2 Policy problems

In the best of all worlds there would be no social or economic problems that would require the intervention of the public sector. But we do not live in that world, and there are a myriad of problems in society that require intervention. The public sector, and its allies in the private sector, may not always want to intervene in these social conditions – whether for ideological or for practical reasons – but often they are compelled to do so. Public pressure and the very presence of some types of problems may force intervention. To understand policy design we need to understand the problems that are being addressed by public sector action, including very broad questions about market failure and social failure that create those problems.

In the most general sense a policy problem is a condition that some or all citizens (and policymakers) find undesirable. These problems may range from simple issues such as litter in the streets to pensions for elderly citizens through to major foreign policy questions. Some of these policy problems may be addressed through private action – citizens may clean up litter in their own streets. Most of these problems will, however, become a part of the political agenda. And with these problems also come a range of alternative solutions that may or may not be suitable as a means of resolving the issue. This common sense conception of policy problems is the beginning of all steps in making public policy.

This discussion of problems will identify some of the underlying characteristics of policy problems. Most discussions of policy problems tend to describe them according to the functional area within which they occur – agriculture, education, defense and so on. However, there may be as much variance within each of these functional areas as there may be across areas (but see Freeman, 1985). For example, the field labeled education includes everything from pre-schools through to research universities, with markedly different issues, actors and politics. And most important for this discussion there are a number of different policy problems within education that require very different forms of intervention. We therefore need to think about not just the titles we see on government buildings when defining policy problems but also their underlying features.

This chapter will examine policy problems in three different ways. The first is to examine the most fundamental issues in public policy – those that define the need for the public sector to act at all. The second approach to policy problems will be looking at the defining characteristics of the problems that arise in more ordinary policymaking, for example, the characteristics of the stakeholders in the policy domain. And finally, and related closely to the second, I will discuss the concept of "wicked problems" and its importance for policy studies. These problems (see Rittel and Webber, 1973; Levin et al., 2012) are large scale, complex and extremely difficult to solve, but also are becoming more important for governments with the emergence of issues such as climate change, food scarcity and sustainable development.

Why have public policy at all?

The first issue about policy problems is why should the public sector intervene at all in the functioning of the economy and society? This is in part an ideological question, with individuals on the political right arguing that the state is justified in intervening only in exceptional

circumstances, while those on the left believe that there are numerous good reasons for action by the public sector (Madrick, 2009; Brook and Watkins, 2010). But this question goes beyond ideologies, and there are good economic and political reasons justifying the role of the public sector in contemporary societies. To some extent these reasons are also viewed through ideological lenses, but there can be more objective analysis that may help to resolve the differences, or at least provide support for different ideological positions.

Market failure

From an economic perspective the fundamental argument for the intervention of the public sector is market failure (Wallis and Dollery, 1999). The neo-classical model of the economy is based on a set of assumptions such as perfect information that often simply do not exist in the real world. Given the absence of those preconditions, markets do not work effectively as assumed, and the public sector may need to intervene to rectify the problems being generated by market failure. Again there may be an ideological discussion over how much market failure is sufficient to justify the intervention of the public sector, but at some level the incapacity of markets to function as expected will invoke the intervention of government.

Public goods constitute a major category of market failures. A public good is a good that, once created, is available to all consumers. Since individuals cannot be excluded from consuming the good, it cannot be priced or marketed. Examples of public goods include clean air, national defense and flood control. Although having some characteristics of public goods, public recreational areas and parks are subject to crowding effects – if we all attempt to use the park none of us is likely to enjoy it very much. If anyone attempts to create public goods and market them, those producers will encounter free riders who will enjoy the good but not pay for it. Therefore, governments and the use of tax money represent the only possible efficient producers of that type of good.

The standard model of the market also assumes that the costs of production are reflected in the selling price of the market, but in many cases this is not true. The most obvious example is pollution. The social costs of pollution – health problems, reduced property values and so on – are not reflected in the market price, and hence products causing that pollution are underpriced (see Dasgupta and Ehrlich, 2013). To rectify that problem governments must either regulate the costs of these externalities or force the producers to pay for them through some mechanisms such as pollution pricing (Sandmo, 2000). There can, however, also be positive externalities but typically the producers of these cannot receive their value. For example, if a hydroelectric dam creates recreational opportunities and increases property values of (now) waterfront property the firm building the dam can rarely appropriate those increased values.

For markets to work effectively there needs to near perfect information. Buyers in particular need to understand what they are buying to be able to make efficient, and safe, choices among products. But the financial scandals following 2008 revealed very clearly that consumers did not have that information about the loans they were buying nor about many investment opportunities being offered to them by the financial sector. Given that sellers have little incentive to provide full information, governments must step in to try to force disclosure (in credit cards, for example) or regulate products for safety purposes.

