CHAPTER ONE

INTRODUCTION TO MICROECONOMIC POLICY ANALYSIS

Policy Analysis and Resource Allocation

Policy analysis involves the application of social science to matters of public policy. The specific tasks of an analysis depend importantly on which aspects of policy are to be understood, who wants to know, and how quickly the analysis is needed. For many, the excitement of this discipline is in its often turbulent political application: the undertaking and use of policy analysis as a part of actual government decision-making. In that application the analysis is undertaken in order to advise; it is for the use of specific decision makers whose actions will depend on the analytic results. For others, the excitement is in rising to a more purely intellectual challenge: to create a more general understanding about how public policy is, and ought to be, made. The latter effort represents the more academic side of policy analysis. However, the same basic intellectual skills are used to conduct both types of analyses.

Microeconomic analysis is one of the fundamental skills of this discipline. It provides a critical foundation for both the design and the evaluation of policies. This is hardly surprising: *Most public policy involves resource allocation.* To carry out virtually any government policy either requires the direct use of significant resources or severely constrains the use of resources by economic agents (i.e., individuals, firms, or government agencies). These resources (labor, buildings, machinery, and natural resources such as water, oil, and land) are scarce, and different people will have different ideas about what to do with them. A proposed dam may mean economic survival for farmers needing water to grow crops, but may at the same time threaten destruction of a unique white-water river and canyon irreplaceable to the fish species that spawn there and to lovers of nature. A town may, through its powers of zoning, declare certain or all areas within it for residential use only—to the chagrin of a company that wants to build a small factory (which would employ some of the town residents and provide local tax revenues) and to the delight of estate owners adjacent

to the restricted area (who fear plummeting property values). As in these examples, public policy–making typically forces tough choices. *Microeconomics is the study of resource allocation choices, and microeconomic policy analysis is the study of those special choices involving government.*

Proficiency in policy analysis requires more microeconomics than is usually conveyed in a basic microeconomic theory course. Typically, most of the basic course is devoted to explaining and evaluating the operation of a private market system. By a private market we refer to the voluntary trading offers and exchanges made by independent, private, economic agents acting as buyers or sellers of resources, goods, or services. Public policy involves, by contrast, a *collective* decision to influence or control behavior that would otherwise be shaped completely by the private agents in a market. This does not imply, however, that public policy is antithetical to the use of markets. As we will see, much of the task of public policy analysis is to help create a proper blending of collective and market controls over resource allocation decisions. Thus microeconomic policy analysis requires a thorough understanding of the conditions that favor collective over individual action and the alternative collective or policy actions that might be taken, and it requires a means of evaluating the alternatives in order to choose among them.

To offer a brief preview of analytic thinking, we consider the following hypothetical and informal conversation:

> **Official:** We have got to do something about the traffic congestion and pollution caused by commuting into the city. Why don't we make a toll-free lane for automobiles carrying four or more passengers?
>
> **Analyst:** That's an interesting idea, and it has worked with some success in a few other areas. But may I offer an alternative suggestion? The four-for-free plan has two important disadvantages. One, it reduces revenues that we sorely need. Two, it provides no incentive for commuters to form car pools of two and three, nor does it encourage the use of mass transit systems. I've heard this system may actually worsen the problem in the San Francisco area because many people have stopped using mass transit in order to carpool for free!
>
> Suppose instead that we raise the tolls during the peak commuting hours. The peak-toll plan would help solve our deficit problem. Furthermore, it would increase commuter incentives to form car pools of all sizes, to take mass transit rather than drive, and even to drive at off-peak hours for those who have that discretion.

In the above conversation, the analyst recognizes immediately that pollution and congestion are what economists call external effects (side effects of allocating resources to the activity of commuting). The analyst knows that economic efficiency requires a solution that "internalizes" the externalities and that the four-for-free plan deviates substantially from this idea. These same economic principles influenced the design of the alternative peak-toll plan.

Here is a second example:

> **Mayor:** We have a big problem. Remember the foundation that pays for 4 years of nursing school for the top fifty low-income applicants from our public high schools?

The first of these groups is now in its third year of studies. A new report claims that the average cost of this education is $56,000 per nurse graduate, and that society only benefits from those who complete their degrees. These benefits, it seems, are only worth $48,000 per nurse. The foundation is not only considering pulling the plug on the program, but I'm told that it will terminate the groups that have already started.

Advisor: Yes, that is a big problem. I'll review the study for accuracy as soon as possible. But I believe that we can prevent the foundation from making one mistake.

Mayor: What is it?

Advisor: I think that we can make it understand, by its own logic, that it should not terminate the groups that have already started.

Mayor: What do you mean?

