Journal of Comparative Policy Analysis: Research and Practice

The Problem of Policy Problems

Guy B. Peters [a]

[a] Department of Political Science, University of Pittsburgh

Available online: 15 Aug 2006

PLEASE SCROLL DOWN FOR ARTICLE

Routledge
Taylor & Francis Group

The Problem of Policy Problems

GUY B. PETERS

Department of Political Science, University of Pittsburgh

ABSTRACT   *Although conceptions of policy design have well-developed conceptions of the instruments used to address public problems, they have much less developed conceptions of those problems themselves. This article proposes one analytic scheme for understanding the nature of policy problems and issues, and begins to relate the choice of instruments to the nature of the underlying problems for society.*

Policy design involves developing models of causation, instrumentation, and evaluation (Linder and Peters 1984, 1989, Ringeling 2005), and then finding ways of linking those three models. As the literature on policy design has been developing, the principal emphasis has been placed on the nature of policy instruments or "tools", and on the political process of linking instruments and policy evaluations. That is, scholars and practitioners have gained a reasonably good knowledge of the consequences of selecting one type of instrument, and scholars are beginning to have the capacity to advise decision makers about when, and under what circumstances, to select one tool or another to maximize certain values.

By contrast, the literature linking policy problems and tools has been less well developed. While the long-term goal of such an analytic effort should be to catalogue differing kinds of problems and link them logically, and empirically, with appropriate forms of policy instruments, the objective here is more modest. It involves developing an analytical framework for understanding relevant variations in problems and offering some early thoughts in tying problem characteristics to policy tools. Throughout the paper, examples of policy problems are highlighted, and these examples are drawn disproportionately from social policy.[1]

The analytic framework for dealing with issues of design developed in this paper is general, and can be applied to any political system. In this paper, however, I will be paying some particular attention to the European Union and the particular policy-making style of that system (see, for example, Wallace and Wallace 2000, Steunenberg and van Vught 1998). The EU has been described, among other ways, as a regulatory state (Majone 1996) that tends to intervene more through legal instruments than through monetary tools. There are, of course, some important European spending programs but law tends to be the dominant tool. Further, the political process of the EU is more complex than most, in part because of the continuing importance of the

---

member nations in making, and then implementing, the decisions of the Union. Indeed, while the analytic focus here is on the possibilities of design, much of the decision making in the EU approximates the randomness and serendipity of the garbage can model (Cohen, March and Olsen 1971, Peters and Pierre 2005) and other approaches to policy based on bounded rationality.

Another important element of policy making in the European Union is the role of the bureaucracy as a central player. Bureaucracies are often under-rated in terms of their impact on policy choices, but this is especially true in the EU (see Peters 1992). This importance is manifested in the definition of policies and the construction of the agenda for policy making. This style of making policy helps to create the famous democratic deficit in the Union, but it also produces substantial internal conflicts over policy, and a particular style of policy. In particular, the multiple DGs that may contend for control of some policy areas (Patterson 1998), and the right of initiating policy given to the Commission, create policy-making processes different from those found in "normal" political systems.

Policy Instruments and Design: A Brief Review of Literature

Although a great deal of research is still needed in the areas of policy instruments and evaluation, there is a substantial extant body of knowledge. For example, the tools literature has progressed from its roots in implementation (Bardach 1980, Hood 1986, Salamon and Lund 1989), through critiques of these models based on ideas of autopoesis and self-referentiality (Ringeling and Van Nispen 1998, in 't Veld 1991), and then a reformulation of the tools approach taking into account critiques of more traditional approaches to instruments (Peters and Van Nispen 1998). There is at present a further round of development in the implementation approach of instrument theories, taking into account changes in the environment of public policies, as well as an improved understanding of the interactions of the various tools in the delivery of services (Salamon 2000). Similarly, Ingram and Schneider (1997) in their discussion of policy design have pointed to the need for would-be designers to consider the nature of the populations addressed by instruments, rather than just examining the instruments in isolation. Timmermans *et al.* (1998) also place the study of policy instruments within a broad design context, focusing on the institutional context and the roles of actors involved in designing.

The instruments literature has also performed a rather effective job in cataloging the characteristics of policy instruments. The political nature of instruments has been contrasted with their more utilitarian role in the delivery of public services (Peters 2000). The value biases embedded in each type of instrument have been identified and discussed (Zito *et al.* 2000). Several also have demonstrated the pervasive impact of national political cultures on the choice of tools (Howlett 1991; see Trebilcock 2005), helping to identify biases in the manner in which tools are selected. That finding, in turn, highlights the emphasis in this growing body of literature on the *conscious* selection of instruments, as opposed to their selection merely on the basis of custom, familiarity and institutional inertia (Linder and Peters 1998, 1990).[2]

The tools literature has made substantial progress in characterizing the modes of intervention in the economy and society, and the notion of policy design has become a standard component of the general literature on public policy. What has been less

well developed in the available literature, however, is an analytic understanding of the policy problems that are being "solved" through the employment of those instruments. Even if we are now capable of understanding more thoroughly the characteristics of policy instruments, that knowledge might be of relatively little utility (practically or even theoretically) if we do not understand the situations into which they are being used to implement public policies. The intention of producing desired programmatic results through well chosen instruments might be unfulfilled if there is no appropriate linkage with the problems being addressed. Therefore, this paper begins to explore more fully the nature of policy problems. The ultimate end of the analysis is both to understand the nature of the problems, as well as the ways in which they may be matched with particular instruments and particular forms of evaluation to round out more fully a model of policy design.

The most fundamental point to be made in this paper, therefore, is that the contingent relationship argued to exist between problems and instruments is crucial to the enterprise of policy design. In a more recent discussion of the instruments literature (Linder and Peters 1998), we have described the answers that some respondents gave to our survey investigation concerning policy instruments as "contingentist". These respondents argued that the real answer to any question about which instrument to select for a problem was that "It depends". They argued that there was no single instrument that should be selected for all situations, and that there is a need to select carefully on the basis of the particular problem being addressed (see also Bagchus 1998). The contingentists were not, however, given the opportunity to develop their own ideas about the factors on which tools choice should depend; we will be beginning some of that inquiry in this paper.

The present inquiry concerning policy problems more implicitly makes the same statement about contingent relationships. If we were to understand completely the characteristics of the range of available tools there still would not be an algorithm for mapping tools into problems; the answer about in what circumstances to employ each tool is always, fundamentally, "It depends". For the purposes of this paper, perhaps the most fundamental characteristic is the ability to utilize private as well as public sector instruments in the delivery of the policy, and through that mixture begin to address the collective nature of both problems and instruments. Therefore, we need to consider carefully the nature of policy problems that make them more amenable to interventions using mixtures of both public and private sector actors. There will be relatively few answers to these basic questions of contingent relationships between problems and instruments provided here; rather the attempt is to develop the correct questions that would then guide in the selection of instruments, and to conduct a preliminary exploration of those questions in relation to the changing nature of social policy problems in the United States and in Europe.

The Changing Nature of Social Problems

The collection of programs and issues usually referred to as social policy help to make the point that the functional titles that are usually used to describe policy are inadequate for effective analysis. There is as much variance within this category of policy as there is between some aspects of "social policy" and other policy areas. For example, providing public pensions is a relatively simple and mechanical exercise of

determining eligibility and writing checks. On the other hand, providing personal social services such as counseling or adoption services involves a great deal of personal interaction and personal judgment on the part of professionals. If health services are included as a part of social services then the mix becomes even more complex, with a policy area dominated by professionals and technical expertise, as well as delivered through complex organizational structures such as hospitals. These examples might be extended, but the basic point is that functional titles are a starting point for the analysis rather than an ending point if we want to develop a more effective analytic approach to policy.