Although monopolies are generally considered failures in the market, some products are natural monopolies and would be produced inefficiently through a competitive marketplace. For example, it would be inefficient to have two suppliers of water operating in the same area, involving multiple systems of pipes, pumps and so on. It is therefore

more efficient to allow one monopoly supplier, whether it be government itself or a regulated private company.[1] This preference for regulated markets is true not only for goods like water where multiple systems of supply would be inefficient but also goods that have very large returns to scale, meaning that very large producers can be more efficient than multiple smaller producers. In the case of natural monopolies or returns to scale the public sector must intervene with regulations on rates and returns to capital to prevent exploitation.

Finally, the economic distribution created by the market tends to be skewed, with income and wealth being concentrated among a relatively small number of individuals. High levels of economic inequality have become largely unacceptable in mixed-economy welfare states, and governments have been using taxing and spending measures to at least build an income floor for citizens who have been less successful in the market. This justification for public sector intervention is, however, more ideologically contentious than the others already mentioned. Further, the existing strategies appear to have been ineffective in most countries, as levels of inequality tend to increase all over the world (Xue, 2012).

Social failures

Failures in society that may necessitate the intervention of the public sector are not so readily classifiable as those in the economy, but they are nonetheless real. Issues such as crime, poverty, family breakdowns, school dropouts and so on may have some economic element but they also have a strong social and cultural component. And the absence of clear categories, such as those in economics, make these issues all the more difficult to address through public sector action. The dynamics of these issues are subject to numerous interpretations and hence become highly politicized.

The politicization of these real or assumed social failures has been most apparent around the issue of poverty. The political right tends to attribute the persistence of poverty to failures of individuals and their family structure, arguing that the disruption in social life and the absence of a work ethic tends to be transmitted from generation to generation and is exacerbated by most social programs (Nowrasteh and Cole, 2014). The political left, on the other hand, argues that poverty and social exclusion are more to do with a poor functioning of the market and the failure of governments to intervene through social policies or economic regulations such as minimum wage laws that would produce a living wage for anyone in work (Bernstein and Parrott, 2014).

The above discussion about market and social failures should not let us forget that there are also governance failures (see Wolf, 1987). While markets fail because of public goods, governance may fail because of private goods when government power is used to the advantage of certain segments of society with public money (see Lowi, 1972). Likewise, the public sector may have "internalities", meaning that public sector actors sometimes make choices that move away from allocative efficiency and therefore impose costs on society. These internalities reflect the unequal distribution of political power and ability of some groups to extract more from the public purse than might be justified on economic or moral grounds.[2] Further, at times governments create un-natural monopolies for themselves that stifle competition in areas such as telecommunications and energy.

Characteristics of policy problems

The above discussion of market failure, social failure and governance failure provides a broad interpretation of the problems motivating policymakers (see Peters, 2014a), but once we move from that very general level to the consideration of individual policy initiatives a

number of more specific characteristics of policy problems become important for design. As mentioned, simply thinking in terms of functional labels is inadequate for policy design, given the variance within individual policy domains, and the multiple dimensions that may affect the capacity for policymaking for each problem. Further, keeping proposed policy solutions within the individual silos defined by public organizations and interest groups may reduce the probabilities of finding more than minimally effective solutions.

As well as classifying problems according to their functional categories, policies may also be classified by the particular policy instruments used to address them. This labeling is especially true for regulation, with a number of economic issues being described as "regulatory issues". This classification tends to assume that the only, or at least the most efficient, means of addressing an issue is through command and control regulation. But that is not necessarily the case and some issues, for example, pollution that were once considered regulatory are now addressed regularly through instruments such as taxes and charges (Morag-Levine, 2009). At even more of an extreme, the development of "nudge" and other psychological approaches to policy can produce results without direct interventions (Thalen and Sunstein, 2008). Again, this progression of definitions of policies points to the necessity of considering the basic issues of problems rather than using familiar categories.

Although I can identify a number of important characteristics of policy issues there is no clear theoretical foundation that guides the selection of these dimensions of analysis. The literature on public policy has developed a number of ideas about problems but these have largely been developed inductively (see Peters and Hoornbeek, 2005). However, although there is no unifying theoretical frame these various characteristics of policy problems remain useful for understanding the challenges for government when they seem to intervene. The variations in problems can be related, if only loosely, to the nature of the interventions that governments may find effective.