Advisor: The funds that have already been expended on the groups now in college are already gone. Nobody can put them to an alternate use. What matters is, right from today, the incremental costs of completing their educations compared with the incremental benefits from doing so. It will only cost about $14,000 for the last year of the oldest group. But that $14,000 will yield $48,000 in benefits from the nursing degree! Termination would therefore cause a net additional loss of $34,000. It would be criminal to pull the plug on those students now.

The same logic holds true for the other groups that have started. Even for the first-year group, the incremental benefits of $48,000 from graduating outweigh the incremental costs of about $42,000 for the remaining years. If the foundation is motivated by benefit-cost logic, the wise investment (not to mention public relations) is to let the groups that have started continue to completion.

In this second example, the advisor quickly identifies what economists call sunk costs, or costs that have already been incurred. It might be true, as the report claims, that it is a poor investment to start any new students down the path of the current program design. But the real costs to society of continuing those already in school are only the resources that could still be freed up for use elsewhere (the costs that have not yet been incurred). In this example, these are small in comparison to the benefits of completing the nursing education. It is fortunate that, in this case, the economic criterion suggests a course that would improve the foundation's public image under the circumstances.[1]

In actual settings, these conversations might lead to further consideration of alternative plans: the design of new alternatives, careful estimation of the consequences of the

[1] In other cases, economic criteria can suggest termination of a project that could be embarrassing to an organization that has incurred sunk but visible costs in it. The organization may prefer to spare itself embarrassment despite the poor economics. This is especially true when the organization does not bear the brunt of the economic loss. For example, the military may learn that the cost of completing an order for a new type of helicopter is far greater than what is economically reasonable. But owing to its sunk costs in prototype development, base preparation costs for training and maintenance, and prior lobbying to gain approval for the initial order, it may prefer to continue with the project rather than disappoint its supporters.

alternatives to be evaluated (e.g., the effect of specific tolls on the city's budget, benefit-cost calculations for the foundation of revised programs), and evaluation by a set of criteria wider than efficiency (e.g., fairness or equity, legality, and political and administrative feasibility). This book focuses on developing the microeconomic skills essential to applying this kind of analysis to a wide range of public policy problems.

The Diverse Economic Activities of Governments

To illustrate more concretely the specific subject matter of microeconomic policy analysis, let us take a brief tour of the many economic activities of government. This tour will serve the additional purpose of indicating the extensiveness of public controls over resource allocation. While we have already asserted that most public policy involves resource allocation, it is just as important that we understand the reverse relation: *All resource allocation decisions are shaped by public policy.* This shaping occurs in different ways: through direct government purchase or supply of particular activities, the regulation of market activities, the development and maintenance of a legal system, and the undertaking of redistributive programs. Let us consider each of these in turn.

In the year 2000 the total value of all measured goods and services produced in the United States—called the gross domestic product, or GDP—was about $10 trillion.[2] Roughly 17 percent of the total GDP, valued at $1.7 trillion, consisted of purchases by governments to provide various goods and services to citizens. The governments include federal, state, and local governments and regional authorities acting as collective agents for citizens. These different governments operate schools, hospitals, and parks; provide refuse collection, fire protection, and national defense; build dams; maintain the roads; sponsor research to fight cancer; and purchase a host of other goods and services that are intended to benefit the citizenry. What explains why these goods are provided through governments instead of markets? Why not let individual consumers seek them through the marketplace as they seek movies and food? What do we know about the economic advantages of doing it one way or the other?

Such questions are still quite general. Of the 17 percent of goods and services purchased by governments, approximately 11 percent was supplied directly through government agencies and enterprises (e.g., the Post Office) and the other 6 percent was provided through contracts and grants (e.g., a local government may tax its citizens to provide refuse collection and contract with a private firm to actually do the work).[3] When is it that a government should actually supply the goods, and when should it contract with private firms to supply them? If it does the latter, how should the contract be written to protect the economic interests of the citizens footing the bill? If a government actually produces the good or service itself, what mechanisms are there to encourage economy in production?

[2] *Economic Report of the President,* January 2001 (Washington, D.C.: U.S. Government Printing Office, 2001), p. 274, Table B-1.

[3] Ibid., p. 288, Table B-10. In 2000, $1.087 trillion of GDP was provided directly by the government sector out of $1.748 trillion in total government purchases, or 62 percent. The 11 percent in the text is approximately 0.62 of 17 percent.

To purchase all these services, governments must raise revenues. The overwhelming bulk of the revenues comes from taxes; a smaller portion comes from individual user fees (e.g., park admission charges). When should user fees be charged, and to what extent? If taxes must be collected, who should pay them and how much should each taxpayer be assessed?

The economic policy issues illustrated so far arise when governments have taken primary responsibility for providing goods and services. However, governments have great influence over a much wider range of goods and services through their regulatory mechanisms. In these cases, individual economic agents acting in the market still retain considerable decision-making power over what and how much to buy or sell of different commodities, although the available choices are conditioned by the regulations. Government regulatory mechanisms influence prices, qualities, and quantities of goods and services traded in the market as well as the information available to consumers about them.

