strong power centers within the department. As a result, the Secretary of Defense traditionally found it difficult to obtain independent advice and a broad national perspective.

Secretary McNamara saw the creation of a systems analysis office directly reporting to him as the means of solving this problem. Many of the analytical tools developed by the office were designed to allow comparisons of what was being achieved across diverse areas of the defense sector—areas that otherwise would never be evaluated and ranked for their relative effectiveness in meeting overall defense objectives. A new Planning, Programming and Budgeting (PPBS)—later adopted throughout the government—was developed and implemented in the Defense Department. Seeking to reverse the traditional process of agency negotiation and mutual accommodation in reaching defense decisions, Enthoven and Smith (1971, p. 47) argued that "the fundamental idea behind PPBS was decision making based on explicit criteria related to the national interest in defense programs as opposed to decision making by compromise among various institutional and parochial interests."

In a later article Enthoven (1975) summarized some practical lessons learned from his years in the Defense Department. He stressed the importance of keeping the analysis simple, and focused on hard facts. In many cases it was the analytical thought process more than the final analytical result that contributed to better decisions. In fact, qualitative arguments often proved to be more important than quantitative. It was seldom the case that a policy issue could be reduced to

a technical problem amenable to precise quantitative resolution.

While Enthoven, not surprisingly, was a booster of the approach he helped create, a further literature has developed which takes a more skeptical view. As early as 1968, basing his assessment in part on his own defense work at the Rand Corporation, James Schlesinger questioned the importance of the formal methods employed by systems analysts. He found that the most important improvements in government policy were often a matter of common sense. The greatest impact of systems analysis was in fact political. By recasting a policy issue as a question of technical expertise, the politics of internal agency negotiation was changed. Authority flowed to professional experts occupying central positions, and the influence of decentralized power centers in the bureaucracy was diminished. Or, as Schlesinger (1968, p. 288) put it, "the problem is not absence of knowledge; it is rather that appropriate actions are constrained by political actors reflecting the anticipated reactions of various interest groups. In such lines of activity, if analysis is to be useful, it will not be by contributing to knowledge, but rather by serving as a political instrument through which the relevant political constraints can be relaxed."

The actual impact of systems analysis in the Defense Department is still being debated. A Brookings defense policy specialist, Richard Betts (1983, p. 147), writes that "even in the heyday of the 1960s it is difficult to find many programs whose fate was primarily determined by the 'Whiz Kids.' At best their judgments are usually only one of several competing inputs to decision, and most of the time they are less influential than the advice of other interest groups." Stephen Rosen (1984) finds that economists and systems analysts did in fact contribute some important policy ideas that were adopted;

these ideas, however, were not necessarily closely linked to their professional training. Economists made their greatest mark simply by bringing fresh intelligent minds, and a willingness to ask simple but basic questions that others either were not willing or not able to ask.

Other reviewers assert that systems analysis did have an impact, but that it was positively harmful (Eliot Cohen 1980; Edward Luttwak 1982). This view partly reflects the idea that the "culture" of large organizations is critical to motivating employees and conveying a sense of organizational direction (Thomas Peters and Robert Waterman 1982). The prominent use of systems analysis in toplevel decision making may have indirect effects that are more important than their direct effects; indeed, use of systems analysis may become an important symbol by which leadership helps to define the organizational culture. The message that it may well convey-whatever the precise content of the analysis or intent of the analysts—is a message of careful study, caution in decision making, and an emphasis on formal methods over intuitive judgments. Such a message may be suited to the world of commercial banking but, the critics assert, it is hardly what is needed by the military, where esprit de corps, strategic boldness, and willingness to take high risks are much desired qualities. Joseph Schumpeter (1950, p. 143) argued years ago that the capitalist system was breeding a form of rational analysis that contained the seeds of its own destruction. For somewhat similar reasons, the critics have been saying that structured and formal rational analysis applied to military matters could have much the same effect on the U.S. defense system.

In sum, in the defense area, economists were strong advocates of steps to improve the efficiency of the defense system; as is often the case, in such efforts

they sought to assert a national interest against a variety of parochial interests. Economic analysis became directly involved in the politics of defense issues—indeed, some observers considered that their greatest contributions stemmed from their political roles and impact. Defense analysts were advocates of an ideology as well, which led hostile critics to assert that its emphasis on analytical rationality might even undermine traditional military culture and, therefore, American defense capabilities.

#### Economic Analysis of Domestic Programs

While benefit-cost and other economic analyses were done before the 1960s in some specific areas, the first systematic effort to apply an economic analysis approach throughout the federal government occurred in the 1960s with the Planning, Programming and Budgeting System (PPBS)—as noted, an extension of the systems analysis approach then being applied in the Defense Department. Although PPBS was dismantled by the Nixon administration (Allen Schick 1973), numerous offshoots have sprouted since. Indeed, the spread of policy analysis and policy planning offices throughout the federal government in the 1970s was significantly spurred by the PPBS experience. The Ford administration requirement for "inflation impact statements," the creation in the Carter administration of a "Regulatory Analysis Review Group," and Reagan administration requirements for "regulatory impact analyses" all were at least partly an outgrowth of PPBS. Reflecting the much increased demand for economic analyses, a recent survey found that seven key federal agencies had 466 staff positions-many of them for professional economists or analysts with considerable training in economics—in high level offices with formal program and policy responsibilities (John Sommer 1984). (A few economists also

rise to the very top. Steven Rhoads, 1978, found that over a 20-year period from the Eisenhower to the Carter administrations, 8 percent of all cabinet secretaries and under secretaries had PhDs in economics—representing 62 percent of all such officials possessing a PhD.)

The extension of systems analysis methods from the defense sector to the domestic side of government has generated a literature that in a number of respects parallels the defense literature. Like Enthoven, several former officials who promoted systems analysis and benefit-cost methods while in government have written optimistic assessments in which they describe the improvements in decision making that such analysis should be able to achieve (Robert Litan and William Nordhaus 1983: Rivlin 1971: Schultze 1968). Other reviewers, like Schlesinger before them, argue that formal analysis has a beneficial impact but emphasize also the political climate for decision making and the continuing obstacles to achieving a sustained impact with rational analysis (Robert Haveman 1973, 1976; Martin Rein and Sheldon White 1977; Henry Rowen 1975). Other literature argues that formal policy analysis is a desirable activity, but finds that the actual influence thus far exercised by economics and social science analyses has been considerably less than expected (Lynn 1978; Weiss 1977a). Finally, much like critics who view the culture of systems analysis as a threat to the national defense, a corresponding set of critics on the domestic side considers that benefitcost and other formal analytical methods are asserting a test of social desirability that is based on narrow grounds and that can be damaging to other important social concerns and values (Edward Banfield 1980; Steven Kelman 1981).

One important new element is that, where Schlesinger and Enthoven earlier saw parochial political interests as the

major obstacle to efficient defense policies, a greater weight is now given to the political impact of competing value schemes and the ability of such ideological opposition to limit the influence of economic analysis. For example, the Council of Economic Advisors and the Council on Wage and Price Stability jointly made a major effort in the Carter administration to introduce benefit-cost and other policy-analytic considerations into the development of environmental and social regulations-sometimes described as another form of "deregulation." However, they had much less success than was achieved in the area of economic deregulation proper (Litan and Nordhaus 1983, pp. 67–81; Wilson 1980). A former CEA staff member, Lawrence White (1981), has described a number of the major obstacles. Proponents and administrators of environmental and social regulations typically regarded the goals of regulation as above benefit-cost analysis (Michael Pertschuk 1982, p. 139). Thus, protection of clean air and clean water-in much the same way as protection of wilderness and endangered species—was considered an end in itself; costs should not be a factor. Benefits of environmental protection did not need to be analyzed, because it should be obvious that what is ethically "right" is preferred to "wrong," and a technical analysis could not be expected to value the difference.