Boundary spanning problems

Having said that the usual labeling of policy problems is inadequate, one of the more important characteristics of problems is the extent to which they are contained within the usual departmental and functional boundaries. Those boundaries are usually discussed in the functional terms discussed above, but may also include geographical boundaries. With globalization and increasing relevance of multi-level governance, policy problems clearly cut across geographical boundaries (McKibbin, 2007). The boundaries between the public and private sectors are increasingly permeable, and pose another variant of the need to cope with policy problems across boundaries.

Although there are important variations within the functional policy areas, policy problems that can be contained within a single functional area, geographical area or entirely within the public sector are easier to manage than are those that span boundaries (May et al., 2010). Within any functional area a limited number of public organizations and policy ideas may be involved, while if the policy problem can be contained to a single or limited number of geographical areas the political conflict may also be reduced.

While the simplicity of policy management may be enhanced by more constrained policy problems, the opportunities may also be reduced. Boundary spanning problems, whether real or framed as being such, make apparent the possibilities for coordination and synergies among programs (Peters, 2015). That coordination may be horizontal between programs and organizations, or it may be vertical across levels of government, or it may be both, but in any case the overall performance of policymaking may be improved.

Stated somewhat differently, the most important problems in governing cut across the conventional boundaries of policy and geography. Therefore, to the extent that governments, and their counterparts in the private sector, can find ways to cope with cross-cutting problems they are more likely to be successful in addressing the major issues facing citizens. For example, if economic policy is dealt with in the conventional manner through standard monetary and fiscal policy mechanisms, some success can be expected. If, however, this issue is conceptualized as "competitiveness policy" then a range of other possible contributions, for example, education and technological innovation, can be used to address the underlying issue and produce perhaps more dramatic results (see Sum and Jessop, 2013).

Public goods and divisibility

We have discussed the need to create public goods as a general justification for the intervention of the public sector into the economy and society. That said, some particular policy problems require the creation of public goods, while others involve creating private goods (those that allow exclusion and can be provided for some individuals and not for others). The difference between public and private goods helps demonstrate that the same nominal policy area can produce different types of problems. For example, defense is usually discussed as a public good, given that the military apparatus once created tends to defend all citizens. However, defense procurement is more of a private good, with firms and areas of the country competing for contracts that will benefit them. At the extreme, in the United States Congress at times demands that the Department of Defense purchase weapons systems it does not want, simply to keep plants open in the districts of powerful members (Bennett, 2014).

In addition to understanding that some policy problems represent indivisible issues, for example, clean air, the difference between public and private policy problems is important primarily because it may limit the range of instruments that governments can utilize when attempting to solve the problem. Many of the policy instruments available to government (see Chapter 6) depend upon providing benefits or incentives to individuals, but if the problem is indeed indivisible then more collective solutions (usually involving law and public organizations) will be required.

Although in many instances the divisibility of a policy problem is objective, in other cases it may be politically constructed. For the advocate of a particular policy one means of "selling" it politically is to convince decision-makers that the problem is indeed an indivisible problem like a public good. If that characterization is true then the problem can only be addressed effectively through the intervention of the public sector. And individual organizations within the public sector may also attempt to define policy problems as being indivisible public goods so that their particular remedies can be adopted and implemented. For example, social programs may be justified on providing a more peaceful and harmonious society as well as through assisting individuals who need assistance.

Scale

The concept of scale for policy problems is to some extent related to the issue of public goods. The logic of scale is, however, that some problems are inherently large scale and need to be addressed as a whole, or not at all. Issues like building a dam or a bridge across a river are rather simple examples – half a dam or three-quarters of a bridge are useless. A more interesting example may be the eradication of epidemic diseases such as smallpox and polio. The World Health Organization has been attempting to eradicate these diseases totally so that not only would no one become ill with them, there would be no future need for immunizations.[3]

Solving large-scale policy problems represents a challenge to political systems that, like most, tend to function more incrementally. The normative argument for incrementalism, and for bounded rationality in general (Jones, 2001; see also Chapter 3), is that humans tend to lack the capacity to make comprehensive solutions to public problems because those problems are complex and always changing. Therefore, making decisions by "successive limited comparisons" can be argued to be a more rational way to make policy (Lindblom, 1965) than more comprehensive interventions. Policies would be made by taking small steps, considering how well the policy worked, and then adjusting the intervention. But that style of making policy is simply not feasible for large-scale projects (Schulman, 1980), no matter how rational it may be in general.