Many industries are subject to price controls on their products. The form that such controls take varies. For example, some industries have their prices controlled indirectly through limits set by regulatory commissions on the return that producers are allowed to earn on their investments. Natural gas and electric utilities are common examples. Occasionally, rental housing prices are regulated through rent control policies; in the past, domestic oil prices have been controlled. Another form of price control operates through taxes and subsidies. These are common in the area of international trade; many countries have policies to discourage imports through tariffs and encourage exports through subsidies. Within the domestic economy, alcohol and tobacco products are taxed to raise their prices and thus discourage their use (and many countries are considering new taxes on carbon emissions to prevent global warming); disaster insurance and loans for small businesses and college educations are subsidized to encourage their use. Although it is difficult to give precise figures on the amount of economic activity subject to some form of price regulation, a reasonable estimate is that at least an additional 20 to 25 percent of GDP is affected by this type of public policy.

Price regulation may be the least common form of regulation. Product regulations controlling quantities and qualities are widely used, generally to provide environmental and consumer protection. Some of these regulations are highly visible; examples are automobile safety standards and the prescription requirements for the sale of medicines and drugs. Other regulatory activities, such as public health standards in food-handling institutions (e.g., restaurants, supermarkets, and frozen food factories) and antiflammability requirements for children's clothing, are less visible. There are standards for clean air and water, worker health and safety, and housing construction; there are licensing requirements for physicians and auto repair shops; and there is restricted entry into the industries providing taxi service and radio broadcasting. There are age restrictions on the sale of certain goods and services, notably alcoholic beverages. There are import quotas on the quantities of textile products that developed nations may receive from developing nations, under the Multi-Fiber Arrangement. Product regulations of one kind or another affect virtually every industry.

In addition to the product and price regulations, information about products is regulated. The Securities and Exchange Commission requires that certain information be provided to

prospective buyers of new stock and bond offerings; lending institutions are subject to truth-in-lending laws; the Environmental Protection Agency tests new-model automobiles for their fuel consumption rates each year and publishes the results; tobacco products must be labeled as dangerous to one's health.

What are the economic circumstances that might make these regulatory public policies desirable, and are such circumstances present in the industries now regulated? How does one know when to recommend price, product, or information controls, and what form they should take? The social objectives or benefits of these policies may be readily apparent, but their costs are often less obvious. For example, when electricity production must be undertaken with nonpolluting production techniques, the cost of electricity production, and therefore its price, typically rises. Thus a decision to regulate pollution by utility companies is paid for through higher electricity prices. One task of microeconomic policy analysis is to consider costs and to design pollution control policies that achieve pollution reduction goals at the least total cost.

Another important area of public policy that greatly affects resource allocation is the activity of developing the law. The legal system defines property rights and responsibilities that shape all exchanges among economic agents. If there were no law establishing one's ownership, one might have a hard time selling a good or preventing others from taking it. Without a patent system to establish the inventor's ownership rights, less effort would be devoted to inventing. Whether or not the existing patent system can be improved is a fair question for analysis. An example of a policy change involving property responsibilities is the spread of no-fault automobile accident liability. Under the old system, the driver at fault was liable for damages done to the injured party. The cost of insurance reflected both the damage and the transaction costs of legal battles to determine which driver was at fault. These transaction costs amounted to a significant proportion of the total insurance costs. The idea behind the no-fault concept is to reduce the transaction costs by eliminating in some cases the need to determine who was at fault. To the extent that this system works, consumers benefit from lower automobile insurance premiums. These examples should illustrate that analysis of the law is another public policy area in which microeconomic policy analysis can be applied.

There is another very important function of government activity that can be put through the filter of microeconomic analysis: Governments undertake redistributive programs to influence the distribution of goods and services among citizens. Of course, all resource allocation decisions affect the distribution of well-being among citizens, and the fairness of the distribution is always a concern of good policy analysis; here the interest is in the many programs undertaken with that equity objective as the central concern. In 2000, of the $3.1 trillion collected in taxes and fees by the federal, state, and local governments (31% of GDP), $1.1 trillion was redistributed as transfer payments to persons.[4] Another common method of redistribution, not included in the above direct payment figures, is through "tax expenditures" that reduce the amount of taxes owed by persons qualifying for the special provisions (e.g., people who are elderly or who have disabilities).

[4] Ibid., p. 372, Table B-83.

Government redistributive programs include welfare, food stamps, Medicaid, farm subsidies, and Social Security, just to name a few. The programs generally transfer resources to the poorest groups in society from those better off. However, some programs might be seen as forcing individuals to redistribute their own spending from one time period to another: Social Security takes away some of our income while we work and gives back income when we retire. Other public policies, such as farm subsidies, grants to students for higher education, and oil depletion allowances, may redistribute resources from poorer to richer groups. As the success of redistributive programs generally depends heavily on the resource allocation decisions made by the affected economic agents, microeconomic policy analysis provides tools for both the design and the evaluation of such programs.