These attitudes were influential in Congress as well and in some cases found their way into law (Richard Stewart 1985). Robert Anderson and Bart Ostro (1983) review the obstacles to use of benefit-cost analysis in EPA when it set standards for particulate matter. First, the law required that the primary particulate standard be set according to the sole criterion that public health be protected with an adequate margin for safety; if applied literally, any adverse health im-

pacts would, in effect, be treated as socially unacceptable. Second, as interpreted by the courts, the law precluded consideration of costs in setting the standard. And third, Anderson and Ostro acknowledge that, even if consideration of benefits had been allowed, the benefit studies available all had major conceptual or empirical problems that tended to limit their influence.

White (1981, p. 217) notes that, if an agency voluntarily includes cost in a regulatory analysis, it is usually part of an assessment of whether a firm or an industry will be driven out of business. Study of such effects of regulation is considered socially and politically legitimate, because it is based on another recognized right, the right of the worker to stay in his job, or of the businessman to keep his property. Numerous observers have commented on the preoccupation of policy debate with distribution and with the allocation and protection of rights to job and property (Behn 1981; Haveman 1976; Nelson 1977, 1986; George Shultz and Kenneth Dam 1977). Once a matter becomes a question for government action, it must be surrounded by procedures that are intended to ensure fair and equitable treatment for all affected parties. These procedures are often more important than efficiency in determining public perception of a program, which diminishes the interest of program administrators in analytical methods designed to identify efficient solutions.

The political influence of alternative social philosophies has not always been exerted in opposition to economic analysis. Environmental organizations, one suspects, have strongly resisted the construction of new dams less because of their low benefit-cost ratios than for their adverse environmental impacts. However, environmental activists have shown no reluctance to employ economic arguments as a central feature of their case

against dams and other new water projects. Indeed, they have proven far more aggressive than economists in making the economic case in the press, Congress, and the courts.

The first formal requirement for benefit-cost analysis was included in public works legislation as early as the 1930s. Subsequently, economic analyses of dams and other water development projects frequently showed them to be uneconomic (Haveman 1973). Yet, it turned out that Congress paid little attention; for years they made hardly a dent in the traditional "pork barrel" politics of water. This changed only when environmentalists added further critical ingredients: highly energetic and skillful policy advocacy and entrepreneurship, a substantial base of organized interest-group power (fishermen, rafters, and other recreationists), and environmentalist beliefs that could mobilize additional strong political support to oppose dams. Environmentalists also formed an alliance with some fiscal conservatives in the Congress who considered many water projects an inexcusable waste of money. This overall alliance—a grouping of liberals and conservatives together backing economic ideas—represented a coalition similar to that supporting economic deregulation. In a number of cases, it has effectively challenged the powerful water lobbies of the West.

The management of public lands involves numerous economic decisions, including appropriate production rates and prices for sale of public resources (Nelson 1982, 1985). However, while there have been some recent efforts to curtail "below-cost" timber sales, political forces in support of economic analysis have been much weaker than in matters concerning water. Recent reviews, not surprisingly, find that economics has had little impact (Marion Clawson 1983; Thomas Lenard 1981; Nelson 1984a). The obstacles are

familiar. The management of public lands serves strong clientele groups—ranchers on grazing lands, wilderness groups in wilderness areas. If economics were made the basis for policy, this would not be merely a technical change. Widespread application would in fact work a minor political revolution, resulting in the assertion of a broader national interest against the parochial interests that have long asserted control over public land management—since at least the nineteenth century. Stated another way, many rights to use land now in the public domain have already become privatenot legally but de facto. As a practical matter, the use of economics would result in a shift of these rights from private back to public possession and control, a step requiring much stronger political backing than has been anywhere in evidence (Nelson 1984b). The main force for economic analysis on the public lands—a desire to achieve greater public backing by giving public land management the symbolic support of scientific analysis—normally counts for little against the political forces arrayed in opposition.

As in the Defense Department, there are also critics on the domestic side who find that benefit-cost and other formal analyses do in fact have an impact, but that it can sometimes be more negative than positive. Kelman (1981) considers that the very act of formally valuing something can reduce its actual value (e.g., a sexual relationship). Formal analyses of the benefits and costs of lifesaving measures may have a morally corrosive effect on society. Thus, Rhoads (1985, p. 138) argues that, while such analyses should be done by the agencies involved, they should not be issued for public review, because "publicized valuing would weaken our ethical self-confidence, and this could make us feel more callous and cynical about ourselves and our government. A reduced respect for life could result."

Another criticism similar to those made in the defense area is that an overemphasis on economic analysis may stunt intuitive and less logically rigorous, but equally valid methods of making decisions (Simon 1978a, 1978b). The recent managerial failings of American business have been attributed in part to excessive faith in "the rational model" of decision making, which may have constrained managerial creativity and boldness (Peters and Waterman 1982, Chs. 2-3), Similarly, Lindblom and David Cohen (1979, p. 12) suggest that practitioners of professional social science "greatly overestimate the amount and distinctiveness of the information and analysis they offer for social problem solving. They greatly underestimate the society's use-and necessary use—of an existing stock, as well as a flow of new ordinary knowledge from [other] sources."

In summary, beginning in the 1960s, economists and economic analysis were introduced as a significant new element in the formulation of policy in agencies all across the federal government. The newly arriving economists and policy analysts found, however, that they did not necessarily enjoy a warm welcome. Economic analysis might suggest that longstanding agency clientele and political relationships should be abandoned, or that brand new areas of agency activity offered higher economic payoffs than traditionally favored programs. Economists also brought an approach to issues and a way of thinking—an implicit set of values-that was foreign to many agencies and to their supporters; this economic approach could even endanger the idealism and sense of purpose on which agency morale was largely based. In these circumstances, it is not surprising that the actual changes achieved were considerably less than would have resulted from a full application of economic thinking.

Nevertheless, many government programs have shown the effects of new pressures for economic justification. Moreover, some economists and policy analysts showed considerable skill as advocates for efficiency and for economic ideas more generally. Their efforts served the goal of greater economic rationality and administrative efficiency in modern government, an ideal which is itself a powerful ideological force, one which—sometimes at least—can move practical politicians to respond.

#### The Office of Management and Budget

The Office of Management and Budget and its predecessor, the Bureau of the Budget (which was replaced by OMB in 1970), have played a central role in promoting and bringing about the wider use of economic analysis throughout the federal government in the past quarter century. During the years from 1965 to 1968, when Charles Schultze was director, the Bureau of the Budget spearheaded the campaign to introduce PPBS. Today, economists in other government agencies find that OMB pressures on their agencies often create a demand for their products. OMB is one of the few federal agencies in which the "ethos" or "culture" closely reflects an economic way of thinking (Frank Lewis and Frank Zarb 1974). OMB has also become in many instances an entrepreneur and "partisan advocate" for efficiency and other economic goals, as well as an ideological combatant for an economic approach to policy. OMB thus provides an example of a whole agency that has adopted a style of behavior similar to that suggested in this article as an appropriate role for individual members of the economics profession (or groups of economists) involved with government. Since OMB adopted this role,

its influence on policy has increased significantly (Bruce Johnson 1984).

The fundamental question faced by OMB is an economic one-how to allocate scarce resources (federal funds) among a large number of competing claimants (federal programs). The basic way of thinking of modern economics and many of its key concepts and tools-opportunity cost, benefit-cost analysis, costefficiency studies, calculations of internal rate of return, focus on marginal instead of average, etc.—provide the basic ideas needed to answer OMB's fundamental question. In recognition of this fact, OMB is always asking and forcing agencies to try to answer the questions: is this project worth it, what are the benefits and what are the costs, could the private market instead do a better job, is it cost-effective compared with alternatives, and so forth? To be sure, it is often easier to ask such questions than to find the answers. OMB staff thus rely heavily on, and expect that other agencies will make "quick-and-dirty" calculations, use "rules-of-thumb," and resort to intuitive judgments. It is also often necessary to bow to political realities, and incremental methods are typically more important than comprehensive analyses (Wildaysky 1964). Nevertheless, in its basic outlook. OMB is a practitioner of the economic way of thinking, indeed the most influential and powerful such practitioner in the federal government.