Although there is an established literature on social policy in the welfare states of Europe (and some other parts of the world as well – see Mesa-Lago 1994) the economic and social transformations of the late twentieth century, continuing into the twenty-first, have altered the discourse about social policy, and also changed the nature of the problems themselves. Globalization, for example, has required thinking more creatively about the role of the welfare state in national systems of production (Fitzpatrick 2003). Further, the continuing demographic crisis in many societies requires rethinking work and retirement, and even forces societies committed to substantial leisure time to reconsider the role of work in contemporary economies.

For the European Union social policy to some extent resides at the periphery of its competencies. The economic basis of the Union does not appear to give Brussels much authority over issues of social policy, but the intimate connection of the welfare state to employment, especially after Lisbon, means that the EU does have an increasing role in social policy issues. Further, given the importance of the Lisbon agenda on employment and its linkage with the open method of co-ordination and social policy, the EU has become important for redefining social policy issues in many countries. While social policy and labor market policy have always been closely connected that linkage is now more manifest and co-ordination among these areas of policy will be crucial to the success of both (Peters forthcoming).

Policy Problems

Defining policy problems in a way that can be effective for policy design appears to be a two-step process. The first stage in the process is defining what the problem is about; is it a problem of agriculture, environment, or whatever. This can be a difficult question politically and even empirically, and it is often a crucial question for the resolution of the issue, and for the type of government response. For example, is the problem of how to fertilize Midwestern farmland properly a question of agricultural productivity and/or environmental protection? Depending on how that question is answered, different organizations in government will be given greater or lesser roles in resolving the problem, and different modalities of involvement will be invoked. Further, if a "*wrong*" definition of the problem is made it may mean that the ultimate "solution" for the problem will be delayed. Another confounded characteristic of defining the policy problem is that the most important problems themselves are becoming less clearly defined. For example, conventional economic problems are now transforming into "competitiveness" problems that involve not only finance but also labor, environmental, and education issues. Likewise, poverty – which was itself somewhat difficult to define in other than very nominal terms – has

been redefined as social exclusion, and now includes a range of behavioral as well as economic variables as part of the syndrome to be explored.

The second stage of the analytic process is to develop a set of dimensions that can be used to characterize problems. Although it is important (at least in practical terms) to link a problem with an agency or ministry, and to assign a functional name to that problem, that may be inadequate for policy design purposes. For this task, a clearer analytic understanding of the problem is necessary in order to understand that the problems that are defined as being within the control of one ministry or another may themselves be very different. Therefore, a good deal of this paper will be concerned with a preliminary discussion of characteristics that appear useful for describing problems and for linking them with instruments.

Stage One: What is the Problem?

The existing literature on the social construction of policy problems and on policy framing has done a useful service in pointing to the politics involved in problem definition (Rochefort and Cobb 1994). First, we have seen how important the minimal capacity to name a problem is for even recognizing its existence, and then beginning to address the problem through the public sector. Problems of spousal abuse and child abuse, for example, had to be conceptualized in that way before they could be taken into the political arena for some form of resolution (Nelson 1984). Until there is a label that can be attached to an issue, it is difficult to feed into the political process for any sort of resolution or even discussion; indeed without that label the question is not really an issue.

The agenda-setting literature in political science (Cobb and Elder 1983, Baumgartner and Jones 1993, Kingdon 1994) also is closely connected with these constructivist arguments about issues and problems. Again, the assumption that policy problems must be recognized and identified in order to be usable within the political process is central. The agendas literature argues that problems (or opportunities) present themselves rather independently, although there is ample room for the role of the policy entrepreneur in the process. This entrepreneur will identify and process the issues so that those issues can proceed onto some active agenda within the political system. Further, the agenda-setting literature tends to focus somewhat more on the organizational basis of politics and the roles that those structures play in sorting and advocating items for an agenda. Any definition of an issue will advantage some organizations rather than others so that this may become a locus for bureaucratic politics. As Petracca (1992, p.4) argues, "how an issue is defined or redefined, as the case may be, influences: (1) the type of politicking which will ensue around it; (2) its chances of reaching the agenda of particular political institution; and (3) the chances of a policy outcome favorable to advocates of the issue". In short, problem definition will set the stage for the final determination of the policy and therefore is crucial for shaping the final resolution of "the problem".

Schon and Rein (1994) have extended this argument somewhat by their discussion of "policy framing". They argue that perhaps the most crucial stage of the policy process is the juncture at which the issue is "framed", or defined in political terms. This framing defines who the participants will be, who the winners and losers may be, what the range of conflict may be, and a whole range of other components of the

debate over the issue.[3] Once framed, the issue is difficult to reframe in the policy debate with the consequence that initial choices have an enduring impact in the political process. That having been said, reframing is actually one of the mechanisms for resolving (seemingly) intractable policy problems that Schon and Rein develop (see also Hisschemoller and Hoppe 1995).[4]

The agendas and framing literatures go some distance in the identification of policy problems as a crucial aspect of the *political* process, but do not do a great deal in explaining how to deal with issues in the policy process per se. That is, once the issue has arrived on the agenda and must be dealt with, how will decision makers process them, and how do they then move into the mode of designing government interventions to correct the real and/or perceived defect in the society or economy. The psychological and sociological elements of the problem may have been defined well, but that information does not necessarily enable governments to make good public policy decisions about how to solve the problem that has been constructed. Indeed, the social construction of the problem that is crucial for its political selection on the agenda may mask more than it reveals about the underlying problem.

Stage 2: Framing the Problem for Solution

We will now transfer attention to the second stage of the process of defining the problems that governments are addressing. This is the stage in which that problem, having been identified, comes to be understood in a manner that will prepare it for solution. This stage in the policy process has subjective and political elements, just as did the first stage, but at this stage there is arguably a larger objective component to the issue. Further, having been defined in a manner that tends to assign it to a particular organization within the public sector, that organization will itself have to differentiate the issue beyond the simple functional label that has been attached to it. It will, in short, have to develop and design policy instruments to address the problem.

We will be arguing here that the labeling of a policy problem as being ''health'', ''environmental'', ''agricultural'' or whatever, tends to mask a good deal of the complexity contained within the problem, and ultimately may limit the capacity of the public sector to solve the problem. By labeling the problem in that particular way, the political process tends to assume that there is some defined set of tools that the policy organization in question tends to bring to bear on the problem and which in turn simplifies the problem of policy choice. On the contrary, however, this labeling tends to ignore the high level of variance within policy areas. While much of the literature in political science and public policy tends to define environmental policy as social regulatory policy (May 2000), the reality is that – to an increasing degree – the applicability of the social regulatory label depends on the policy subfield being addressed. In water pollution control, for example, point source discharges are dealt with differently than non-point source water pollution runoff; point sources are dealt with in direct regulatory fashion and non-point sources are generally not – at least at the federal level in the US. Thus, even if organizations within a particular government department might like to address all their problems in a particular way, the reality is that they cannot and do not (no matter how hard they may try!).