By now it should be clear that all resource allocation decisions are influenced, at least to some degree, by public policy. Governments shape resource allocations through their direct purchase and supply of goods and services, their regulations of specific economic activities, their development and maintenance of the legal system, and their redistributive programs. All the activities mentioned above illustrate the set of public policy actions that can be analyzed by the methods presented in this book. In undertaking such studies, it is important to consider the roles of analysis in a policy-making process and how the process influences the objectives of the analysis. The next section contains a general discussion of these issues.

Policy-Making and the Roles of Microeconomic Policy Analysis

Public policy-making is a complex process. Policy is the outcome of a series of decisions and actions by people with varying motivations and differing information. Policy analysis, when not done for purely academic purposes, may be used to aid any of these people—be they elected officials or candidates for elected office, bureaucrats, members of various interest groups (including those attempting to represent the "public" interest), or the electorate. Not surprisingly, these different people may not agree on the merits of particular policies, even if perfectly informed about them, because of differing values. Policy analysis cannot resolve these basic conflicts; for better or for worse, the political process is itself the mechanism of resolution.

It is important to recognize that the political process heavily influences the type of policy analysis that is done and the extent to which it is used. For that reason, anyone interested in learning the skills of analysis for the purpose of advising should try to understand the process. Such understanding yields a better perspective of the possibilities for contributions through analytic work as well as the limitations. We offer below the barest introduction (bordering shamelessly on caricature) to some of the rich thinking that has been done on this subject, and we strongly encourage a full reading of the source material.

Lindblom, in 1965, put forth an optimistic model of a democratic political process.[5] He described a system like ours as one of partisan mutual adjustment among the various

[5] Charles E. Lindblom, *The Intelligence of Democracy* (New York: The Free Press, 1965).

interest groups (e.g., unions, bureaucracies, corporations, consumer groups, professional associations) in the society. In his view, the political pulling and hauling by diverse groups (from both within and outside government) in pursuit of self-interest leads to appropriate compromises and workable solutions.

No one in this pluralist process ever sets national goals or identifies the alternative means available to achieve them.[6] Rather, progress is made by sequential adaptation, or trial and error. Legislation proposed by one group, for example, has its design modified frequently as it wends its way through legislative subcommittees, committees, the full legislative bodies, and executive branch considerations. At each stage, the modifications reflect the compromises that arise in response to strengths and weaknesses identified by the affected interest groups and the changes they propose.

After enactment and during implementation, the diverse interest groups continue to influence the specific ways in which the new legislation is carried out. These groups will also monitor the resulting government operating procedures. The procedures may not lead to the intended results, or someone may think of a better set of procedures. If enough support can be mustered for program modification, the groups can force renewed legislative consideration.

Lindblom argued that muddling through is better than any alternative process designed to solve problems in a synoptic or comprehensive way. For example, an attempt to specify goals in a clear way may permit a sharper evaluation of the alternative means, but it will also increase the political difficulty of achieving a majority coalition. Interest groups are diverse precisely because they have real differences in goals, and they are unlikely to put those differences aside. Instead, they will agree only to statements of goals that are virtually meaningless in content (e.g., "This legislation is designed to promote the national security and the national welfare.") and do not really guide efforts at evaluation. The groups affected by proposed legislation are concerned about the end result. It is easier politically to build a coalition around a specific alternative and worry later about how to describe (in a sufficiently bland way) the purposes it fulfills.[7]

Optimistic views of the "intelligence" of actual pluralistic processes are not widely held. Many people argue that the actual processes differ significantly (and perhaps inevitably) from the view Lindblom offered in 1965. For example, one obvious concern is whether an actual process is weighted unduly toward the "haves" (e.g., who can afford to employ high-powered lobbyists and analysts) and away from the "have nots." In a later book, Lindblom himself writes that "business privilege" in the United States causes "a skewed pattern of mutual adjustment."[8] Authors from the "public choice" branch of microeconomics, which studies the efficiency of resource allocation through political processes, have often called

[6] We refer to "national goals" for illustrative simplicity; the same logic applies to state, local, or other polities that use representative or direct democratic forms of government.

[7] Wildavsky also put forth this general view. See Aaron Wildavsky, "The Political Economy of Efficiency: Cost-Benefit Analysis, Systems Analysis, and Program Budgeting," *Public Administrative Review, 26,* No. 4, December 1966, pp. 292–310. See also D. Braybrooke and C. Lindblom, *A Strategy of Decision: Policy Evaluation as a Social Process* (New York: The Free Press, 1963).