As well as the normative issues in decision-making raised by large-scale policy problems these problems also pose empirical problems within governments. The multiple veto points (Tsebelis, 2000) that exist in most governments make producing large-scale projects difficult. This problem is more pronounced for presidential systems with numerous independent actors but may be true even for parliamentary systems, and especially coalition governments. The multiple actors involved in making decisions and the multiple interests that must be served tend more toward governance by the lowest common denominator and gradual adaptation rather than making bold decisions about large projects (see Scharpf, 1988).[4]

The problem for large-scale projects may not be so much that decisions cannot be made but rather that coherent decisions may be difficult. If there are multiple actors involved, as there will be in almost any decision, then movements away from the design intended by experts or a political leader may be expected. We focus on design in this volume but design can be easy in principle but is more difficult in political practice. Multiple interests attempt to add their favorite ideas to a project ("goldplating" in defense contracts, for example) or attempt to remove elements for financial or policy reasons. The result may be more diffuse and gradual adjustments to problems, even large-scale policy problems.

Solubility

The concept of scale of problems is closely related to the question of whether indeed a problem can be solved. If the problem is defined as enabling people to drive across a river then building a bridge will solve the problem. If, however, the problem is defined as providing effective transportation for citizens then it may never be solved. The size of the population may increase, requiring more facilities, and making automobiles less desirable as the focus for transportation policy. And technologies for transportation may also change, making some forms of mass transit that could have been unaffordable at one time more feasible, or tele-commuting reducing demand for transportation. And even lifestyles may change, with citizens wanting more services and jobs near their homes so they do not need to drive or take a bus.

Transportation is a policy area in which some issues may appear to be solved, at least for a time, but other areas such as education, health and social policy may have issues that can never really be solved. People will always want to be healthier and happier, so that there will be continuing demands for improving services in these areas. And lack of adequate knowledge about causes of many social problems, or the risk involved in many economic and defense policies, means that these policies are often best conceived as experiments, requiring constant monitoring, and continuous attempts at improvement (see Nelson, 1977).

The inability to solve most policy problems for once and for all, and the continuing attempts to solve those problems, mean that most policy spaces are very crowded. There are layers of attempts on the part of government to provide solutions to issues, sometimes building on

previous legislation and sometimes seeking to abolish all trace of the previous legislation (see Mahoney and Thelen, 2010). But attempting to eliminate the efforts of the past may be impossible, given that clients remember the old programs and the organizations implementing the programs also tend to remember the previous programs. While continuing efforts to solve problems may represent, as Dr Johnson said, the triumph of hope over experience they may also tend to produce cynicism and a lack of commitment among clients and employees.

The good news, at least politically, is that policy replacement (Hogwood and Peters, 1983; see also Carter, 2012) is not attempting to make policy on a tabula rasa, but rather is attempting to reform existing policy commitments of the public sector. Once the problem has been addressed, and there are real organizations and real clients, some of the political struggles over getting on the active agenda of government have been resolved. Although the existing organizations and clients may defend the status quo, they may also favor change, seeing all too well the imperfections of the existing programs.

If a problem is indeed solved, and even if it only ameliorates the conditions it was designed to solve, it may then generate new problems and new challenges for policymakers. In most areas of governing we do not have adequate knowledge of the underlying dynamics in the policy area to make as effective diagnoses of the problem as we would like. As Richard Nelson (1977) pointed out with reference to attempts to resolve the problems of the ghetto (racism, social deprivation and so on), many if not most policy interventions involve some degree of experimentation. And likewise, we do not understand our policy instruments sufficiently well to be able to intervene as effectively as we would like.

If I consider my transportation example above some of the impacts of initial policy choices and the difficulties of making interventions become apparent. The experience of road building in the United States and elsewhere (Goodwin and Noland, 2003) has been that once roads are built they attract new traffic and become outmoded almost before they are completed. Likewise, the experience of building roads that facilitated travel into urban areas was that they also facilitated travel out of those urban areas even more, thereby contributing to the decline of inner cities. Therefore, both within the policy area and in other policy areas making policy may generate new and potentially more severe problems.

Complexity

Some policy issues are simply more complex than others (Duit and Galaz, 2010). And the idea of complexity itself needs to be considered carefully[5] in policy terms (Table 2.1) because it has at least two dimensions: technical and political (see Bovens et al., 2000). By technical complexity I mean that the underlying causal processes in the problem are not understood fully, or they involve a number of interactions of individual and social factors. Crime might be an example of a complex problem, given that it is difficult to determine exactly what causes people to become criminals. Some aspects of climate policy would also be technically complex, even more so because the interactions among the variables may be non-linear with small changes in some factors triggering much larger changes.

Political complexity means that there are multiple and conflicting interests involved in the policy domain. These interests may also have fundamentally different ideas about causation or what would be a good outcome of a policy process. This political complexity has been visible in economic policy, for example, when environmentalists clash with economic developers over what the goals of the policy should be. Thus, even if there is basic agreement over the nature of the policy and the causal processes involved there can still be very strong political disagreement about what to do. Also, in economic policy responses to

the post-2008 economic crisis there have been fundamental differences between advocates of austerity and those pursuing a more Keynesian approach to economic stimulation (Krugman, 2014). And when that political disagreement is coupled with technical complexity and disagreement the processes of making policy become all the more difficult.