The basic point being made here is that the names emblazoned on government buildings are an inadequate guide for the internal differences and complications

involved in the policies that they administer and the problems that they confront.[5] Therefore, as we begin to conceptualize the numerous factors that might be utilized to define problems, we need to think about a broad range of variables, rather than confining our attention to those familiar labels of policy areas and government departments. The labels certainly are very useful at the first stage, as the means of linking problems and organizations, but they quickly lose that utility once the second stage of designing policies is reached.

For that second stage a more variable approach appears to be required, an approach that forces consideration of a number of factors in the single definition of a problem. This inherent eclecticism may appear to be a shotgun approach to a highly complex question, and to some extent it is. Still, the level of theoretical and practical guidance available in addressing policy problems does not appear to permit more than this wide-open attack on the issue at the initial stages. Therefore, the remainder of this paper will contain a discussion of categories of variables that might be included in a classification of policy problems. We will conclude with some (extremely preliminary) ideas about how to link those variables with the instruments that may be used to implement any programs designed to resolve problems.

The above having been said, there are several extant schemes that provide some beginning to the analysis of policy problems. In particular the Thompson and Tuden (1959) scheme, and that developed by Charles Perrow (1970), to characterize decision making in organizations actually may be useful places at which to begin thinking about characterizing policy problems. Both schemes are concerned with the nature of the knowledge decision makers have about the questions they are facing, as well as the degree of agreement on preferences for the outcomes of the process. In the one scheme (Thompson and Tuden 1959), the argument is based on the degree of agreement on the causation of the phenomenon in question, combined with the degree of agreement about goals. In the other, problems are characterized more in terns of uncertainty so that designs of processes (as well as the designs of the policies themselves) must consider the degree of robustness required. Still another approach is offered by Gormley (1986) and focuses on the complexity and salience of the problems addressed, and their influence of the politics associated with crafting policy solutions.

All of these existing schemes highlight the interaction of aspects of the environment of designing, but as interesting as these schemes are they may understate the complexity of that context and also use far too many variables (at least for such a preliminary stage of the investigation). These are insightful looks at some of the intricacy of problems, but are only part of the nature of problems that need to be explored. Therefore, we will continue to opt for a more open-ended enumeration of the attributes of policy problems in the hope of even over-specifying their nature so that some future reduction of these attributes can simplify the problem for both the analyst and the practical policy maker.

Characteristics of Policy Problems

As I begin to examine policy problems, I will not develop a taxonomy of problems per se but rather will develop a set of variables that can characterize the problems. The analytic problem then is to think about what is really the problem, and what factors determine the applicability of one tool or another. The attributes of problems

that should be considered in such an analysis are both objective and subjective; they are both "natural" and socially constructed; they are both mutable and immutable. The outcome of our enumeration will provide a start, but only a start. Indeed, as we begin to make even a partial catalog of the attributes we find that each of the variables appears to have sub-variables that define it, and the problem becomes increasingly complex. We will outline seven variables related to policy problems, some of which may be related to one another, and others which possess "sub-attributes" that are subject to differing interpretations in relation to policy instrument selection. The first three variables discussed relate clearly to the problems themselves, and appear as though they may influence the selection of policy instruments that focus more on process than substance. The second set of variables relates more to the nexus or connection between problem characteristics and instrument choice, and they tend to be somewhat more substantive in their implications.

Rochefort and Cobb (1994) proposed a set of attributes of issues when discussing agenda setting that are not too dissimilar from a list that might be developed for characterizing policy problems. This list was: *causality, severity, incidence, proximity, novelty, crisis and the availability of solutions*. Another characteristic, the problematic nature of the population, seems more relevant to agenda setting per se than to objective policy. Nevertheless, some of the problem attributes discussed below raise similar concerns about the nature of the population being served, and include those clientele questions in the mix of problem characteristics.

Solubility

The first, and perhaps most basic, issue to be addressed in looking at policy problems is whether they can be "solved" or not. That is no simple question, given both the number of problems that are addressed by government and the difficulty of some of those problems.[6] Further, we are aware of the political realities of policy making that require the advocate of a "solution" to act as if that program was indeed *the* answer to the problem, if for no other reason than failure to do so would almost certainly ensure that the program would not be adopted. We can imagine the success of a program advocate who begins by arguing that this may or may not really solve the problem, but it is worth a try anyway. The political reality is that programs and instruments have to be oversold simply to have any realistic opportunity for adoption. This is true even though for many of the issues confronting government there is far from any clear idea about either cause or solution (Nelson 1978).

What we are referring to here is whether a problem can be argued to have a finite and definable solution or whether it is likely to appear again and again on the agenda of government. At one level some procedural issues in government, for example. budget decisions about how much to spend, return to the agenda on an annual (or even more frequent) basis. On a more substantive level, however, some issues appear to return frequently for adjustment and for reconsideration. The absence of durable solutions for some problems implies that they will be chronic questions that will be "solved" again and again, and really not solved at all (see Sieber 1981). The implication is that these problems may be best addressed through policy instruments that allow sufficient flexibility to revise and adapt specific solutions relatively easily on an ongoing basis.

We should note, however, that the absence of durability in a particular set of solutions may be a function either of the politics surrounding the issue or of the more programmatic nature of the issues.[7] Even if a problem has a simple programmatic solution (the technology for abortion, for example, is relatively simple and well known), political considerations *may* not permit the issue to rest. On the other hand, the technology available for addressing the problem, or the nature of the operational environment of a program, may change sufficiently often to force frequent revisions. Even social policies such as pensions that might once have been considered "solved" now have to be reopened as a result of demographic and financial change (Fawcett 2005).

Is there any way to predict *a priori* whether a problem is likely to be acute or chronic? As with much of the rest of this discussion, this kind of analysis is necessarily at a preliminary stage; however, several other variables appear to be useful in making such a prediction. One would be the degree of value dissensus in the policy area, and the degree to which the issue touches on fundamental moral and political values. This is clearly true for certain obviously moral issues (Tatalovich and Daynes 1997) that are reconsidered regularly for political reasons, e.g. abortion in the United States, but certain environmental issues may also have strong moral overtones that lead them to be the subjects of continuing debate and discussion. For example, the debate over genetically modified crops in Europe has assumed some of the element of moral argument. In American environmental policy, the "rights" of *individuals* to use their property as they see fit carries moral connotations that are stronger than the rights of large corporate entities to produce products as they wish (Epstein 1985). Thus, in this sense, the target audience of a policy may have moral implications that affect the degree to which the problem may be subject to durable solution, and this susceptibility to policy change may in turn influence the choice of appropriate policy instruments.

Policy durability may also be affected by variables that are more programmatic in nature. Many social programs, for example, and especially those designed to reduce poverty, have been argued "not to work" or to have required excessive expenditures for the benefits produced (Kenworthy 1999). In such a case as poverty it is difficult to separate the political from the programmatic causes for the problem being made chronic, but the justification for its frequent reconsideration at least is phrased in programmatic terms. In either case, however, the fundamental ideological contests taking place in this policy area appear to require almost constant tinkering, or perhaps threats of termination, of the programs in order for any advancement to occur. European social policy has not had the same dissensus at the national level, but when some aspects of labor market policy are debated in Brussels fundamental differences in national styles emerge, and policy making difficulties escalate.