[8] Charles E. Lindblom, *Politics and Markets* (New York: Basic Books, 1977), p. 348.

into question the wisdom of certain voting procedures or of industry regulatory processes that may protect the industry more than any other interest.[9]

Another important source of "skewness," argues Schultze, is that efficiency and effectiveness considerations are not explicitly brought into the political arena.[10] Schultze accepts the value of having a pluralist process and the inevitability that it will be characterized by special interest advocacy and political bargaining "in the context of conflicting and vaguely known values."[11] But he argues that *there is a crucial role for policy analysis in this process.* It improves the process's "intelligence." Analysis can identify the links between general values (in particular, efficiency and effectiveness) and specific program characteristics—links that are by no means obvious to anyone. Thus he offers this view of policy analysis:

> It is not really important that the analysis be fully accepted by all the participants in the bargaining process. We can hardly expect . . . that a good analysis can be equated with a generally accepted one. But analysis can help focus debate upon matters about which there are real differences of value, where political judgments are necessary. It can suggest superior alternatives, eliminating, or at least minimizing, the number of inferior solutions. Thus by sharpening the debate, systematic analysis can enormously improve it.[12]

Viewing a political process as a whole helps us to understand the inevitability of *analytic suboptimization:* The problem worked on by any single analyst is inevitably only a partial view of the problem considered by the system as a whole, and thus a single analyst's proposed solution is not necessarily optimal from the larger perspective. For example, during the Carter administration the president directed two independent analytic teams from the departments of Labor and Health and Human Services to develop welfare reform proposals. Not surprisingly, the team from the Department of Labor proposed a reform emphasizing a work component of the welfare system, whereas the team from Health and Human Services emphasized the cash assistance components. This not only reflects bureaucratic interests; it is a natural consequence of the expertise of each team.[13] Similarly, analysts for congressional committees or for varying interest groups would be expected to perceive the welfare problem slightly differently.

The inevitability of suboptimization has important consequences. It becomes clear that the intelligence of the process as a whole depends not only on how well each analyst does

[9] We consider many of these theories in various chapters of this book, e.g., bureaucratic behavior in Chapter 9, reasons for governmental failure in Chapter 13, and difficulties regulating industries in Chapter 16.

[10] See Charles L. Schultze, *The Politics and Economics of Public Spending* (Washington, D.C.: The Brookings Institution, 1968), particularly Chapters 3 and 4.

[11] Ibid., p. 74.

[12] Ibid., p. 75.

[13] This particular debate foreshadowed the important developments in welfare policy during the 1980s and 1990s, most notably the Family Support Act of 1988 and the 1996 Personal Responsibility and Work Opportunity Reconciliation Act. We analyze various aspects of current welfare policies at a number of points later on in the text.

the task assigned but also on the total analytic effort and on how cleverly the analytic tasks are parceled out. A certain amount of analytic overlap provides checks and balances, for example. However, excessive duplication of efforts may leave an important part of the problem unattended. Another pitfall is relying too heavily on analysis when the "true" social objectives are difficult to operationalize. For example, the problem of identifying an efficient national defense is not really soluble by analytic techniques (although certain important insights can be generated). If, however, it is decided that we should have the capability to gather a certain number of troops near the Alaskan oil pipeline within a certain number of days, then analysts may be able to reject methods that are too costly and help identify lower-cost alternatives.[14]

The line of thought concerning analytic contributions in a pluralist political process can be carried further. Nelson suggests that analysts can and should play important roles in clarifying the nature of the problem, the values that are at stake, and an appropriate weighting of those values to identify a recommended solution.[15] The idea is that the political process, without analysis, operates largely in the "intellectual dark" about efficiency and equity consequences. Thus both Nelson and Schultze appreciate the value of muddling through but think we can do it somewhat better with substantial analytic input to the pluralistic process.

Nelson goes on to suggest that it is also important for substantial analysis to go on *outside* the constraints of the current political environment. The industry of government, like any other industry, continually needs research and development to improve its products. Analysis from within the thick of government tends to concentrate on identifying incremental improvements to existing activities. Achieving those improvements is important, but analytic efforts in an environment that offers more freedom to reexamine fundamental assumptions and methods may be a crucial source of important new ideas.

The above general thoughts about the political process help us to understand **the roles of public policy analysis.** We enumerate them here in terms of four specific objectives. We have mentioned that **(1) analysis may help define a problem that is only dimly perceived or vaguely understood by participants in the policy-making process.** We have also mentioned that **(2) a crucial role of analysis is in identifying or designing new policy proposals.** Policy analysis also has these two important additional functions: **(3) identification of the consequences of proposed policies,** and **(4) normative evaluation of those consequences in terms of certain broad social goals.** Let us distinguish these latter two analytic objectives.