Table 2.1 Types of complexity

		Technical Complexity: High	Technical Complexity: Low
Political Complexity	High	Environmental Policy	Education
	Low	Science Policy	Pensions

We can see the interaction of political and technical complexity by examining Table 2.1. In this table levels of complexity are classified as simply high and low. While this may simplify the underlying dimensions it is still useful for understanding the policymaking challenges posed by complexity. The simplest possible pattern for policymakers would be to have problems that are both relatively simple technically and politically. These tend to occur in policy areas in which governments have been active for some time and many of the political conflicts have been ameliorated if not solved. In contrast, making policies in domains in which there is both technical and political complexity is extremely challenging, and unlikely to produce highly effective policies.

The other two cells of the table also represent challenges of policymaking. When the technical issues underlying a policy problem are relatively simple and there is still political complexity reaching agreement on policy may be easier than when the technical issues are in doubt. When there is agreement on the logic of cause and effect in a policy area, then the politics in some ways may be more intense, given that there is basic agreement on the nature of the policy. Relatively high levels of agreement on policies associated with technical complexity may be able to produce a more experimental, or evidence-based, style of making policy. While experimentation is an important means of addressing the unknown in public policy, citizens may not appreciate being considered guinea pigs.

Governing and making policy always involves coping with complexity, but some problems and some policies involve more complexity. Table 2.1 points to some aspects of that complexity, but in the extreme governments face so-called wicked problems. These are problems that are sufficiently complex and unstructured that making policy choices is extremely difficult. These problems are sufficiently important for emerging policymaking and governance that I will discuss them separately (see below) as a significant mechanism for understanding contemporary policymaking.

Certainty and risk

Some policy problems are very predictable and involve little inherent risk. School officials can know with some degree of certainty that if a child is born he or she will need to begin school in five or six years, so the school buildings, teachers and chalk had best be ready. Migration in and out of the district may affect the final total of pupils slightly, but there is enough certainty to plan effectively.[6] At the other end of the life cycle, pension managers know with substantial certainty how many people will become eligible for pensions in any given year and can plan accordingly for paying those pensions.

Many, if not most, policy problems do not have that degree of certainty,

so policymakers must cope with risk and uncertainty (Dror, 1986).[7] Uncertainty is perhaps clearest in international policy areas in which one set of actors is developing policies knowing that in other countries other policymakers are making contrary decisions. Uncertainty is also apparent in policy areas that are heavily influenced by natural events. For example, the Army Corps of Engineers in the United States builds flood control projects based on estimates of the largest floods that would probably occur every 50 years or 100 years (Army Corps of Engineers, 1996). But sometimes their projects have to contend with the 500-year flood, and may fail – the flooding in New Orleans after Hurricane Katrina is the obvious example. The Corps did its job as it is mandated to, but it had to contend with uncertainty and events that were not parts of the planning.

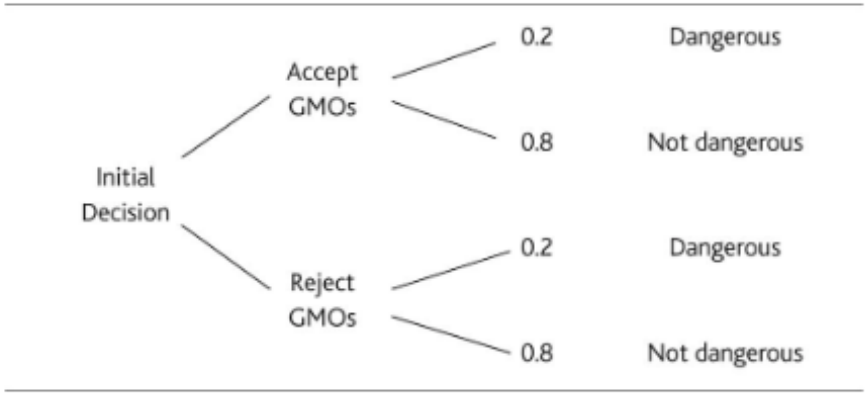
The characteristic of complexity discussed above is also connected to the presence of risk in a policy problem. Charles Perrow (1984) has famously discussed "normal accidents" as part of contemporary society and contemporary policymaking. His argument was that as we depend upon more and more complex systems such as nuclear power and air traffic control we should expect accidents. Therefore, policymakers need to build these risks into their calculations about creating and regulating those complex systems. And citizens may have to be educated about the possibilities of these accidents so they can make their own calculations, and so that they do not expect miracles from technologies or their governments.