Another aspect of the chronic nature of a problem may be the availability of a technology that can indeed "solve" the problem once and for all. Take, for example, the problem of children who are not immunized against all the basic childhood diseases. While there can be financial questions about this issue, there is a simple technology and there is a basic agreement that children should be immunized against a range of serious diseases.[8] On the other hand, public programs designed to eradicate poverty, or even those designed to educate students, may be much less certain about the methodology to be used, or the real effectiveness of the

methodology that has customarily been employed. Likewise, when governments take it upon themselves to "eradicate" drug use they enter an area of behavior with numerous possible causes and also numerous possible remedies, none of which has been fully verified.

Chronic problems are also those that are heavily dependent upon external factors, and especially external factors that are themselves highly variable. The economy is an obvious case of a chronic policy problem that confronts governments. Even when those governments believed that they could manage the economy successfully, they did not act as if they could do so with a single dose of Keynesian, or monetarist, or supply-side medicine. Rather, there was almost constant adjustment of those policy instruments to correspond to changes in economic performance, or predictions of economic performance.[9] Economic policy has the further characteristic that one round of interventions may produce the need for the next; curing inflation may only lead to the need to combat unemployment, and then perhaps back to fighting inflation yet again.

One interesting way of coping with problems that are insoluble, or that are perceived to be insoluble, is to rely more on procedure than on substance. While procedures rarely solve other than procedural issues, they can be a means of forcing the regular and thorough reconsideration of a policy problem, and hence allow for some systematic adjustment. At the extreme, the weekly meetings of the Federal Reserve Board are a procedural device that ensures the regular reconsideration of monetary policy, and economic policy more generally. At less of an extreme, the requirement for regular review of the Social Security program addresses a problem that was once considered solved but is now much less of a given in American policy (Wildavsky 1998).

Another way to cope with policy issues that are insoluble for political reasons is to attempt to depoliticize them, or to transfer them to non-majoritarian institutions. Majone (2001) has argued on behalf of such solutions in the European Union, and to some extent more generally, as a means of providing predictability for policies – credible commitment – and of removing some of the sharper alterations in policy that can produce dysfunctional consequences. Of course, in a system that already is perceived to have a democratic deficit relying on non-majoritarian institutions may not be the wisest course of action for enhancing legitimacy.

Complexity

The second attribute of policy problems that I will examine is their complexity. This term is used in several ways in the policy literature, and we will be doing the same here. Initially, we will want to differentiate *political* complexity from *programmatic* complexity,[10] and then we will want to differentiate between at least two forms of programmatic complexity. By *political complexity* we mean the number of political interests and actors involved in the problem, and hence the degree of difficulty in negotiating agreements among the parties involved. One of the characteristics of policy making in the contemporary environment is the difficulty in restraining involvement, and hence the increasing difficulty in reaching solutions (Gray 1998). Or, as Charles Jones (1982) has put it with respect to the United States, "iron triangles have become big sloppy hexagons". It is not necessarily the case that this

form of political complexity must induce policy failure – the Scandinavian countries appear capable of governing effectively even with a wide range of interests involved. Still, wider involvement of interests increases the load on the decision-making apparatus of the political system, and may complicate discussions and resolution of policy instrument related issues.

Programmatic complexity refers to several aspects of a policy problem. One would be its technical content. Problems vary markedly in the extent to which the average citizen in the street is capable of understanding the issues and, more importantly, capable of intervening effectively in the decision-making process. Most citizens feel perfectly capable of discussing the education of their children, or zoning for their neighborhood (even though there are experts in these fields as well) but feel much less efficacious in discussing complex technical issues associated with global warming, acid rain, or nuclear power generation. Further, the real knowledge bases in the latter areas are, *ceteris paribus*, more demanding than in the former areas, so that even if citizens have opinions they are unlikely to be effective participants in the process unless they also have substantial technical expertise.

Another way to think of complexity is in terms of multiple causation. As noted already, we have conceptualized the policy design process as the marrying of models of causation, instrumentation, and evaluation (Linder and Peters 1984). The problem is that for many public problems there are competing models of causation, and hence competing experts. In water pollution control, for example, there has been an historic tendency for civil and environmental engineers to conceptualize environmental problems as largely technological in nature. This kind of conceptual model dominated the early establishment of technology based treatment controls in the United States, for example. Over the last decade and half, however, this technological perspective has been increasingly challenged by biologists and toxicologists who have conceived of environmental problems as problems of behavior and ecological balance, with the result that there has been a move toward more preventively oriented policy solutions. For a policy area such as crime, there are multiple ways of conceptualizing the root causes of the problem and hence no clear way of addressing the problem.

This discussion of complexity demonstrates that it is a multi-faceted concept that yields differing implications for policy design and instrument choice, depending on the forms of complexity that are evident in any particular policy problem situation. When complexity is conceived of in political terms, it appears that policy design efforts should enable processes that are: (1) flexible enough to respond to varying interests; (2) understood by all those involved; (3) defined in terms of specific processes for overcoming stalemate and disagreement. These processes, it seems, may incorporate both public and private sectors in the formulation and implementation phases of the policy process, while reserving authoritative mechanisms for public sector intervention when they are necessary to overcome stalemate and/or inaction.

It can also be argued that programmatic complexity that assumes a highly technical form should be inversely correlated with political complexity. That is, as problems become more technical, and hence more dominated by experts and information, it becomes more difficult for other groups of actors, such as interest groups, to intervene effectively into the policy process. Of course, there has been

significant growth in expertise among the groups opposed to the dominant directions of policy in industrialized democracies – environmentalists and other social movements can now muster a wealth of technical information as well as people. Based at least in part on these successes, advocates of deliberative democracy are attempting to open up decision making, even when there are apparently high technical hurdles to be jumped (Elster 1998). Further, governments are themselves developing policy tools that enable counter-expertise to be applied during the policy process, e. g. the hiring of paid public intervenors in regulatory hearings (Gormley 1986). Even so, it is necessary to recognize that high levels of technical content can create obstacles for widespread participation and that the scope of political conflict often can be minimized by placing greater emphasis on expertise in making decisions and defining the relevant issues in technical rather than distributive terms.

And finally, when problem complexity is viewed in terms of competing models of causation, it is necessary to recognize that the policy instruments chosen are likely to depend on the model(s) of causation that are viewed as predominant. In practical terms, this may mean that policy instrument choice will vary over time as differing conceptions of the causal processes underlying specific problems gain and lose support. We see this dynamic in water pollution control, for example, as older technology based conceptions of water pollution problems have given way to more process oriented approaches such as watershed protection activities that are directed toward changing behaviors of those affecting water quality within particular geographically defined watersheds. The result here (and likely elsewhere as well) is a layering of policy instruments "on top of one another", as instruments conceived under previously accepted models of causality are supplemented with new instruments that are based on more recent conceptions of problem causation. The end result here, of course, is not the selection of one policy instrument over another, but rather an increasingly complex admixture of policy instruments built on the foundations of changing conceptual understandings of causal processes underlying the problems in question.

That redundancy in instruments and approaches to policy can be, and often is conceptualized as, wasteful. On the other hand, however, it can also be seen as a highly rational approach to problems, especially when those problems are complex and perhaps less well understood than they might be. Just as triangulation is a useful approach to building social theory, so too may multiple methods and instruments be useful for coping with complex problems. For example, if we accept that the socio-economic processes undergirding continuing poverty are not understood adequately then using multiple instruments may be the best way of combating the problem.[11]

The Question of Scale

A third attribute of problems that is worth considering here is the scale of the question confronting government. That is, what is the magnitude of the problem, and the range of effects that it produces. Phrased somewhat differently, can the problem be disaggregated into smaller components, or is it of such a nature that it requires comprehensive solution or nothing at all. Further, is the problem amenable to digesting large levels of input at once, or is it more incremental and cumulative in

nature. Some examples may help clarify the nature of the term "scale" as applied to policy problems.