The new emphasis of the Bureau of the Budget in the 1960s on economic analysis required an abandonment of older public administration precepts derived from the progressive era. For many years the principal concern of BOB had been with administrative efficiency narrowly construed, viewing basic policy issues as political and outside its proper scope (Larry Berman 1979). However, beginning in the 1960s, the new BOB explicitly sought to play a much broader

policy role. It was understood by at least some of BOB's leadership that, instead of avoiding politics, the new role would necessarily push the agency directly into politics, functioning as an advocate for economic approaches: "PPB impinges directly upon a complicated political process which is structured to achieve decisions by mutual adjustment among partisan advocates" (Schultze 1968, p. 16). Moreover, "it significantly affects the web of relationships between the executive and the Congress" (Schultze, p. 16). While increasing the scope of BOB and OMB influence, this new political role also provoked some complaints and discontent with what some regarded as an abandonment of the progressive ideal of neutral expertise (Hugh Heclo 1975).

The OMB case shows that to be an advocate does not necessarily preclude the effective application of economic analysis to policy, as some economists may fear. Of course, OMB can play its role only with the approval and encouragement of the president. Because the president stands above the entire executive branch, he often becomes a chief agent for expressing the political interest in greater economic rationality and administrative efficiency in government. OMB can be politically very useful to the president in this capacity. Economically efficient policies are seldom adopted simply because experts say they should be, but only when an appropriate alignment of political forces and circumstances makes it possible—as in the case of OMB.

OMB activity also illustrates the specific techniques of effective entrepreneurship and advocacy in a political world. One lesson is the importance of some well-defined responsibilities, in order to obtain entry into the arena where policy questions are resolved. Control over the budget process gives OMB staff the administrative "handles" to exert ma-

jor influence in a wide variety of economic policy areas (Shultz and Dam 1977, pp. 158–62). OMB has also acquired significant policy leverage through its supervision of submissions of proposed legislation, testimony, and other executive branch communications with the Congress and, in recent years, through its regulatory review responsibilities (Nadel 1983, pp. 250–51).

The OMB experience also suggests that a formal degree in economics is not always regarded as essential to the use of an economic approach to policy. The OMB staff is drawn from a wide variety of professional backgrounds and there is no strong emphasis on having an economics degree. In some ways the career of former director David Stockman draws attention to a new breed of economic practitioner and policy analyst in the federal government. Stockman's professional training was gained in a divinity school and in a school of public policy. The diversity of professional backgrounds at OMB is in fact representative of the incumbents of the many offices of policy analysis and policy evaluation that have proliferated in the past 20 years, as pressures to apply economic thinking have spread across the federal government. In OMB's willingness to become involved in politics, and its advocacy and entrepreneurial mode of operation, combined with its underlying economic ideology. and its use of budget leverage to achieve policy impact, it stands as a prototype for many of these offices (Meltsner 1976).

In summary, during the years since World War II, OMB has moved sharply away from its origins in the progressive era and the public administration movement. The basic goal has not changed—the efficient and effective administration of the government—but an outlook based on economic concepts has now replaced public administration precepts as its guiding philosophy. Under "the new ad-

vocacy approach of the OMB" (Johnson 1984, p. 512), the OMB staff is expected to show political awareness and sophistication, to demonstrate entrepreneurial initiative, and to be effective advocates for efficiency measures (within typically the fairly broad limits allowed by presidential political objectives). The OMB case illustrates particularly well the intellectual, political, and other forces that in the past quarter century have altered the environment in which economics may be used in government.

# V. The Role of Economists in Traditional Economic Agencies

The Bureau of the Budget of the 1960s (and since then OMB) and the many new policy offices created in federal agencies since the 1960s might be characterized as providing a "new" institutional setting for applying economic analysis in the federal government. In what might be characterized as the "old" institutional setting, economists since at least World War II have played important roles at the Federal Reserve, Department of Treasury, Department of Agriculture, Department of State, Bureau of Labor Statistics, Bureau of Economic Analysis (and its predecessor agencies), Department of Commerce, Antitrust Division of the Justice Department, and a few other "traditional" economic agencies. The earlier involvement of economists at these agencies partly reflected the responsibilities of the agencies in policy issues concerned with taxation, money, international trade, labor, industrial relations, agriculture, and industrial organization. These policy areas are more narrowly "economic" and correspond to fields of longstanding special interest to the economics profession. In addition, economists have long been concerned with the collection of economic statistics (Joseph Duncan and William Shelton 1978; Joseph Goldberg and William Moye 1985).

While some economic staffs date from the progressive era, the economic crisis of the 1930s and, even more, the need for economic expertise during World War II caused a major increase in the number of economists in the federal government (Stein 1986). The economics staff of the Antitrust Division was created in 1938 (Suzanne Weaver 1977, pp. 28-29; see also Robert Katzmann 1980). The Office of Tax Analysis in the Treasury Department—one of several Treasury economics staffs (Lisle Widman 1982)was also established in 1938 and has long been among the most influential economics staffs in the federal government (Roy Blough 1952, pp. 97-99; Pechman 1983, pp. 39-43; John Witte 1985). Recently, it played a key role in the development of the 1985 tax reform proposals of the Reagan administration. At one time or another during the 1940s this office included among its staff a large number of young economists who later achieved prominence, including E. Cary Brown, Richard Good, Milton Friedman, C. Lowell Harriss, Walter Heller, Joseph Pechman, Nancy Ruggles, and Carl Shoup, Paul Samuelson served as a consultant. During the war vital functions such as economic planning and coordination of munitions production, price controls, new taxes, supply of allies, and study of enemy capabilities occupied the attention of many economists (Galbraith 1981). In the State Department wartime demands led to an increase in the total number of economists from about 100 to about 500 and to the establishment in 1944 of the Bureau of Economic Affairs (U.S. State Department 1986).

A 1978 study covering most federal agencies—a few were excluded—found that they employed almost 5,000 people in federal jobs in which they were formally classified as economists, more than 3,000 in the Washington area (Patricia Capdevielle 1980). Not surprisingly, five

of the six federal agencies with the largest numbers of economists were traditional economic agencies: the Labor Department (744 economists), Commerce (568), Agriculture (541), State (282), and Treasury (213). The large share of economists in such agencies partly reflects the fact that analysts in newer policy offices often are not formally classified as economists, although much of their work is really applied economics. It also reflects the fact that the traditional economic agencies often assemble and analyze extensive economic data and statistics, a task that requires a large group of economists.

There are a number of differences between the "new" and the "old" settings for the application of economics in government. As noted above, the new policy offices tend to hire staff with a wide variety of professional backgrounds, whereas the older staffs are more likely to have members with formal training in economics. The traditional economic agencies also are more likely to have origins in the progressive movement. The influence of progressive ideas thus is greater, including a greater emphasis on maintaining a separation of politics and technical expertise. Another important difference is that economists in the traditional agencies have tended to face weaker resistance to economics, compared with agencies dealing with matters such as defense, environmental regulation, public lands, health, and welfare. In the latter agencies specialists in fields other than economics-such as military affairs, environmental science, forestry, and social work—typically hold sway. The legal profession has a significant role in almost every agency. Economists, however, have been the recognized technical experts and the dominant social science professionals at the Federal Reserve, the Treasury, and other traditional economic agencies. A number of these agencies also have responsibilities that encompass

many sectors of the economy, or even all of the national economy. As a result, the traditional agencies have greater insulation from the political pressures exerted by narrow interest groups, which is another reason for the reduced level of opposition to economic analysis.

Reflecting these factors, the role of economists generally comes closer in the traditional economic agencies to the progressive model of the neutral expert. There is more scope for the use of technical methods without consideration of advocacy tactics or politics. But even in these agencies politics and economics are often interwoven at the highest levels and staff economists must take noneconomic considerations and values into account.

These features are illustrated at the Federal Reserve Board, where economists have played a significant role since its founding in 1913 (John Woolley 1984, p. 88). During the 1930s and 1940s Federal Reserve economists included Emile Despres, Evsey Domar, James Duesenberry, Alexander Gerschenkron, Gottfried Haberler, Albert Hirschman, Lloyd Metzler, Richard Musgrave, and Alan Sweezy. A Federal Reserve economist, Lauchlin Currie, played a significant part in the late 1930s in introducing Keynesian ideas into Washington policy-making circles (Byrd Jones 1980). As part of its role, the professional staff of the Federal Reserve—including a high percentage of economists—has traditionally brought directly into formal deliberations and discussions of the Federal Reserve Board—a group which itself has included many professional economists.