The presence of risk in many policy situations introduces the need to include risk in making choices. One means is to attempt to eliminate risk entirely through mechanisms such as the precautionary principle used by the European Union for issues such as genetically modified organisms (GMOs) (Majone, 2002a). While that approach appears to eliminate risk, it does not because it fails to take into account adequately the possibility that there will be no (or limited) negative effects of GMOs and hence there are potentially large opportunity costs being imposed on European citizens and farmers.

We should think of the decisions being made on GMOs as involving risk, that is, the probability of there being harm, and also expected costs and benefits. In this example we will suppose that the risk of harm from introducing a specific GMO is, say, 10 percent, but the risk of harm produced would be very substantial if indeed the crop is dangerous. On the other hand, if the crop is not dangerous there is a potentially substantial benefit from the higher productivity of the crop. We can put these outcomes together in Table 2.2, and calculate the economic outcomes of the choice. This monetary figure does not, of course, take into account environmental consequences that may be difficult to calculate nor potential benefits such as reducing poverty in poorer countries, which are also difficult to put on the measuring rod of money (see Otsuki et al., 2001). Still this rather utilitarian analysis provides a means of beginning to think about the choice that must be made.

Risk is an objective quality of policy settings, but the perception of risk may be as important or more important than the objective conditions. There is an extensive literature pointing to the misperceptions of risk within society (Slovic, 2000; Weber and Stern, 2011). Given these misperceptions, governments may invest heavily in safety in some areas and not in others, or invest more heavily in some diseases than in others even though objectively the relative risk of death or injury does not warrant that distribution of funds.[8] We as analysts may be able to say rather facilely that the perceptions of risk are irrelevant for making real policy, but in the political world dismissing public opinions is not so easy.

Table 2.2 Choices with risk



Tragic choices

Governments must make a number of extremely difficult choices. The most difficult of these policy problems have been classified as "tragic choices" (Calabrese and Bobbitt, 1978; Brown, 2007), meaning that making choices to benefit one group in the society will inevitably produce deprivations, and often quite severe deprivations, for other members of the society. In its original development, the concept of tragic choices was used to describe decisions being made in the allocation of scarce life-saving technologies, when giving one person access to that technology inevitably meant that someone else would not receive the treatment and would die.

To some extent all choices being made in the public sector are tragic, given that any decision to benefit one group involves deprivations to others, but the idea of tragic stresses that some policy decisions may mean that some people die. So, deciding how to allocate livers or hearts for transplants means that some people will survive and some will not. But deciding to allocate money to highways or to other purposes may also mean that some people will be saved and others may not. Are the rules for making these allocations fair? And are there a range of cultural definitions of fairness that differ across countries and that may produce different outcomes for citizens?

Monetization

Finally, some policy problems are fundamentally about money and can be expressed in terms of the need to redistribute money. Many common policy programs depend upon monetizing the problems involved. Subsidies to farmers, loans to university students, pensions of the elderly and flood insurance for homeowners all assume that money is sufficient to address, and perhaps even solve, the policy problem. And generally this assumption of the underlying monetary nature of the problem is correct and money is sufficient.

If a problem can be addressed with money then government should consider themselves fortunate. Given that governments have large budgets and have access to printing presses, they can generally marshal financial resources to address a problem.[9] If, however, the problem is based on the deprivation of status, respect and on injustices then attempting to redress those grievances through money would be ineffective and even insulting. For example, some groups have advocated reparations for African-Americans whose ancestors were brought to the United States as slaves (Posner and Vermeule, 2003). While that money might be welcome, it could not adequately address issues of race and deprivation that persist.

When we begin to discuss policy instruments, it becomes apparent that relatively few instruments are clearly connected to altering problems defined by status or respect. Nodality, or information, is the most obvious mechanism for approaching non-monetary problems. But this category of instrument tends to be less directly effective in producing change than other mechanisms such as those utilizing money (treasure) or authority (law). These nodality-based instruments have become more popular as government resources wane and citizens become more resistant to authority (Thalen and Sunstein, 2008), but they generally lack the effectiveness of more intrusive forms of intervention.

Summary

This list of characteristics of policy problems is useful for understanding the nature of the tasks confronting the public sector. Each of the categories is useful for understanding the problems, but there is as yet no weighting of the relevance of each, nor how to link them together to create more complex understandings of the challenges to policymaking. With these characteristics, however, we can demonstrate the internal variations of a functional policy area such as health (see Table 2.2).