The term of scale was first used with respect to public policy by Paul Schulman (1980). He argued that some policy problems were inherently large-scale and therefore required an "all or nothing" approach to solving the problem. The principal example given was the space program. It would do NASA little or no good to get a man half way to the moon; the project was such that partial solutions were, in essence, failures. As a less extreme example, it would do the Army Corps of Engineers little or no good to build half a dam over a river; they have to complete the task or not start in the first place if they are to be successful, and economical, in the use of scarce resources. An even less extreme example in environmental policy may be the "third generation" problem of global warming, in which small reductions in greenhouse gas emissions may do little to address the problem, absent a more complete and comprehensive effort. In short, these large-scale problems cannot be readily disaggregated, although greenhouse gas emissions reductions may appropriately take place in phases, but probably still requires major interventions to be resolved.

Antithetical examples might be the "war on cancer", or the proposed "war on AIDS". While these problems are of substantial concern to those affected by them, they appear to be susceptible to disaggregation into smaller scales (Rettig 1977, Rushefsky 1986, Perrow 1990). As a result, the appropriate method of policy attack appears to be incremental, with the accumulation of scientific evidence, careful medical trials, trial and error, and the like. Any attempt to introduce very high levels of resources in short bursts into the policy area could lead to "choking" on the resources (Hogwood and Peters 1985) and potentially little real contribution to the resolution of the underlying policy problems. These problems are very amenable to disaggregation, with individual scientists, engineers, and policy makers able to make their own contributions to the resolution (relatively) independent of the actions of others. Indeed, many scientists would argue that this is only way for real progress to be made.

Perhaps more than any other aspect of policy problems the issue of scale can be misunderstood and can lead to inefficient and ineffective use of resources. When a problem is identified there is always a desire to apply the "war" metaphor and to create the moral equivalent of war. In some instances that may be appropriate. Poverty is a sufficiently complex (see above) and intertwined set of problems that the only way to address it may be through "war". Indeed, the failure of the War on Poverty may be the result of failure to apply the metaphor with enough zeal, and over a sufficiently long period of time, rather than an inadequacy of the metaphor in this particular case. This also points out the extent to which this particular attribute of policy problems, like all others, is at least in part a consequence of framing and political construction (Schon and Rein 1994).

European policy making presents some interesting challenges for understanding the concept of scale, especially at the implementation stage. The style of policy making in Europe tends to be large scale, at least in terms of gaining compliance among the member states. This style can be contrasted with that in other multilevel governance arrangements (see Hooge and Marks 2003) in which the components of the union are granted more latitude in interpreting central government policy, and are more autonomous. The drive for conformity has to some extent been lessened by the adoption of the Open Method of Coordination (Borras and Jacobsson 2004) and

its emphasis on benchmarks and standards rather than regulations, so that the scale of the policy system may be lessening.

We turn now to a second set of problem attributes – ones that move beyond mere characterization of problems, and make more conscious attempts to explicate the relationships between problems and instrument choice. To some extent all the attributes of problems we have presented here are related to instrument choice, but this second set of attributes should be seen as more proximate to that crucial choice in the implementation process.

Divisibility

The fourth attribute of policy problems that we will discuss is their "divisibility". We noted above that some small-scale problems can be disaggregated, but here we are talking more about the nature of the goods required to "solve" the problem. In a sense, we are talking here about the classic economic concern over market failures, and most specifically about the classic economic distinction between public goods and private goods (Buchanan 1987). Similarly, James Q. Wilson (1980) has constructed a typology of policies based largely upon the extent to which benefits and costs are concentrated or diffuse, a distinction somewhat akin the economists' conceptions of jointness in goods.

The Wilson typology is intended to explain the politics of policy, but the basic idea involved is also applicable to more substantive issues about policy problems. That basic idea is that problems that entail collective action and produce diffuse benefits may be more difficult to solve than those problems for which the benefits are more immediate and more appropriable to individuals. The reasons for this increased difficulty are fundamentally political, and relate to generating and maintaining support for policies that yield only indirect benefits to particular constituencies. In politics, however, the nature of the goods being produced may not be so firmly established as economists would tend to believe, so that a fundamental question for the political entrepreneur advocating government action to address a problem requiring the development of public goods is to construct the issue as if the goods were less indivisible and hence of greater benefit to particular constituencies.[12]

One problem with this form of analysis is that it appears to lead to problems being solved that are not problems *per se* but rather are better conceptualized as opportunities for public action that may confer differential benefits on one or another segments of society. That is, if a small group is able to mobilize support for a policy idea that will confer benefits on them while diffusing the costs of those benefits widely, the political imbalance is likely to swing in the direction of government adopting the policy. This process – in many cases – becomes somewhat analogous to Lowi's (1972) distributive politics, in which the policy instrument becomes direct or indirect government subsidies for the development of policies that are at least justified by language consistent with the concept of public goods. This style of policy making has been very evident in making tax policy, as well as when providing certain types of supports for business, public works, and agriculture (Bonser, McGregor and Oster 1996). In some ways the real question that arises in these cases is why are there not more programs like this created in the public sector, and why do programs like this ever get terminated given that the political climate for them is so supportive (Mucciaroni 1990)?

So, what are the implications of these public goods related problems for the selection of policy instruments? The first and clearest implication is that these problems appear to require government interventions in some form if the collective action problems which give rise to them are to be overcome. What is far less clear, however, is whether any particular form of intervention is preferable to another. As is indicated above, the subsidies can take many forms – direct provision of governments services (for example roads), tax benefits (such as credits and deductions), grant subsidies to nongovernmental organizations or lower levels of government (for example grants for wastewater treatment works), and creating government sanctioned monopolies (electric utilities, and so on). While each of these forms of intervention appears to carry some relatively obvious advantages and disadvantages in terms of both efficiency and accountability, more analytical work is required in order to determine more specifically how these differing forms of government action can be best applied to differing kinds of problems.

Monetarization

This awkward term is intended to capture the question of whether the policy problem being considered is phrased in monetary or non-monetary terms, or whether in principle money can be utilized to solve, or at least ameliorate, the problems identified. While monies can be, and are, used as discussed above to address "indivisible" problems associated with collective goods, the concept here is broader and also includes problems that are divisible. For example, it is clear that some *divisible* problems, such as the danger of poverty after retirement from employment or reducing health risks associated with lead piping materials in low income households, can be (and have been) addressed successfully simply by using money. Other problems, such as civil rights, gender equality, or even reducing automobile use may not be so amenable to being addressed simply by spending money. Rather, these problems may require other forms of government action, and perhaps broad societal changes, to be implemented. The policy question here is whether the difficulties identified can be addressed successfully through financial instruments and, if not, what sort of other interventions can be used to address the issues.