The Federal Reserve staff helps to set the agenda for Board meetings, makes presentations of forecasts and provides other basic economic analyses to the Board. It also engages in discussion with Board members concerning factual and technical economic questions raised

(Raymond Lombra and Michael Moran 1980). These and other responsibilities give the staff substantial impact on the decisions of the Federal Reserve (Henry Wallich 1982). Indeed, in a book based on his service on the Board from 1965 to 1972, economist Sherman Maisel (1973, p. 138) offered the assessment that "I judge the power of the Board members, not including the Chairman, to be less than that of the staff." This policy influence is derived partly from the high regard in which the Federal Reserve staff is held for its technical and other skills. Maisel (p. 137) believed that "the Fed's independence, flexibility, and nonpartisan reputation have enabled it to hire and retain one of the finest staffs in Washington. The only other economic group which has compared over the years in quality of staff is the Council of Economic Advisors."

However, the economists on the Federal Reserve staff have not relied solely on their technical role as a basis for influencing Federal Reserve policy. As have economists serving at the Council of Economic Advisors and other government agencies, members of the staff at times have become entrepreneurs for policies they considered to be in the public interest, and have engaged in political and bureaucratic maneuvering to advance those policies. Thus, Edward Kane (1982, p. 225) comments:

On some issues and under some chairmen, Fed staff economists play a leading role in policy formation. As a matter of tradition, even on controversial issues Fed staff economists play an active and politically nonpartisan role in system decision making. Fed economists are jealous of this role and of their reputation for preparing for internal consumption an objective analysis of even the most controversial problems facing the Fed. When a chairman resists what staff members firmly believe to be the public interest (as, for example, when a chairman thinks of himself as the "best economist in the system"), the more adventurous among them may supply helpful arguments and data

to dissident governors or district bank presidents. When board and FOMC decisions run seriously counter to their conception of the public interest, at least a few individual staff members will regard it as their right (if not their duty) to explain matters to their colleagues in the academic or banking communities. On rare occasions (and usually only after another job has been lined up), some have gone so far as to "leak" their independent analysis of a given issue to the press.

Economists have also played an especially important role at the Agriculture Department. The Bureau of Agricultural Economics was created in 1922, and in the 1930s professional economists assumed a central role in policy making at the Agriculture Department, participating extensively in the development of major new federal agricultural programs (Nourse 1953, p. 83). Responding to ready availability of data and to government needs, Agriculture Department econometricians in the 1920s and 1930s played important parts in the development of improved techniques for estimating farm supply and demand equations. thereby contributing significantly to the overall development of econometric methods in the United States (Karl Fox 1986). Well known Department econometricians have included E. J. Working, Mordecai Ezekiel, Frederick Waugh, Karl Fox, Richard Foote, and, for two years in the 1950s, Marc Nerlove. Professional economists have also had a strong institutional presence at the political level of the Department. Thus, Willard Cochrane and Mary Ryan (1976, p. 120) find that "the estimation of reliable estimates of the elasticity of demand for various farm products and their aggregates greatly influenced the direction of farm policy in the 1950s and 1960s. And the estimation of the production effects of different levels of price support was an important part of each major policy revision between 1948 and 1973.

In summary, since the New Deal the

impact of the federal government on the economy has grown greatly. The demands for knowledge of economic trends and conditions and for analyses of the impacts of federal economic policies on a modern economy have grown correspondingly. Economists in the traditional economic agencies have assumed a major role in satisfying these demands. It has been a role to which there has been less interest-group opposition and concerning which there has been less question of its social necessity and legitimacy. Partly for these reasons, it has been a role in which entrepreneurial and advocacy efforts and skills, as well as ideological understanding and persuasiveness, have been less important to economists than in the "newer" policy areas. It has been a role in which the opportunity to apply technical economic expertise of a more sophisticated nature may have been somewhat greater. It has been a role somewhat closer to that of the progressive model. Finally, it has been a role in which, while sometimes less glamorous and less visible, economists have done and still do much of their most important work in the government. (For a review of related British developments, see Cairneross 1981.)

#### VI. The Job of a Government Economist

Progressive political theorists considered that economists and other professional experts should have a secure domain in which they would be responsible and in which their decisions would be controlling. However, most government economists today serve in jobs and on economics staffs that exist in more precarious circumstances. An economics or policy staff must regularly demonstrate enough value to the government agency in which it is located to justify its costin this respect, it is subject to an economic test. Government economists pay

their way partly by assembling facts and figures, developing forecasts, preparing trend analyses, and gathering other basic information. They also prepare options papers for responsible officials and help to identify alternatives and characterize their effects. Sometimes economists help out in mundane chores such as writing letters to Congress, drafting regulations, and reviewing proposed legislation (Leman and Nelson 1981). Economics staff members who have served in an agency for some time may become a valuable source of institutional memory. A few economists who have the knack may serve as unofficial political advisors.

However, many economists outside the government probably have more in mind when they think of the economics profession leaving its mark on the world of government policy. They might reasonably ask: what about the products of all the extensive research conducted by economists in universities and other research facilities? Where and how does all this work fit into the job of a government economist?

One economist has made a major effort to examine jobs of government economists and the use of economics in government work. From 1972 to 1976 William Allen taped interviews with approximately 60 economists who had had direct experience working in (or, in a few cases, closely with) government. Allen's interviewees were not intended to be a representative sample of all government economists; most of them had interrupted an academic career for a limited period of service in government. They were also typically serving in high-level staff positions, so that their observations bear less on the routine production of economic studies in government and more on the nature of the interaction between highlevel economists and the actual makers of agency policy. This is the point at which economic ideas to be influential

must be translated into political reality. The great majority of the economists interviewed were working or had worked either at the Council of Economic Advisors or at one of the "traditional" economic agencies.

Allen (1977, p. 50) notes immediately that the economists he interviewed found little place at the higher levels of government policy making for "the construction and utilization of elaborate, elegant models, either of theory or of econometrics," Rather, "in the seemingly typical situation, government economists are quickdraw specialists, shooting from the hip: gather a few data and prepare a memo by tomorrow morning-if not by this afternoon." Allen's interviewees were virtually unanimous in emphasizing that their greatest influence came from a few simple economic ideas, not from more elaborate technical refinements. Thus, after working on the CEA staff, Lee Hansen found that the key to influence was "just good common-sense economics . . . the kind of basic analytical framework that we all sort of got in Econ 101. . . . Simple supply and demand and benefit-cost . . . if you can just keep these things in your mind, plus if you are open to seeing how they might have to be modified in the light of institutional constraints and considerations, then, I think, that's the game, really" (pp. 70-71). Moreover, the greatest contribution may not be to make a proposal that is adopted; rather, as another former CEA staffer, Robert Tollison, put it, "the role of the economist there is a stop gapkeep them [government regulatory agencies] from doing something completely dumb, just completely dumb" (p. 81).