These problems, and the understanding of the challenges they present, will serve as the background for other aspects of the process of policy design. If designers understand the nature of the challenges they face they will be better able to understand how to create programs that have a greater probability of success. Further, differences among the nature of problems will affect the policy process itself. For example, more politically complex problems (almost by definition) tend to involve a wider array of social interests, while technically complex problems tend to exclude interests unless they are members of specific epistemic communities. The real political fun begins for problems that are both technically and politically complex.

Unstructured and wicked problems

The discussion above has been based on a fundamental assumption that the policy problems we are contending with can be defined readily and have an identifiable structure. Such problems are the foundation of most policy analysis, given that they can be readily understood and offer some hope of being resolved. Also, policy analysts and policymakers tend to assume that problems are adequately structured and understood so that they can proceed to attempt to resolve them (Hisschemöller and Hoppe, 1995).

The problem for policymakers, as well as for citizens, is that many problems do not come neatly structured. Further, problem structuring is a political process in which individuals with different conceptions of the problem attempt to create a conceptual structure of the problem that can be used to make policy, if not necessarily solve the problem (Dery, 2000). Without such a structure, or in the terms of this chapter some understanding of the characteristics of the problem, policymakers will not be able to address the issues involved effectively.

We will discuss the political process involved in framing and structuring problems in Chapter 3, but here it is important to consider the underlying nature of unstructured problems, and particularly an extreme version of these – wicked problems. Understanding these difficult problems appears to be becoming increasingly significant for governments, as the real world is forcing more of these problems – climate change, obesity, substance abuse – into the public sector, and citizens are expecting some form of public action. These wicked problems are often the most dangerous issues facing citizens and societies as a whole and hence demand some form of public intervention. That intervention may at times be only symbolic as governments have no real answers, but there must still be some response.

Rittel and Webber (1973) coined the concept "wicked problems" to describe very difficult problems facing the public sector. Although originally expressed in terms of planning theory, this concept appears extremely relevant for more general studies of public policy. Rittel and Webber discussed the concept of wicked problems in relatively abstract terms, but phrased in somewhat more operational terms there are several criteria that can be used to characterize wicked problems:

1. Wicked problems are difficult to define. It is not easy to say just what the problem is.
2. The problems are multi-causal and have many interconnections.

3. Therefore, wicked problems are often unstable, with small changes in one possible cause producing large-scale effects.
4. These problems have no clear solution, and perhaps not even a set of possible solutions.
5. Because the solutions are unclear, any intervention may have unforeseen consequences.
6. Wicked problems involve multiple actors and are socially complex.

This characterization of policy problems appears relatively similar to some of the aspects of complexity already mentioned, but tends to emphasize the difficulties in even defining the problem in operational terms. Also, recent research on complexity in public policy (Duit and Galaz, 2010; see also Termeer et al., 2010) has extended the consideration of complexity in ways somewhat similar to the conception of wicked problems. That said, Rittel and Webber appeared more interested in understanding the nature of the underlying problems, while the complexity scholars appear more concerned about the possibilities of solutions.

If wicked problems were not difficult enough, some scholars have argued for the emergence of "super wicked" problems. These problems have all the properties of wicked problems, but in addition have four additional characteristics that confound policymaking even more. These four characteristics are:

1. Time is running out.
2. There is no central authority, or only a weak central authority, to manage the problem.
3. The same actors causing the problem seem to solve it.
4. The future is discounted radically so that contemporary solutions become less valuable.

The concern with "super wicked" problems is obviously closely connected to contemporary questions such as climate change and resource depletion (see Levin et al., 2010), but may also apply to other issues, especially those that have a strong international component. At the time that Rittel and Webber were writing the major empirical referents for wicked problems were urban and social problems, while in the twenty-first century the major referents are global environmental and economic issues. These problems produce severe disadvantages (even when compared with "normal" wicked problems) for society, and because of their global nature also lack a sovereign that can make decisions that may be able to solve, or at least ameliorate, the problem.

Some common issues in defining problems

For all types of policy problems there are some common questions that must be considered in the design of responses (see Weimer, 1993). In addition to attempting to understand causation and frame the problem in terms of causation (see Chapter 3) the problem must be understood in terms of the manipulable variables that are contained within it. No matter if the problem is large scale or small scale, or simple or complex, anyone thinking of intervening must understand what variables can be used to produce change and which cannot. And designers will always be looking for those variables that are the easiest, and least costly, to manipulate.

Another important, and forward-looking, element of problem definition is to consider what the policy area is meant to look like after government has acted? These goals will be different for each policy problem but there needs to be some sense of what the intervention will produce. If there is a problem, then what will be required to eliminate, or at least ameliorate, the problem? As noted at the beginning of the chapter, the common sense notion of policy problems may initiate the process and some common sense of remedy also motivates the process. But that

common sense may not be adequate for producing a more enduring design for addressing the problem.