As is the case with the divisibility question noted above, the idea of monetarization noted here asks a question directly about the nature of the instruments that can be employed effectively to address an issue, but the importance of the variable in defining a policy problem may extend beyond that. The question here is also about the capacity of government to confer status on groups, or to control certain undesirable behaviors through education or other means, or to cope with the increasing range of issues that appear to be defined as public problems.[13] Money as a fungible resource makes the interventions of government apparently easier, but it may make the choices too easy. That is, given the general theme of this paper, there is a temptation to throw money at problems and hope that they go away. Further, conferring of status, rights and other non-monetary benefits on members of society is in part a role of the public sector but perhaps is primarily a task for the private sector. If the general public is opposed to granting these rights, then the state will not have the capacity to enforce legislation that confers these benefits on members of society, nor to adjudicate all the cases that may arise from those rights. Furthermore,

to the extent the problems addressed suggest a need for further educational or socialization efforts, it is clear that these efforts will require involvement from nongovernmental sectors of society to be successful.

Most of the politics within the European Union has been about issues that are primarily monetized, or about bargainable issues. These policy concerns of the EU have left the primary responsibility for most issues of status, for example immigration, to the member countries. Gender has to some extent become an EU issue, but still is not so central as the economic issues that have comprised the foundation of the Union. This differential focus for policy may well be functional given that the national governments still have greater legitimacy in most of the member countries than does the EU.

Scope of Activity

Another potential variable of concern in understanding differences among policy problems and the appropriate instruments of government to address them relates to the scope of activity or behaviors that contribute to the creation of the problem. In general, where the numbers of people, activities, or organizations involved with a problem is defined and relatively small, the likelihood that direct *regulatory* intervention by governmental bodies will be successful is increased. By contrast, public sector action can become quite difficult and resource intensive in cases where many very different forms of activity must be controlled or changed, and government chooses to seek resolution of the problem through direct regulation.

Most fundamentally, this concern with the scope of the problem relates to the capacity of government. When government regulation is applied to relatively small numbers of similar activities it has a reasonable chance for success. However, when the activities to be controlled and/or altered are numerous and highly differentiated, the capacity of government to deal with them is likely to be strained, and this strain is likely to make non-regulatory solutions more desirable by comparison. For example, ensuring the safety of nuclear energy facilities appears to be amenable to successful regulation (although successful and effective regulation is certainly not guaranteed!). There are only so many nuclear energy facilities to be regulated and they pose at least somewhat similar risks and concerns. By contrast, it would be far more difficult to regulate directly the manner in which people cook their food in an effort to reduce the potential emission of particulate matter into the air. For, in this case, there are hundreds of thousands of mealtime activities to be regulated each day, and they may take many different forms (charcoal grills, gas stoves, electric stoves, wood stoves, and so on). An effort to accomplish this kind of regulation would significantly tax the capabilities of any government that sought to carry it out. Consequently, it would probably be appropriate to explore other approaches to addressing this problem.

In cases where direct government regulation is infeasible or prohibitively expensive, other policy instruments need to be explored. One approach would be to apply regulatory solutions to different (although related) sets of activities. Using the example above, we might apply regulations to the manufacture of cooking stoves and grills that would require that appliances used for cooking remove particulate matter prior to emission into the air. This kind of regulation would be applied to a

smaller number of regulated entities and might require the installation of similar technologies in each case. This in fact, is somewhat like the rationale behind the Corporate Average Fuel Economy (CAFÉ) standards used in the United States to reduce air emissions from automobiles (although the limits of this approach are now becoming more apparent, as the number of vehicle miles driven continues to contribute to air pollution problems in some areas). Another approach would be to move toward non-regulatory mechanisms such as economic incentives or educational efforts. In these cases, for example, taxes might be applied to cooking appliances according to the extent to which they include devices for minimizing particulate emissions, or educational programs for users of cooking appliances might help people understand which cooking appliances are environmentally friendly or they may provide guidance on how to avoid cooking on days in which particulate matter in the air is of concern.

The point here is that the relationship between policy problems and instrument selection is related to the capacity of governments to carry out differing activities. In general, direct regulation requires significant resources for standard setting, monitoring, and enforcement, and sufficient resources are likely to be available only in those cases where the numbers and types of activities regulated are limited to a reasonable number. Where these conditions are not met, alternative policy instruments should perhaps be considered. In environmental policy, these alternatives may include economic instruments designed to make polluting activities more expensive and educational activities that enable consumers and the public to make environmentally friendly decisions – in other words sticks and sermons.

In the European Union the scope question is now assuming an interesting dimension with the increasing utilization of "soft law" as a means of making interventions (Morth 2003). To some extent the use of this and other informal instruments for regulation now permit the EU to intervene effectively in policy areas that might have been difficult if using more formal means of regulation. This means that the EU has been able to expand its sphere of influence into areas that are certainly related to its formal mandates but more difficult to control and to regulate. Further, it has been able to do so in a manner that lessens the sense of intrusiveness that some citizens have found so problematic in their involvement with the Union.

Interdependencies

Policy problems also vary in the extent to which they are confined, or confinable, to a single policy domain. At this point we come full circle and return to thinking about the impact of those names on government buildings. Some problems facing government clearly correspond to the domains of a single building; providing social insurance pensions in the United States falls within the domain of the Department of Health and Human Services (actually now the independent Social Security Administration). Other policy problems, for example the control of non-point source water pollution flowing after rainstorms to rivers, lakes and streams, require the involvement of, and co-ordination with, a number of departments, agencies, and even levels of government.

The degree of interdependence characterizing any particular problem influences the capacity of government to solve the problem, as well as the range of appropriate

policy instruments. The political requirements of co-ordination and forming coalitions across a range of organizations will mean that more interdependent problems are likely to be more difficult to resolve. Further it may mean that organizations are less likely to be able to solve them through existing routines. In addition, if the problems are large scale, there is a danger that a number of different organizations will attempt to parcel out components among themselves, thereby reducing the overall effectiveness of the interventions.[14] These problems then become a domestic analogue of the "joint decision trap" that Fritz Scharpf (1988) discussed in reference to international politics, with decisions perhaps being made at the level of the lowest common denominator.

The other rather obvious point here is that interdependent policies are more subject to debates over framing, and hence may be more contentious. Some of this contention over policies may represent sincere intellectual differences of opinion about the way in which the problem should be defined, while another part may be a function of attempts to utilize the problem to acquire more budgetary and personnel resources for each department advocating an alternative "frame" for the issue. The need to mobilize political support for programs will also tend to push the definition of programs toward those using instruments that are more appropriable for private benefits. Likewise, there is a strong political push to ignore identification of the interconnections of policies when possible, given that such involvement of multiple actors makes the program less easily captured by departments.

It appears that over time the degree to which problems can be confined to a single domain is diminishing. Agricultural price supports, for example, might once have been solely the concern of a department of agriculture, but as these commodities become more linked to international trade these supports become the concern of departments of foreign affairs, international trade, and similar organizations.[15] Agriculture policy also now involves numerous, often rancorous, involvements with environmental policy organizations in and out of government. Similarly, educational policy now has a major impact on international competitiveness, and hence education ministries must now co-ordinate more with departments of labor, trade and industry and international affairs if they are to do their jobs effectively.

The overall point here is that policy problems that have foundations and implications for many governmental units are likely to experience more difficulty and controversy in the selection and implementation of instruments than policy problems that are clearly within the jurisdiction of a single organization of government. Instrument choice, in this context, can become quite politicized and complex, as competing organizations incorporate arguments about appropriate instruments into larger arguments about how to frame the problem and whether the problem is best addressed by one agency or another. The end results in these situations may often be policy instrument choices that grow incrementally and in haphazard fashion out of bureaucratic turf battles rather than out of clear-headed analyses of the policy problem being addressed.