Based on his interviews, Allen sought to assess the impact of professional economists on policy but was not able to draw firm conclusions. As he put it, "evidently, no simple generalization will here suffice. The importance and the impact of the economist's work vary considerably—or seem to the economists themselves to vary—from situation to situation" (p. 78). However, none of the economists saw themselves as occupying a separate domain where their technical expertise was recognized as authoritative. Much more representative was the characterization of the process by Robert Baldwin, the former chief economist in the Office of the Special Representative for Trade:

You found the big guys just couldn't think through carefully every issue, and that once something came up, if you had what seemed to be a sensible bit of analysis on it and little memos showing some proof of something—maybe two or three pages, but kind of supporting your line of reasoning with the arguments and maybe a few little data—then they would accept this. . . . suddenly these people are confronted with decisions, and they are dying to have advice, and they don't want to be made a jackass of, and if you have something to give them, they'll read it through. . . . it does have an effect. (p. 78)

Allen found others such as Roland McKean, a longtime Rand consultant to government agencies, more skeptical that economic analysis really made any difference. As McKean told Allen, he was:

pessimistic in general about the economist's role or the role of economics in government. . . . Wherever you find somebody having made an economic analysis which seems to result in implementation of a government policy, you rake around among the leaves, and I think you find usually that the government agencies, or officials who implemented it, had reached that conclusion for others reasons-it was in their interest. . . . The things that shape decisions in government are the pressures emanating from the bargaining amongst officials, given the nature of the political process, and if you want to change the way those decisions are made, I don't think just sheer brilliant economic analyses are likely to do very much by themselves. (p. 81)

Considering all that he had heard, Allen gave his own summary assessment,

reflecting the most systematic effort thus far made to survey a wide range of views of professional economists with practical government experience:

In speaking with economists who are or have been in government, one obtains a picture and gains an impression which is sobering. The government economist typically is not a highly independent researcher and analyst, free first to pick many of his subjects and entirely free to broadcast generally the results of his labors. He is a member of an organization, commonly devoting the bulk of his time to topics specified from on high-the specification often being enunciated only a few days (or, indeed, hours) before the deadline; conscious of a prevailing orientation and purpose on the part of these administrative superiors who constitute his main audience; conscious, also, that the decisionmakers he is more or less directly advising are themselves subject to constraints of worldly realism and political feasibility-along with innocence in the area of economic analysis; bringing to his task an accumulated intellectual capital which, even if impressive at the outset of his government work, may not thereafter be greatly enlarged or even well maintained; having more or less available a corpus of theory and an arsenal of techniques which, for all their elegance, refinement, and academic glamor, are often too time-consuming for purposes of shooting from the hip and too esoteric for the data, the colleagues, and the audience; and having little reason to suppose that his work has significant impact in the making of policy, being largely confined to support of programs and procedures determined earlier and by others and for which he may have only modest sympathy. (pp. 86-87)

As Allen and others have found (Meltsner 1976), the job of a government economist working at the level where policy is being made consists largely of applying some fairly simple and basic economic ideas and a large dose of careful thinking, common sense, and general intelligence. Department heads and bureau chiefs do not defer to their economic experts in forming economic policy. Indeed, they may not even consult them. Economists in government also do not generally serve as intermediaries between the cur-

rent research efforts of the economics profession and top policy makers. Most of the journal articles and much of the other formal products of the profession's research today are too refined and complex to be absorbed when policy is being formed. Indeed, the worlds of applied policy economics and of academic economics have been diverging for some time. Fifty years ago most of the articles published in journals such as the American Economic Review could also pass for government studies, and vice versa. However, the journal articles of today bear little resemblance to the typical work products of a government economist.

The wide gap between academic and applied policy economics raises the question whether anything should be done to try to close this gap. Political and other trends make it unlikely that the initiative will come from the side of government. Even where policy influence is an explicit objective, academic economics today is still tailored in many ways to play a policy role prescribed by "progressive" political theories. Yet, as already indicated, leading contemporary students of government mostly reject the progressive model of the policy-making process. If steps to narrow the gap are to be taken, the initiative will probably have to come from the academic side.

#### VII. Conclusion

If economists outside the government were to decide that they would like to participate more directly in the making of public policy and to have more short-term influence, what steps could be taken? The answers have been suggested already, but can be summarized briefly. A first step would be to accept the fact that in many areas of policy it is probably necessary to be an entrepreneur and advocate for specific economic policies,

rather than simply a neutral technical analyst. The next step would be to do what is possible to develop the types of knowledge and skills needed to assume this role more effectively.

Many economists would need to invest greater effort in improving writing skills, facility in reasoning by analogy, command of institutional details, knowledge of legal processes and reasoning, and political awareness and savvy. They might need to devote more time and effort to investigations of history, law, politics, and institutions, and their bearing on the economic topics of policy concern. Advocates of economic policies would need to tailor their policy proposals to reflect an accurate understanding of how these policies will be publicly perceived—in terms of social equity, the public sense of "fairness," impact on personal liberties, infringements on private property rights, and other such public concerns. Proponents of economic policies need to be able to defend these policies, not only on narrow technical grounds, but also in broader ideological and philosophical terms. Sensitivity and knowledge in these areas are needed to establish one's standing and influence with policy makers, as well as to shape persuasive policy arguments. Understanding that reaches beyond the confines of economics is also likely to yield more promising economic policy proposals in the first place.

To be more effective policy advocates, many economists would generally need to give more attention to "big-picture" skills. The ability to "tell a story" that makes sense, to "paint a picture," is at a premium in government. Top policy makers are often confronted with overwhelming amounts of information and data. Their greatest concern is to organize this diverse material in some meaningful way. The biggest asset of economists is the conceptual equipment that enables them to impose sense and order

on an immensely confusing world of employment, industry, commerce, finance, and administration. Within the recently established profession of public policy analysis, a number of its members have described the practice of policy analysis as more an "art" than a "science" (Wildavsky 1979). The skills of the "craftsman," rather than the "scientist," are most in demand in professional roles in government.

Such observations are not intended to suggest that facts and figures are not important. Indeed, the most powerful policy advocacy of economists often involves the marshalling of information that make a case forcefully. However, it is usually simple data, rather than sophisticated econometric studies, that are most influential. Responsible officials are frequently so skeptical of empirical analyses that they cannot understand and evaluate themselves and may well dismiss them. In general, a member of the economics profession hoping to have a significant influence on policy must design arguments and use them in ways that policy makers can understand and that directly persuade them. It goes without saying that this typically precludes the use of those mathematical formulations that are now the common fare of academic discourse.

If large numbers of economists were to move in these directions, it would represent a significant departure for the profession. Such a movement, however, would be consistent with current signs of renewed professional interest in the tradition of "political economy" and with increasing professional attention to some of the liabilities of the prevailing style of economics. (Arjo Klamer 1983; Donald McCloskey 1983). Government economists have had to learn to become effective entrepreneurs within government; perhaps more university economists should learn to become effective entre-

preneurs in a much broader context—the free market of social policy ideas.

#### REFERENCES

- AARON, HENRY. Politics and the professors: The Great Society in perspective. Washington, DC: Brookings Inst., 1978.
- ACKLEY, GARDNER. "Providing Economic Advice to Government," in Economics in the public service: Papers in honor of Walter W. Heller. Eds.: Joseph A. PECHMAN AND NORMAN J. SIMLER. NY: Norton, 1982, pp. 200–34.
- AIKEN, HENRY D. The age of ideology, in The great ages of western philosophy, Vol. 2. Boston: Houghton Mifflin, 1962.
- ALEXIS, MARCUS. "The Political Economy of Federal Regulation of Surface Transportation," in The political economy of deregulation: Interest groups and the regulatory process. Eds.: ROGER G. NOLL AND BRUCE M. OWEN. Washington, DC: Amer. Enter. Inst., 1983, pp. 115-31.
- ALLEN, WILLIAM R. "Economics, Economists, and Economic Policy: Modern American Experiences," Hist. Polit. Econ., Spring 1977, 9(1), pp. 48-88.
- ANDERSON, FREDERICK R. ET AL. Environmental improvement through economic incentives. Baltimore: Johns Hopkins U. Press for Resources for the Future, 1977.
- Anderson, Robert C. and Ostro, Bart. "Benefits Analysis and Air Quality Standards," *Natural Res.* L. July 1983, 23(3), pp. 565–75.
- J., July 1983, 23(3), pp. 565-75.