The third objective, identification of consequences, is a *positive* or factual task. It involves answering questions such as these: "If the bridge toll is raised from $1.00 to $2.00, by how much will that reduce congestion?" (Presumably, fewer automobile trips will be taken across the bridge.) "If we combine the two local schools into one larger one, how will that affect education costs?" "If we guarantee all adults an income of $9000 per year, how

[14] An excellent exposition of suboptimization with application to national defense is contained in C. Hitch and R. McKean, *The Economics of Defense in the Nuclear Age* (New York: Athenum, 1967).

[15] See Richard R. Nelson, *The Moon and the Ghetto: An Essay on Public Policy Analysis* (New York: W. W. Norton & Company, 1977).

will that affect the amount of work adults are willing to undertake?" These questions can rarely be answered with absolute certainty, but analysis can frequently provide reasonable estimates. With improved estimates of the consequences of proposed policies, policy makers can make better decisions about whether to support them.

The fourth objective, evaluation, is a *normative* or judgmental task. It involves the "should" questions: "Should the bridge toll be raised from $1.00 to $2.00?" "Should the nation have a policy that guarantees all adults $9000 per year?" The answers to these questions always depend on values. *There is no single, well-defined set of values that analysts must use in attempting to evaluate policies; the choice of criteria is discretionary.*[16] Nevertheless, in practice certain criteria are generally common to all analyses: efficiency, equity or fairness, political feasibility, and administrative feasibility. Efficiency and equity are commonly used criteria because almost all people care about them; since the insights of microeconomic analysis apply directly to these concepts, this book will emphasize them. Political feasibility is a common evaluative criterion because specific users of analyses are rarely interested in pursuing proposed policies, however efficient and equitable, if the policies cannot gain the necessary approval in the political process. In my own personal view, this criterion differs from the others in that it makes no sense to pursue it for its own sake: it is a constraint rather than an objective. While it may be naïve to recommend a policy that fosters certain social objectives without considering political feasibility, it is irresponsible to recommend a policy that is politically feasible without considering its effects on social objectives.

Although different individuals will have concern for political feasibility in accordance with their personal judgments, it should be made clear that analytic attention to political feasibility is very rational. If one is considering a policy that would need approval of the United Nations Security Council, but it is known that Russia is adamantly opposed to the policy and would exercise its veto power, then the only purpose of raising the issue would be to garner its symbolic value. At times, symbolism may be important; it may lay the groundwork for future action. Alternatively, one might make better use of the time by seeking policies that are both socially beneficial and politically feasible.

The point to emphasize here is that good policy analysis will generally include a diagnosis of the political prospects for the policies analyzed. Other examples of political analysis might question the prospects for passage in key legislative committees, whether any powerful lobbyist will work to pass or oppose the proposed policy, and whether the policy's potential backers will gain votes for such a stand in the next election. Economist Joseph Stiglitz, in writing about some successes and failures of good economic proposals made while he was chair of President Clinton's Council of Economic Advisors, reports on several important political obstacles that seem to recur. For example, he mentions the difficulty of government making a credible commitment to milk producers for a more economic alternative than the existing milk price supports, in a failed attempt to obtain their

[16] That is why this task is described as normative. If analysts did not have to rely partially upon their own values to choose criteria and did not have any discretion about how to operationalize them, then we could describe the evaluative task as positive from the perspective of the analyst.

political support.[17] General analysis of political feasibility is beyond the scope of this book, although a number of occasions on which microeconomic analysis provides political insight will be discussed. However, the reader interested in the use of policy analysis for other than academic purposes should undertake more complete study in this area.[18]

Administrative feasibility is also an important criterion. Similar to political feasibility, it is really a constraint rather than a desirable social objective in its own right. But policies that pass analytic scrutiny for efficiency, fairness, and political feasibility will not work right unless the agencies responsible for administering them implement them in a manner consistent with the other objectives. There are several reasons why divergence might occur, and good analysts will consider its likelihood as part of their work.

One set of reasons why divergence may occur is due to the fact that there are limits on any organization's capabilities in terms of information, calculation, and enforcement. An example that may illustrate this is a proposal for a tax on air pollution, as a means to discourage an unhealthy activity. An analyst ought to reject this proposal if it is not possible (or in some circumstances merely very costly) for the administrative agency to meter or otherwise know reliably the amount of pollution emitted by the different sources liable for the tax. This may seem obvious, but considerations like these are often ignored by excellent scholars who offer proposals without ever encountering responsibility for their implementation. Policy analysts, on the other hand, do bear responsibility for evaluating the administrative feasibility of proposals.

Another reason for divergence is that the implementing organization's objectives may differ from the objectives of those who design and approve the policy. That is, even if the agency has the capabilities to implement the policy efficiently and fairly, it may choose not to do so for other reasons. Suppose a state department of transportation is staffed primarily by individuals who like to build more roads. This department may participate in a federal grant program intended primarily to stimulate other transportation alternatives, but may nevertheless use the funds primarily to build more roads. The policy analyst will consider the consistency between the implementing agency's goals and the policy's objectives in evaluating administrative feasibility.