Summary

This discussion of the seven characteristics of policy problems is but an inadequate beginning to an interesting, and we believe important, extension of the current

literature on policy design, as well as that on policy instruments as the most well-established component of that literature. The discussion also provides some beginning steps in providing a systematic foundation for changes that are now taking place in the area of water pollution control in the US. These first steps suggest that the current move toward decentralized and non-regulatory policy instruments in non-point water pollution control may find grounding in the political and causal complexity of the problems involved, their broad scope, and their significant policy interdependence. However, what these very preliminary insights do more conclusively is to force some consideration of policy problems faced by government as questions that have basic attributes which influence how they must be approached by would-be policy formulators. The presence of these multiple attributes of problems also requires additional thinking about how to compile and perhaps weight, the multiple attributes that will characterize any one problem. As noted, thinking about the attributes of problems goes well beyond the usual way in which policy expertise is organized, for example on the basis of functional policy areas, and requires more analytic thinking.

These underlying characteristics that must be addressed are, we argue, most important for the selection of policy instruments for intervention. This paper has focused on the nature of the problems themselves, and has only begun to discuss directly the contingent relationships between instruments and these problems. That relationship does exist, however. For example, if we rely upon several of the attributes we discussed above it is clear that "treasure" based tools – to use one of Hood's (1986) categories – are more appropriate for some problems than for others. Likewise, the "chronic" problems we have identified may be more amenable to being addressed by instruments relying more heavily on "organization" – another of Hood's (1986) categories – than on instruments that have a less enduring nature. We could go on with the examples, but the basic point here is that we have begun to use these categories to categorize problems and to make the links with instruments, and that the exercise will bear fruit in the future.

Notes

1. An earlier version of this paper, focusing on environmental policy in the United States was co-authored with Dr. John Hoornbeek (Peters and Hoornbeek 2003).
2. This distinction, in turn, mirrors the distinction between the consequentialist approach to institutional choices, as opposed to a dependence upon routine and symbols in that selection in the more sociological literature on institutions.
3. Although particularly well stated and argued, some aspects of the Schon and Rein argument are not entirely novel. For example, there is a strong link to the social constructionist approach in sociology (Best 1989). Also, Lowi's (1972) and Wilson's (1980) seminal discussions of public policy tend to have some of the same aspects of defining the problem in terms of winners and losers, and even in terms of the arenas within which the problem is addressed.
4. This argument is not dissimilar to the historical institutionalist arguments (Thelen, Steinmo, and Longstreth 1992; King 1995).
5. This has been referred to as "brass plaque institutionalism", meaning that institutions are defined by the brass plaques on their buildings.
6. As has been noted (Hogwood and Peters 1983), few problems in government of any consequence are ever really solved. Still, there are marked differences in the extent to which they are likely to require reconsideration.
7. As has been noted when discussing policy failures there is an important difference between the political and the programmatic elements of policy problems. See Bovens, t'Hart and Peters (1998).

8. This leaves aside some religious groups who do not believe in immunizations, as well as some medical evidence about the risk/benefit ratios of some of the standard shots children receive.
9. This may be thought of as a chronic problem in one way, although the choice of the basic technology or technologies may be done on a more discrete basis. That is, after the choice to have a Federal Reserve and to use money supply as a major economic instrument, the rest is simply playing with the one instrument, rather than selecting multiple instruments in independent decisions.
10. For a discussion of these terms in relationship to policy failure see Bovens, t'Hart and Peters (1998, 2001).
11. For example, in addition to using the conventional cash transfers, we can think of using tax-based instruments (Earned Income Tax Credit (EITC) in the United States for example) for assisting the working poor, and better coordinating these programs with active labor market policy.
12. This argument represents, of course, the rather famous point from Lindblom about the use of "partisan analysis" in selling programs to different constituencies. Likewise, the constructivist arguments inherent in framing (see Gottweiss 2005) demonstrates the need to sell programs to constituencies in their own terms.
13. One of the ironies of contemporary political life is that the problem-solving capacity of government is consistently being denigrated but yet more and more issues appear to be defined as public issues.
14. This is in part the reason that governments create new organizations to address large scale problems, e.g. the Office of Economic Opportunity (OEO) in the United States as a vehicle for creating and implementing programs of the War on Poverty; or even the current efforts in the United States to develop a Department of Homeland Security.
15. The central role of agricultural products in the North American Free Trade Agreement (NAFTA) deliberations are indicative of the expansion of this policy issue.

References

Bagchus, R., 1998, The Trade-off Between Appropriateness and Fit of Policy Instruments, in: B. G. Peters and F. K. M. Van Nispen (Eds) *Public Policy Instruments* (Cheltenham: Edward Elgar).

Bardach, E., 1980, Implementation and the study of implements. Paper delivered at annual meeting of the American Political Science Association, Washington, DC.

Baumgartner, F. R. and Jones, B. D., 1993, *Agendas and Instability in American Politics* (Chicago: University of Chicago Press).

Bonser, C. F., McGregor, E. B. and Oster, C. V., 1996, *Policy Choices and Public Action* (Upper Saddle River, NJ: Prentice-Hall).

Borras, S. and Jacobssen, K., 2004, The open method of coordination in the European Union. *European Journal of Public Policy*, **11**, 185–208.

Bovens, M. A. P., 't Hart, P. and Peters, B. G., 1998, The study of policy disasters, in: P. Gray (Ed) *Public Policy Disasters in Western Europe* (London: Routledge).

Bovens, M. A. P., 't Hart, P. and Peters, B. G., 2001, *Policy Success and Failure*, 2 vols. (Cheltenham: Edward Elgar).

Buchanan, J. M., 1987, *Public Finance in the Democratic Process* (Chapel Hill, NC: University of North Carolina Press).

Cobb, R. W. and Elder, C. D., 1983, *Participation in American Politics: The Dynamics of Agenda-Building* (Baltimore: Johns Hopkins University Press).

Cohen, M. D., March, J. G. and Olsen, J. P., 1971, A garbage can mode of organizational decision-making. *Administrative Science Quarterly,* **17**, 1–25.

Elster, J., 1998, *Deliberative Democracy* (Cambridge: Cambridge University Press).

Epstein, R. A., 1985, *Takings* (Cambridge, MA: Harvard University Press).

Fawcett, H., 2005, Pensions policy, in: B. G. Peters and J. Pierre (Eds) *Handbook of Public Policy* (London: Sage).

Fitzpatrick, T., 2003, *After the New Social Democracy: Social Policy for the 21st Century* (Manchester: University of Manchester Press).

Gormley, W. T., 1986, Institutional Policy Analysis: A Critical Review. *Journal of Policy Analysis and Management*, **6**, 153–169.

Gottweiss, H., 2005, The constructivist approach, in: B. G. Peters and J. Pierre (Eds) *Handbook of Public Policy* (London: Sage).

Gray, P., 1998, *Public Policy Disasters in Europe* (London: Routledge).

Hisschemoller, M. and Hoppe, B., 1995, Coping with intractable controversies: the case for problem structuring in policy design and analysis. *Knowledge and Policy*, **8**, 40–60.

Hogwood, B. W. and Peters, B. G., 1983, *Policy Dynamics* (Brighton: Wheatsheaf).

Hogwood, B. W. and Peters, B. G., 1985, *The Pathology of Public Policy* (Oxford: Oxford University Press).