  APPLEBY, PAUL H. Policy and administration. Birmingham: U. of Alabama Press, 1949.
- BAILEY, STEPHEN K. Congress makes a law. NY: Columbia U. Press, 1950.
- BANFIELD, EDWARD C. "Policy Science as Metaphysical Madness," in Bureaucrats, policy analysts, statesmen: Who leads? Ed.: ROBERT A. GOLDWIN. Washington, DC: Amer. Enter. Inst., 1980, pp. 1–19
- BARDACH, EUGENE. The implementation game: What happens after a bill becomes a law. Cambridge, MA: MIT Press, 1977.
- Baumol, William J. and Oates, Wallace E. Economics, environmental policy, and the quality of life. Englewood Cliffs, NJ: Prentice-Hall, 1979.
- Behn, Robert D. "Policy Analysis and Policy Politics," *Policy Anal.*, Spring 1981, 7(2), pp. 199-226.
- Berger, Peter L. The sacred canopy: Elements of a sociological theory of religion. Garden City, NY: Anchor Books, 1969.
- BERMAN, LARRY. The Office of Management and Budget and the Presidency, 1921-1979. Princeton, NJ. Princeton U. Press, 1979.
- BERNSTEIN, MARVER H. Regulating business by independent commission. Princeton, NJ: Princeton U. Press, 1955.
- BETTS, RICHARD K. "Conventional Strategy: New

- Critics, Old Choices," Int. Security, Spring 1983, 7(4), pp. 140-62.
- BLINDER, ALAN S. "Let's Hear It for Economists (No Kidding)," Business Week, Mar. 18, 1985, p. 18. BLOUGH, Roy. The federal taxing process. NY: Prentice-Hall, 1952.
- BOSWORTH, BARRY. "Re-establishing an Economic Consensus: An Impossible Agenda?" Daedalus, Summer 1980, 109(3), pp. 59-70.
- Brewer, Garry D. Politicians, bureaucrats and the consultant: A critique of urban problem solving. NY: Basic Books, 1973.
- Brever, Stephen. Regulation and its reform. Cambridge, MA: Harvard U. Press, 1982.
- Breyer, Stephen and MacAvoy, Paul W. Energy regulation by the Federal Power Commission. Washington, DC: Brookings Inst., 1974.
- Buchanan, James M. and Tullock, Gordon. The calculus of consent: Logical foundations of constitutional democracy. Ann Arbor, MI: U. of Michigan Press, 1962.
- Burns, Arthur F. Reflections of an economic policy maker: Speeches and Congressional statements, 1969-1978. Washington, DC: Amer. Enter. Inst., 1978.
- CAIRNCROSS, ALEC. "Academics and Policy Makers," in Changing perceptions of economic policy: Essays in honour of the seventieth birthday of Sir Alec Cairncross. Ed.: Frances Cairncross. NY: Methuen, 1981, pp. 5-22.
- Econ Rep. May 1985 75(2) pp. 1-14
- Econ. Rev., May 1985, 75(2), pp. 1-14.

  CAPDEVIELLE, PATRICIA. "Government Employment of Economists," in Society of Government Economists. Newsletter, Washington, DC, Mar. 1980.
- CAPLAN, NATHAN; MORRISON, ANDREA AND STAMBAUGH, RUSSELL J. The use of social science knowledge in policy decisions at the national level. Ann Arbor: U. of Mich., Inst. for Social Research, 1975.
- CAVES, RICHARD. Air transport and its regulators. Cambridge, MA: Harvard U. Press, 1962.
- CLAWSON, MARION. The federal lands revisited. Washington, DC: Resources for the Future, 1983. Coats, A. W. "The First Two Decades of the Ameri-
- COATS, A. W. "The First Two Decades of the American Economic Association," Amer. Econ. Rev., Sept. 1960, 50(4), pp. 555-74.
- \_\_\_\_\_. "The American Economic Association and the Economics Profession," *J. Econ. Lit.*, Dec. 1985, 23(4), pp. 1697–1727.
- COCHRANE, WILLARD W. AND RYAN, MARY E. American farm policy, 1948–1973. Minneapolis: U. of Minnesota Press, 1976.
- COHEN, ELIOT. "Systems Paralysis," American Spectator, Nov. 1980, 13(11), pp. 23-27.
- Crandall, Robert W. Controlling industrial pollution: The economics and politics of clean air. Washington, DC: Brookings Inst., 1983.
- DAHL, ROBERT A. Who governs? New Haven: Yale U. Press, 1961.
- \_\_\_\_\_\_. Pluralist democracy in the United States:
  Conflict and consent. Chicago: Rand McNally,
  1967.
- DALES, J. H. Pollution, property and prices. Toronto: U. of Toronto Press, 1968.

DEAN, JAMES W. "The Dissolution of the Keynesian Consensus," The Crisis in Economic Theory. The Public Interest, Special Edition. 1980, pp. 19-34.

DERTIFICK, MARTHA AND QUIRK, PAUL J. The politics of deregulation. Washington, DC: Brookings Inst., 1985.

Douglas, George and Miller, James, III. Economic regulation of domestic air transport: Theory and practice. Washington, DC: Brookings Inst., 1974.

Downs, Anthony. An economic theory of democracy. NY: Harper & Bros., 1957.

DUNCAN, JOSEPH W. AND SHELTON, WILLIAM C. Revolution in United States government statistics, 1926–1976. Washington, DC: U.S. GPO, 1978.

DUNLOP, JOHN T. "Policy Decisions and Research in Economics and Industrial Relations," Ind. Lab. Relat. Rev., Apr. 1977, 30(3), pp. 275-82.

ELY, RICHARD T. Ground under our feet: An autobiography. NY: Macmillan, 1938.

ENTITOVEN, ALAIN C. "Ten Practical Principles for Policy and Program Analysis," in *Benefit-cost and* policy analysis annual, 1974. Ed.: RICHARD ZECK-HAUSER ET AL. Chicago: Aldine, 1975, pp. 456-65.

ENTHOVEN, ALAIN C. AND SMITH, K. WAYNE. How much is enough? Shaping the defense program, 1961–1969. NY: Harper & Row, 1971.

FLASH, EDWARD S., JR. Economic advice and presidential leadership: The Council of Economic Advisors, NY: Columbia U. Press, 1965.

Fox, KARL A. "Agricultural Economists as World Leaders in Applied Econometrics, 1917-1933," Amer. J. Agr. Econ., May 1986, 68(2), pp. 381-86.

FRIEDMAN, MILTON. Capitalism and freedom. Chicago: U. of Chicago Press, 1962.

GALBRAITH, JOHN KENNETH. American capitalism: The concept of countervailing power. Boston: Houghton Mifflin, 1956.

\_\_\_\_\_. A life in our times—memoirs. Boston: Houghton Mifflin, 1981.

GILDER, GEORGE. Wealth and poverty. NY: Basic Books, 1981.

GLAZER, NATHAN. "Interests and Passions," The Public Interest, Fall 1985, 81, pp. 17-30.

GOLDBERG, JOSEPH P. AND MOYE, WILLIAM T. The first hundred years of the Bureau of Labor Statistics. Washington, DC: U.S. GPO, 1985.

GOODNOW, FRANK J. Politics and administration: A study in government. NY: Russell & Russell, [1900] 1967.

GORDON, ROBERT AARON. "Rigor and Relevance in a Changing Institutional Setting," Amer. Econ. Rev., Mar. 1976, 66(1), pp. 1-14.

HARGROVE, ERWIN C. AND MORLEY, SAMUEL A., EDS.
The President and the Council of Economic Advisors: Interviews with CEA chairmen. Boulder, CO:
Westview Press, 1984.

HAVEMAN, ROBERT H. "Efficiency and Equity in Natural Resource and Environmental Policy," Amer. J. Agr. Econ., Dec. 1973, 55(5), pp. 868-78.

"Policy Analysis and the Congress: An Econ-

omist's View," *Policy Anal.*, Spring 1976, 2(2), pp. 235–50.

HAYEK FRIEDRICH A. VON. The counter-revolution of science: Studies on the abuse of reason. Glencoe, IL: Free Press, 1952.

HAYS, SAMUEL P. Conservation and the gospel of efficiency: The progressive conservation movement, 1890-1920. Cambridge, MA: Harvard U. Press, 1959.

HECLO, HUGH. "OMB and the Presidency—the Problem of Neutral Competence," The Public Interest, Winter 1975, pp. 80-98.

HELLER, WALTER W. New dimensions of political economy. NY: Norton, 1967.

HOFSTADTER, RICHARD. The age of reform: From Bryan to F.D.R. NY: Vintage Books, 1955.

JENKINS-SMITH, HANK C. "Professional Roles for Policy Analysts: A Critical Assessment," J. Policy Anal. Manage., Fall 1982, 2(1), pp. 88-100.

JOHNSON, BRUCE E. "From Analyst to Negotiator: The OMB's New Role," J. Policy Anal. Manage., Summer 1984, 3(4), pp. 501-15.