Coordination as a policy problem

Finally, we have been tending to consider the nature of policy problems one by one, but as mentioned in Chapter 1, coordination among the numerous policies within the public sector represents a significant policy problem in itself. Although the coordination problem tends to arise after governments have acted, we can conceptualize this as a fundamental policy problem. As already noted, most policies depend at least in part on other policies to be effective. This interdependence is perhaps most evident in social policy areas (Challis, 1988). Education cannot be effective if students are hungry, or come from troubled homes. And health policies cannot be effective if the population is poorly housed and poorly fed.

As a policy problem coordination has some of the same characteristics used to describe other policy problems. For example, coordination has some elements of a large-scale problem, given that reaching some agreement among the actors involved is more effective if all relevant actors are involved. Further, coordination tends to have a great deal of political complexity. In this case, the political actors are primarily organizations within government itself, rather than external political actors. Each of these organizations is attempting to use the coordination situation as a mechanism for enhancing its own success, as well as to advance a particular policy agenda.[10] Finally, there are interesting questions about what is the purpose of the coordination and how many actors need to be involved in order for the coordination to be effective.

This recognition of coordination as a policy problem in itself (see also Peters, 2015) helps to emphasize the interconnections existing within the public sector as it acts to make policy. We should attempt to understand the nature of the individual public problems and provide some (hopeful) solution for them, but that may only be the start. That action cannot be undertaken effectively without some understanding of the already crowded policy space of the intervention. In addition to the horizontal coordination with other programs, there will also be vertical coordination within the multilevel governance operating in any government system. To some extent we must consider policies one by one, but we must not lose sight of the multiple connections with other policies and actors.

Summary

Policymaking is directed at solving problems that confront the society and economy. Ordinary citizens can identify most of the problems facing them, although they may not recognize all the complexities involved. These common sense definitions of problems are useful but they may not be capable of moving the solution of the problems very far forward. Likewise government organizations tend to think of policy problems in terms of their own interests and their policy priorities. Resolving these policy problems will require more thorough analysis and a good deal of politics, as well as a clear analytic conception of the problems themselves.

Although both academic and popular discourse tends to link problems with particular substantive policy areas, or with particular policy instruments, the reality of policy problems is more complex. This chapter has raised a number of points about policy problems and how their underlying features can affect the types of policy choices made, as well as the success of those policy choices. This discussion of policy problems has been rather analytic, but the next chapter will examine more about the politics of policy problems. This chapter will focus on the

framing of policy problems and on how those issues become parts of the public agenda. Our rather academic perspective on the policy problems presented in this chapter will have to be tempered by the political process of framing and defining public sector agendas.

NOTES

1 Historically telephones were also considered natural monopolies but technological change has made the market for cell telephony competitive, if still to some extent regulated to prevent collusion in a market in which the entry costs are very high.

2 A good recent example would be the decision by the US House of Representatives to pass a farm bill providing billions of dollars in subsidies to farmers, most of which goes to very affluent farmers and to "agribusiness". The same bill terminated the food stamp program, the benefits of which go primarily to the working poor.

3 This apparently has been achieved with smallpox (Fenner et al., 1999), and children are now no longer routinely vaccinated. Although complete eradication may be the final goal, reducing the population susceptible to the disease has the effect of "herd immunity", making spread of a disease more difficult.

4 There are some significant exceptions to this rule. More authoritarian regimes certainly can produce large-scale governance, as the success of some of China's many development projects demonstrates. Also crisis, and large-scale failure, may induce investment in large governance projects.

5 And complexity is different from complicated. A complicated problem may have a number of moving parts but the interactions among those parts may be readily understandable.

6 This certainty depends in part on the policymakers having basic information about population movements. However, in many developing countries there may be little accurate information on total births and deaths, much less on the residence of the children being born, so that planning becomes an even more difficult task (UNICEF, 2005).

7 See Chapter 8 on risk-benefit analysis.

8 Approximately 20 percent more people die of colorectal cancer in the United States each year than they do from breast cancer, but funding for breast cancer research is more than twice as high.

9 There are, of course, some real constraints on the capacity of governments to tax and to print money. The experiences of countries such as Italy, Spain and Greece after the fiscal crisis of 2008 demonstrate that those limits on public finance are very real.

10 In this way coordination (and several other policy problems) resemble Graham Allison's concept (Allison and Zelikow, 1999) of bureaucratic politics, in which a decision situation (no matter how much of a genuine crisis it may be) becomes a locus for pursuing organizational interests.