Hood, C., 1986, *The Tools of Government* (Chatham, NJ: Chatham House).

Hooge, E. and Marks, G., 2003, Unraveling the central state, but how? Types of multi-level governance. *American Political Science Review*, **97**, 233–243.

Howlett, M., 1991, Policy instruments, policy styles and policy implementation: national approaches to theories of instrument choice. *Policy Studies Journal*, **19**, 1–21.

Ingram, H. and Schneider, A. L., 1997, *Policy Design for Democracy* (Lawrence, KS: University Press of Kansas).

Jones, C. O., 1982, *Congress* (Homewood, IL: Richard D. Irwin).

Kenworthy, L., 1999, Do social welfare policies reduce poverty: a cross-national assessment. *Social Forces*, **77**, 1119–1139.

King, D. S., 1995, *Actively Seeking Work* (Chicago, IL: University of Chicago Press).

Kingdon, J., 1994, *Agendas, Alternatives and Public Policies*, 2nd edn. (New York: Harper Collins).

Linder, S. H. and Peters, B. G., 1984, From social theory to policy design. *Journal of Public Policy*, **4**, 237–259.

Linder, S. H. and Peters, B. G., 1989, Instruments of government: perceptions and contexts. *Journal of Public Policy*, **9**, 35–58.

Linder, S. H. and Peters, B. G., 1998, The study of policy instruments: four schools of thought, in: B. G. Peters and F. K. M. Van Nispen (Eds) *Public Policy Instruments* (Cheltenham: Edward Elgar).

Linder, S. H. and Peters, B. G., 1990, An institutional approach to the theory of policymaking: the role of conscious choice in policy formulation. *The Journal of Theoretical Politics*, **2**, 59–83.

Lowi, T. J., 1972, Four Systems of Policy, Politics and Choice. *Public Administration Review*, **52**, 298–310.

Majone, G., 1996, *Regulating Europe* (Oxford: Oxford University Press).

Majone, G., 2001, Nonmajoritarian institutions and the limits of democratic governance. *Journal of Institutional and Theoretical Economics*, **157**, 57–78.

May, P., 2000, Social Regulation, in: L. M. Salamon (Ed.) *The Handbook of Policy Instruments* (New York: Oxford University Press).

Mesa-Lago, C., 1994, *Changing Social Security in Latin America: Towards Alleviaing the Costs of Economic Reform* (Boulder, CO: Lynne Reinner).

Morth, U., 2003, *Soft Law in Governance and Regulation: An Interdisciplinary Approach* (Cheltenham: Edward Elgar).

Mucciaroni, G., 1990, Public choice and the politics of comprehensive tax reform, *Governance*, **3**, 1–32.

Nelson, B. J., 1984, *Making an Issue of Child Abuse: Political Agenda Setting for Social Problems* (Chicago, IL: University of Chicago Press).

Nelson, R. R., 1978, *The Moon and the Ghetto* (New York: W. W. Norton).

Patterson, L. A., 1998, Agricultural Policy Reform in the European Union: A Three-level Game Analysis. *International Organization*, **51**, 135–165.

Perrow, C., 1970, *Organizational Analysis: A Sociological Perspective* (Belmont, CA: Wadsworth).

Perrow, C., 1990, *The AIDS Disaster* (New Haven, CT: Yale University Press).

Peters, B. G., 1992, Bureaucratic politics in the European Community, in: A. Sbragia (Ed) *Euro-Politics* (Washington, DC: The Brookings Institution).

Peters, B. G., 2000, The politics of policy instruments, in: L. M. Salamon (Ed) *The Handbook of Policy Instruments* (New York: Oxford University Press).

Peters, B. G., forthcoming, *Coordinating the European Union: The Union Itself* (Lanham, MD: Rowman and Littlefield).

Peters, B. G. and Pierre, J., 2005, *Governing Complex Societies* (Basingstoke: Palgrave).

Peters, B. G., and Van Nispen, F. K. M. (Eds), 1998, *Public Policy Instruments* (Cheltenham: Edward Elgar).

Petracca, M. P., 1992, Issue definitions, agenda-building and policymaking. *Policy Currents 2*, **1**, 4.

Rettig, R., 1977, *Cancer Crusade* (Princeton, NJ: Princeton University Press).

Ringeling, A., 2005, Instruments in Far; Elements of Policy Design, in: P. Eliadis, M. Hill and M. Howlett (Eds) *Designing Government* (Montreal: McGill/Queens University Press).

Ringeling, A. and Van Nispen, F. K. M., 1998, On instruments and instrumentality: a critical assessment, in: B. G. Peters and F. K. M. Van Nispen (Eds) *Public Policy Instruments* (Cheltenham: Edward Elgar).

Rochefort, D. A. and Cobb, R. W., 1994, *The Politics of Problem Definition* (Lawrence, KS: University Press of Kansas).

Rushefsky, M., 1986, *Making Cancer Policy* (Albany, NY: State University of New York Press).

Salamon, L. M., 2000, *The Handbook of Policy Instruments* (New York: Oxford University Press).

Salamon, L. M. and Lund, M., 1989, *Beyond Privatization: The Tools of Public Policy* (Washington, DC: The Urban Institute).

Scharp, F. W., 1988, The joint decision trap: lessons from German federalism and European integration. *Public Administration*, **66**, 239–278.

Schon, D. A. and Rein, M., 1994, *Frame Reflection: Solving Intractable Policy Controversies* (New York: Basic Books).

Schulman, P., 1980, *Large-Scale Policymaking* (New York: Elsevier).

Sieber, S., 1981, *Fatal Remedies* (New York: Plenum).

Steunenberg, B. and van Vught, F., 1997, *Political Institutions and Public Policy* (Dordrecht: Kluwer).

Tatalovich, R. and Daynes, B., 1997, *Social Regulatory Policy*, 2nd edn. (Boulder, CO: Westview).

Thelen, K., Steinmo, S. and Longstreth, F., 1992, *Structuring Politics: Historical Institutionalism in Comparative Politics* (Cambridge: Cambridge University Press).

Thompson, J. D. and Tuden, A., 1959, *Strategy, Structure and Process in Organizational Design, in Comparative Studies in Administration* (Pittsburgh, PA: University of Pittsburgh Administrative Studies Center).

Timmermans, A., Rothmayr, C., Serduelt, U. and Varone, F., 1998, The design of policy instruments: perspectives and contexts. Paper presented at Annual Meeting of the Midwest Political Science Association Chicago, April 23–25.

Trebilcock, M., 2005, Choosing Policy Instruments: A Retrospective, in: P. Eliadas, M. Hill and M. Howlett (Eds) *Designing Government* (Montreal: McGill/Queens University Press).

in 't Veld, R., 1991, Autopoesis, configuration and steering: impossibility theory or dynamic steering theory, in: in 't Veld *et al.* (Eds) *Autopoesis and Configuration Theory* (Dordrecht: Kluwer).

Wallace, H. and Wallace, W., 2000, *Policy-Making in the European Union* (Oxford: Oxford University Press).

Wildavsky, B., 1998, Looming liabilities, *National Journal*, January 17, 102–105.

Wilson, J. Q., 1980, *The Politics of Regulation* (New York: Basic Books).

Zito, A., Jordon, A., Rudiger, K. W. and Wirzel, K. W., 2003, Policy Innovation or 'Mudding Through': New Environmental Policy Instruments in the United Kingdom. *Environmental Politics*, **12**, 179–200.