JOHNSON, PAUL. Modern times: The world from the twenties to the eighties. NY: Harper and Row, 1983.

JONES, BYRD L. "Lauchlin Currie and the Causes of the 1937 Recession," Hist. Polit. Econ., Fall 1980, 12(3), pp. 303-15.

JONES, WALTER J. "Can Evaluations Influence Programs? The Case of Compensatory Education," J. Policy Anal. Manage., Winter 1983, 2(2), pp. 174-84.

KANE, EDWARD J. "External Pressure and the Operations of the Fed.," in Political economy of international and domestic monetary relations. Eds.: RAYMOND E. LOMBRA AND WILLARD E. WITTE. Ames: Iowa State U. Press, 1982, pp. 211–32.

KATZMANN, ROBERT A. Regulatory bureaucracy: The Federal Trade Commission and antitrust policy. Cambridge MA: MIT Press, 1980.

KAYSEN, CARL. "Model-Makers and Decision-Makers: Economists and the Policy Process," The Public Interest, Summer 1968, pp. 80-95.

Kelman, Steven. "Benefit-Cost Analysis: An Ethical Critique," Regulation, Jan./Feb. 1981, pp. 33-40.

KLAMER, ARJO. Conversations with economists: New classical economists and their opponents speak out on the current controversy in macroeconomics. Totowa, NJ: Rowman & Allanheld, 1983.

KLEIN, LAWRENCE R. The Keynesian revolution. NY: Macmillan, [1947] 1961.

KNEESE, ALLEN V. AND SCHULTZE, CHARLES L. Pollution, prices and public policy. Washington, DC: Brookings Inst., 1975.

KRISTOL, IRVING. "Rationalism in Economics," in Re-

KRISTOL, IRVING. "Rationalism in Economics," in Reflections of a neoconservative: Looking back, looking ahead. NY: Basic Books, 1983, pp. 177–93.

LEMAN, CHRISTOPHER K. AND NELSON, ROBERT H. "Ten Commandments for Policy Economists," J. Policy Anal. Manage., Fall 1981, I(1), pp. 97–117.

LENARD, THOMAS M. "Wasting Our National Forests—How to Get Less Timber and Less Wilderness at the Same Time," Regulation, July/Aug. 1981, pp. 29–36.

LEONTIEF, WASSILY. "Theoretical Assumptions and

Nonobserved Facts," Amer. Econ. Rev., Mar. 1971, 61(1), pp. 1-7.

LEVIN, MICHAEL H. "Statutes and Stopping Points: Building a Better Bubble at EPA," Regulation.

Mar./Apr. 1985, pp. 33-41.

Lewis, Frank L. and Zarb, Frank G. "Federal Program Evaluation from the OMB Perspective," Public Administration Review, July-Aug. 1974, 34(4), pp. 308-17.

LINDBLOM, CHARLES E. "The Science of Muddling Through," Public Administration Review, Spring

1959, 19(2), pp. 79-88.

The intelligence of democracy: Decision making through mutual adjustment. NY: Free Press, 1965.

LINDBLOM, CHARLES F. AND COHEN, DAVID K. Usable knowledge: Social science and social problem solving. New Haven: Yale U. Press, 1979.

LITAN, ROBERT F. AND NORDITAUS, WILLIAM D. Reforming federal regulation. New Haven: Yale U.

Press, 1983.

LOMBHA, RAYMOND E. AND MORAN, MICHAEL. "Policy Advice and Policymaking at the Federal Reserve," Carnegie-Rochester Conference Ser. Public Policy, Autumn 1980, 13, pp. 9–68.

LONG, NORTON. "Power and Administration," Public Administration Review, Autumn 1949, 9(4), pp.

257-64.

LOWI, THEODONE J. The end of liberalism: Ideology, policy and the crisis of public authority. NY: Norton, 1969.

LUTTWAK, EDWARD N. "Why We Need More Waste, Fraud and Mismanagement' in the Pentagon," Commentary, Feb. 1982, 73(2), pp. 17-30.

LYNN, LAURENCE, E., JR., ed. Knowledge and policy: The uncertain connection. Washington, DC: National Academy of Sciences, 1978.

MACAVOY, PAUL W., ed. The crisis of the regulatory commissions: An introduction to a current issue of public policy. NY: Norton, 1970.

MAISEL, SHERMAN J. Managing the dollar. NY: Nor-

ton, 1973.

MANUEL, FRANK E. AND MANUEL, FRITZIE P. Utopian thought in the western world. Cambridge, MA:

Harvard U. Press, 1979.

MASON, EDWARD S. "Resources in the Past and for the Future," in Resources for an uncertain future. Ed.: CHARLES J. HITCH. Baltimore: Johns Hopkins U. Press for Resources for the Future, 1978, pp. 1–24.

McCloskey, Donald N. "The Rhetoric of Economics," J. Econ. Lit., June 1983, 21(2), pp. 481-

517.

McChaw, Thomas K. Prophets of regulation: Charles Francis Adams, Louis D. Brandeis, James M. Landis and Alfred E. Kahn. Cambridge, MA: Harvard U. Press, 1984.

MCPIEE, JOHN. Encounters with the archdruid. NY: Farrar, Straus and Giroux, 1971.

Meltsner, Arnold J. Policy analysts in the bureaucracy. Berkeley: U. of California Press, 1976.

MEYER, JOUN R. ET AL. The economics of competition in the transportation industries. Cambridge, MA: Harvard U. Press, 1959. MILLS, EDWIN S. The economics of environmental quality. NY: Norton, 1978.

NADEL, MARK V. "Making Regulatory Policy," in Making economic policy in Congress. Ed.: ALLEN SCHICK. Washington, DC: Amer. Enter. Inst., 1983, pp. 221–56.

NASII, RODERICK. Wilderness and the American

mind. New Haven: Yale U. Press, 1967.

Nelson, Robert H. Zoning and property rights: An analysis of the American system of land use regulation. Cambridge, MA: MIT Press, 1977.

\_\_\_\_. The making of federal coal policy. Durham,

NC: Duke U. Press, 1983.

Regulation, May/June 1984b, pp. 27-34.

"Mythology Instead of Analysis: The Story of Public Forest Management," in Forestlands: Public and private. Eds.: ROBERT T. DEACON AND M. BRUCE JOHNSON. San Francisco: Pacific Inst. for Public Policy Research, 1985, pp. 23–76.

Basic Books, 1980.

NOLL, ROGER G. Reforming regulation: An evaluation of the Ash Council proposals. Washington,

DC: Brookings Inst., 1971.

NOLL, ROCER G. AND OWEN, BRUCE M., eds. The political economy of deregulation: Interest groups and the regulatory process. Washington, DC: Amer. Enter. Inst., 1983.

NORTON, HUGH S. The Employment Act and the Council of Economic Advisors 1946–1976. Columbia, SC: U. of South Carolina Press, 1977.

Nourse, Edwin G. Economics in the public service: Administrative aspects of the Employment Act. NY: Harcourt, Brace & Co., 1953.

NOVAK, MICHAEL. The spirit of democratic capitalism. NY: Simon & Schuster, 1982.

OKUN, ARTHUR M. The political economy of prosperity. Washington, DC: Brookings Inst., 1970.

Olson, Mancur. The logic of collective action: Public goods and the theory of groups. Cambridge, MA: Harvard U. Press, 1965.

PATTON, MICHAEL Q. ET AL. "In Search of Impact: An Analysis of the Utilization of Federal Health Evaluation Research," in *Using social research in* public policy making. Ed.: CAROL H. Wetss. Lexington, MA: Lexington Books, 1977, pp. 141–

PECHMAN, JOSEPH A. "Making Economic Policy: The role of the Economist," in *Handbook of political science*, Vol. 6. Eds.: FRED I. GREENSTEIN AND

NELSON W. POLSBY. Reading, MA: Addison Wesley, 1975, pp. 23-78.

Federal tax policy. 4th ed. Washington, DC:

Brookings Inst., 1983.

Pertschuk, Michael. Revolt against regulation: The rise and pause of the consumer movement. Berkeley: U. of California Press, 1982.