As with political feasibility, there is a rich literature on organizational behavior that is useful for policy analysts to study but it falls outside the scope of this book.[19] There are also may instances in which microeconomic analysis does make a distinctive contribution to understanding administrative feasibility, and this book includes applications to illustrate this.

In addition to the general criteria mentioned so far, other criteria may be important for particular issues. Some policies might be intended to enhance individual freedom or develop

[17] See Joseph Stiglitz, "The Private Uses of Public Interests: Incentives and Institutions," *Journal of Economic Perspectives, 12,* No. 2, Spring 1998, pp. 3–22.

[18] See, for example, John W. Kingdon, *Agendas, Alternatives and Public Policies* (New York: HarperCollins College Publishers, 1995) and Aaron Wildavsky, *Speaking Truth to Power: The Art and Craft of Policy Analysis* (Boston: Little, Brown, and Company, 1979).

[19] An introduction to this material that also includes a discussion of political feasibility is in David L. Weimer and Aidan R. Vining, *Policy Analysis: Concepts and Practice* (Englewood Cliffs, N.J.: Prentice-Hall, 1999), Chapter 13.

community spirit. Policies must conform to existing law (though in the long run, the law should conform to good policy!). Good analyses of these policies will, at a minimum, make these considerations clear to the users of the analyses. Because these aspects are only rarely illuminated by microeconomic analysis, little will be said here other than to note that one should be on the alert for them and remain open-minded about their importance.

Organization of the Book

The task of this book is to show how to extend and relate microeconomic theory to the design and analysis of public policies. A theme that will be emphasized throughout is that a solid understanding of the actual behavior of economic agents is essential to the task. Part of the understanding comes from learning about the individual economic agents: their motivations and capabilities and the effects of public policies on their economic opportunities. Once behavior at the individual level is understood, it is easier to consider questions of organization: how to design and evaluate alternative systems that influence the interaction among economic agents. Thus the book focuses on individual behavior first and organizational behavior second. It consists of five interrelated parts.

Part I, the introductory section, contains this chapter as well as two chapters to acquaint the reader with economic models that are commonly used in analysis. The second chapter introduces the concept of model construction as an analytic procedure and illustrates some of the issues that arise in using models. The discussion centers around a simple model of economic demand and supply and its use in understanding benefit-cost reasoning. The third chapter introduces normative concepts of efficiency and equity and develops the model of individual decision-making known as *utility maximization* to predict behavior and to evaluate the efficiency and equity consequences of that behavior. These chapters give an overview of the subject matter and a foundation for the methods of microeconomic policy analysis.

Part II focuses on the resource allocation decisions of individuals. Different aspects of the theory of individual choice are developed to show their uses and importance in policy analysis. We begin with standard aspects of individual choice theory—budget constraints, income, and substitution effects—and relate those concepts to the design of specific policies such as the Earned Income Tax Credit and intergovernmental grants. This involves some extension of ordinary theory to include models with a variety of restrictions on individual choices. We then introduce equity standards in some detail and consider how models of individual choice can be used in the design of school finance policies to achieve equity objectives.

Then the relation between individual choices and consumer demand functions is explored. The methodology of *benefit-cost analysis* is introduced, focusing initially on the use of demand functions for public policy benefit estimation. We then extend the model of individual decision-making to a variety of situations in which the outcome from a decision is not known at the time the decision is made (such as deciding how to invest one's retirement savings or what insurance policies to purchase). Connections among uncertainty, individual choice, and public policy are investigated through these different extensions, which include *expected utility maximization, game theory,* and the implications of *bounded rationality.*

Policy examples such as national health insurance and disaster insurance subsidies are used to illustrate these points.

Finally, we investigate individual resource allocation over time. We analyze *saving, borrowing,* and *capital creation by investing* and discuss the concepts of discounting used to compare resource allocations in different time periods. We consider index construction (such as the Consumer Price Index) and policies of indexation intended to reduce intertemporal uncertainty. All of the topics covered in Part II relate to individual behavior in pursuit of personal satisfaction or utility.

Part III concerns the efforts of economic agents to convert scarce resources into goods and services: the production task in an economy. The effectiveness of many public policies depends on the response of private profit-seeking firms to them; an example is the response of doctors and for-profit hospitals to the prospective payment system used by Medicare. Other public policies succeed or fail depending on the behavior of public agencies or private nonprofit agencies; an example is the effect of the pricing decisions of a public mass transit system on the number of people who will use the system.

The performance of an economic agent undertaking production is limited by the available technology, and policy analysis often has the task of uncovering technological limits through estimation of production possibilities and their associated costs. Potential performance can then be compared with actual practice or predicted behavior under a particular policy design. One must be careful in extending the ordinary method of *production and cost analysis* to the public sector, because of poor output measures and the possible lack of the usual duality relation that assumes production at least cost. Several examples of analyses involving these problems will be given.