PETERS, THOMAS J. AND WATERMAN, ROBERT H., JR. In search of excellence: Lessons from America's best-run companies. NY: Harper & Row, 1982.

REIN, MARTIN AND WHITE, SHELDON H. "Policy Research: Belief and Doubt," Policy Anal., Spring 1977, 3(2), pp. 239–71.

RITOADS, STEVEN E. "Economists and Policy Analy-' Public Admin. Rev., Mar./Apr. 1978, 38(2),

pp. 112-20.

\_. The economist's view of the world: Government, markets, and public policy. NY: Cambridge U. Press, 1985.

RIVLIN, ALICE M. Systematic thinking for social action. Washington, DC: Brookings Inst., 1971.

ROBERTS, PAUL CHAIG. The supply-side revolution: An insider's account of policy making in Washington. Cambridge, MA: Harvard U. Press, 1984.

ROSEN, STEPHEN. "Systems Analysis and the Quest for Rational Defense," The Public Interest, Sum-

mer 1984, 71, pp. 3-17. ROWEN, HENRY. The Role of Cost-Benefit Analysis in Policy Making," in Cost-benefit analysis and water pollution policy. Eds.: HENRY M. PESKIN AND EUGENE P. SESKIN. Washington, DC: The Urban Institute, 1975, pp. 361-69.

RUFF, LARRY. "The Economic Common Sense of Pollution," The Public Interest, Spring 1970, 19, pp.

SALANT, WALTER S. "The Spread of Keynesian Doctrines and Practices in the United States." Unpub.

Schelling, Thomas, "Economic Reasoning and the Ethics of Policy," The Public Interest, Spring 1981, 63, pp. 37-61.

SCHICK, ALLEN. "A Death in the Bureaucracy: The Demise of Federal PPB," Public Admin. Rev., Mar./Apr. 1973, 33(2), pp. 146-56.

SCILLESINGER, JAMES R. "Systems Analysis and the Political Process," J. Law Econ., Oct. 1968, 11(2),

Schubert, Glendon A., Jr. "The Public Interest' in Administrative Decision-Making: Theorem, Theosophy, or Theory?" Amer. Polit. Sci. Rev., June 1957, 51(2), pp. 346-68.

SCHULTZE, CHARLES L. The politics and economics of public spending. Washington, DC: Brookings

Inst., 1968.

The public use of private interest. Washing-

ton, DC: Brookings Inst., 1977.

\_. "The Role and Responsibilities of the Economist in Government," Amer. Econ. Rev., May 1982, 72(2), pp. 62–66.

SCHUMPETER, JOSEPH A. Capitalism, socialism and democracy. NY: Harper & Bros., [1942] 1950.

SITULTZ, GEORGE P. "Reflections on Political Economy," J. Finance, May 1974, 29(2), pp. 323-30.

SHULTZ, GEORGE P. AND DAM, KENNETH W. Economic policy beyond the headlines. NY: Norton,

SILK, LEONARD. Economics in the real world: How political decisions affect the economy. NY: Simon and Schuster, 1984.

SIMON, HERBERT A. "The Proverbs of Administration," Public Admin. Rev., Winter 1946, 6(1), pp. 53-67.

Administrative behavior. NY: Macmillan, 1947.

"Rationality as Process and as Product of Thought," Amer. Econ. Rev., May 1978a, 68(2), pp. 1–16.

\_. "On How to Decide What To Do," Bell J. *Econ.*, Autumn 1978b, 9(2), pp. 494–507.

Solow, Robert M. "Sources of Economic Growth," in Readings in introductory economics. Eds.: JOHN R. McKean and Ronald A. Wykstra. Reprint of paper presented at Conference on Savings and Residential Financing, U.S. Savings and Loan League, 1966. NY: Harper & Row, 1971, pp. 153-62.

"Reflections on Macroeconomic Modeling: Confessions of a DRI Addict," Eastern Econ, J.,

Jan.-Mar. 1985a, 11(1), pp. 79-83.

.\_. "Economic History and Economics," Amer. Econ. Rev., May 1985b, 75(2), pp. 328-31.

SOMMER, JOHN. "Policy Shops in Selected Federal Agencies." Paper presented to the 6th Annual Conference of the Association for Public Policy Analysis and Management, New Orleans, LA, Oct. 18-20,

STEIN, HERBERT. Presidential economics: The making of economic policy from Roosevelt to Reagan and beyond. NY: Simon & Schuster, 1984.

"The Washington Economics Industry," Amer. Econ. Rev., May 1986, 76, (2), pp. 1-9.

STEWART, RIGHARD B. "Economics, Environment, and the Limits of Legal Control," Harvard Environmental Law Review, 1985, 9(1), pp. 1-22.

STIGLER, GEORGE J. "The Theory of Economic Regulation," Bell J. Econ. and Manage. Service, Spring 1971, 2(1), pp. 3-21.

TAYLOR, FREDERICK W. The principles of scientific management. NY: Harper and Bros., 1911.

TRIBE, LAURENCE H. "Policy Science: Analysis or Ideology?" Philosophy and Public Affairs, Fall 1972, 2(1), pp. 66-110.

TRUMAN, DAVID B. The governmental process: Political interests and public opinion. NY: Alfred A.

Knopf. 1951.

Tucker, William. Progress and privilege: America in the age of environmentalism. Garden City, NY: Anchor Press, 1982.

U.S. CATHOLIC BISHOPS. First draft—bishops' pastoral: Catholic social teaching and the U.S. economy. Printed in Origins, Nov. 15, 1984, 14(22/23), pp.

U.S. STATE DEPARTMENT. Unpublished paper, Department Historian's Office, undated-received 1986.

VERDIER, JAMES M. "Advising Congressional Decision-Makers: Guidelines for Economists," J. Policy Anal. Manage., Spring 1984, 3(3), pp. 421–38.

icy Anal. Manage., Spring 1984, 3(3), pp. 421-38. WALDO, DWIGHT. The administrative state: A study of the political theory of American public adminis-

tration. NY: Ronald Press, 1948.

WALLICH, HENRY C. "Policy Research, Policy Advice, and Policymaking," in Political economy of international and domestic monetary relations. Eds.: RAYMOND E. LOMBRA AND WILLARD E. WITTE. Ames: Iowa State U. Press, 1982, pp. 237–46.

WEAVER, SUZANNE. Decision to prosecute: Organization and public policy in the Antitrust Division. Cambridge, MA: MIT Press, 1977.

Weiss, Carol H., ed. Using social research in public policy making. Lexington, MA: Lexington Books, 1977a

"Research for Policy's Sake: The Enlightenment Function of Social Research," *Policy Anal.*, Fall 1977b, 3(4), pp. 531-45.

WHITAKER, JOHN C. Striking a balance: Environment and natural resources policy in the Nixon-Ford years. Washington, DC: Amer. Enter. Inst., 1976.

WHITE, LAWRENCE J. Reforming regulation: Processes and problems. Englewood Cliffs, NJ: Prentice-Hall, 1981.

WHITE, MORTON. The age of analysis, in The great

ages of western philosophy, Vol. 2, Boston: Houghton Mifflin, 1962.

WIDMAN, F. LISLE. Making international monetary policy. Washington, DC: International Law Institute, Georgetown U. Law Center, 1982.

WILDAVSKY, AARON. The politics of the budgetary process. Boston: Little, Brown, 1964.

Speaking truth to power: The art and craft of policy analysis. Boston: Little, Brown, 1979.

WILSON, JAMES Q., ed. The politics of regulation.

NY: Basic Books, 1980.

WILSON, WOODROW. "The Study of Administration," Polit. Sci. Quart., June 1887; reprinted in Polit. Sci. Quart., Dec. 1941, 56(4), pp. 481-506.

WITTE, JOHN F. The politics and development of the federal incone tax system. Madison: U. of Wiscon-

sin Press, 1985.

WOOLLEY, JOHN T. Monetary politics: The Federal Reserve and the politics of monetary policy. NY: Cambridge U. Press, 1984.

YANDLE, BRUCE. "The Emerging Market in Air Pollution Rights," Regulation, July/Aug. 1978, pp. 21–29