Not only must the technological realities be understood, but predicting an agency's or a firm's response to a public policy requires an understanding of its motivations and capabilities. Different models used for these purposes are explained in Part III. For the most part, economic theory treats each production entity as an individual decision-making unit; for example, a firm may maximize its profits. However, this treatment ignores the fact that firms and agencies are generally organizations consisting of many diverse individuals. A discussion of the firm as an organizational means to coordinate individual decision-making helps to connect the analyses presented in Parts II and III with the organizational policy issues that are the focus of Parts IV and V.

Part IV focuses on the interaction of supply by competing suppliers and demand by many purchasers, in market situations referred to as perfectly competitive. We construct *models of the operation of* such *markets* in different situations, including markets for the consumer purchase of goods and services as well as markets for producer purchase of inputs or factors of productions. In the absence of specific policy interventions, the models predict that resource allocation will be efficient. But there are other reasons, usually ones of equity, that motivate policy interventions in some of them. The issues are the degree of public control of these markets that is desirable and the policy instruments that can be used to achieve varying degrees of control.

We begin Part IV with a review of the conditions for market efficiency, and then apply the conditions in a *general equilibrium framework* of perfect competition. We use that

framework to illustrate how the effects of taxation can be predicted and evaluated. We demonstrate that taxation generally causes "market failure" or inefficiency. Then we look at a number of more specific markets. By using extended examples of price supports for agriculture, apartment rent control, methods of securing military labor, and gasoline rationing, we examine a variety of policy approaches to make the markets for specific goods more equitable and efficient. In these examples, the details of the administration and enforcement of policies bear importantly on the success of the policies—a lesson with continued importance in Part V.

Whereas Part IV is restricted to competitive market settings, Part V considers the circumstances that are normally called *market failures:* situations in which the attempted use of a competitive market process to allocate scarce resources results in inefficient allocations. We begin with a general review of the different reasons for market failures juxtaposed with a general review of reasons for governmental failures. In the attempt to reduce the extent of any market failure, a central idea is that all alternative methods of economic organization will have weaknesses that must be considered along with their strengths.

Successive chapters in this section focus on each of the different types of market failures. We consider the problem of providing a *public good:* a type of good that is shared by a collectivity of consumers, and we use television broadcasting and the role of public television as an example. We next consider the problem of *externalities,* or side effects of resource allocation. In an extended example, we analyze alternative ways that we might respond to the problem of air pollution (a side effect of much industrial production, car-driving, and other activities). Then we turn to problems of *limited competition* known as oligopoly and monopoly markets. We analyze in some detail alternative regulatory methods for limiting inefficiency in these markets, such as those used for telecommunications services and electric power.

The next market failures that we consider arise in allocating resources over time. These include the failure of capital markets to provide loans to those who wish to invest in their own higher education and secure a more productive future. They also include the failure of markets to account for the demands of future generations to reserve some of our exhaustible resources. Finally, we consider market failures that are due to important *information asymmetries* about the quality of a good or service. Examples include labor market discrimination that arises owing to the difficulty an employer has knowing the qualities of job applicants and the provision of child care for working parents who cannot directly observe the quality of care their children receive.

Each of the market failures is associated with a situation in which the private incentives of one or more market participants deviate from the ones necessary to generate efficient allocations. Well-established microeconomic theory is used to identify and explain these incentive problems. However, the methods available for designing, comparing, and evaluating the imperfect alternatives in all of these situations of market failure are still developing. Thus Part V includes in its extended examples a variety of different methods that have been used to compare different organizational ways of trying to solve or mitigate the failures.

These approaches include the use of "laboratory" methods for testing alternatives, a method for considering a choice of rules and enforcement procedures that focuses on

identifying an appropriate level of decentralization, and a method known as *transaction cost economics* that helps identify appropriate contracting provisions. They also include simulation models, consideration of economic history, and use of an "exit, voice, loyalty" framework to identify economical ways to convey demand for goods and services with important multidimensional quality attributes. These methods can produce new ideas for organizational solutions to problems of market failure, as well as insight about the strengths and weaknesses of alternative solutions.

Conclusion

In this chapter we have had an overview of the relation between public policy analysis and the study of microeconomics. Public policy can often be analyzed and understood as a collective involvement in the resource allocation process. The intervention takes place to some degree in virtually all areas of the economy. Microeconomic policy analysis attempts to predict and evaluate the consequences of collective actions, and it can be used in the design of those actions as well as to identify areas in which public policy can be improved. Although there is no single well-defined set of evaluative criteria that must be used in policy analysis, this book will emphasize two criteria that are commonly used: efficiency and equity. By using and extending ordinary principles of microeconomic analysis, we will attempt to impart skills sufficient for the analysis of a wide range of public policies by those criteria.