

Eugene Bardach
Eric M. Patashnik

Seventh
Edition

A Practical Guide for **POLICY** **ANALYSIS**

The Eightfold Path to More
Effective Problem Solving



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Seventh Edition

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The Eightfold Path to More Effective Problem Solving

Seventh Edition

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FOR INFORMATION:

CQ Press

An imprint of SAGE Publications, Inc.
2455 Teller Road
Thousand Oaks, California 91320
Email: order@sagepub.com

SAGE Publications Ltd.

1 Oliver's Yard
55 City Road
London EC1Y 1SP
United Kingdom

SAGE Publications India Pvt Ltd

Unit No 323-333, Third Floor, F-Block
International Trade Tower Nehru Place
New Delhi – 110 019
India

SAGE Publications Asia-Pacific Pte. Ltd.

18 Cross Street #10-10/11/12
China Square Central
Singapore 048423

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Printed in the United States of America

Library of Congress Cataloging-in-
Publication Data: 2023912730

ISBN: 978-1-0718-8413-3

Acquisitions Editor: Christy Sadler

Editorial Assistant: Cassie Carey

Production Editor: Astha Jaiswal

Copy Editor: Melinda Masson

Typesetter: diacriTech

Cover Designer: Scott Van Atta

Marketing Manager: Jennifer Haldeman

23 24 25 26 27 10 9 8 7 6 5 4 3 2 1

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PREFACE

This handbook serves as a guide to concepts and methods applied in the analysis of policy. Eugene Bardach developed the general approach and many of the specific suggestions over thirty-five years of teaching policy analysis workshops to first- and second-year graduate students at the Richard and Rhoda Goldman School of Public Policy, University of California, Berkeley. In the handbook's earliest incarnation, the ideas took form slowly and were conveyed to students in lectures. But because Bardach and his faculty colleagues systematically overloaded their students with work, the students would sometimes skip a lecture—and thus miss out on ideas that he regarded as essential. Bardach determined that if he were to create a handout for the students, at least he would be discharging his responsibility, and it would be up to the students to retrieve the ideas they missed. Over the years, as the handout grew, it was disseminated informally to colleagues at other universities and was posted on the website of the Electronic Hallway, based at the University of Washington. This book is the outgrowth of these previous compilations and the product of many years of experience.

Eric M. Patashnik was first exposed to the Eightfold Path when he took the Introductory Policy Analysis course as a student at the Goldman School in the spring of 1988. As a professor, he has assigned earlier editions of Gene's book to hundreds of public policy students at UCLA, the University of Virginia, and Brown University.

The presumed user is a beginning practitioner preparing to undertake a policy analysis, such as one of our master's students at Berkeley or Brown. But we have found this handbook useful at both ends of the spectrum—in teaching undergraduate Introduction to Public Policy courses as well as executive education groups.

The handbook assumes a familiarity with basic economic concepts, including those having to do with market failures (including market imperfections). It is not meant to stand alone but should be used in conjunction with other sources, including some of the best textbooks in policy analysis, which are cited often to amplify points in this handbook: Behn and Vaupel (1982); Friedman (2002); MacRae and Whittington (1997); Morgan and Henrion (1990); Stokey and Zeckhauser (1978); and Weimer and Vining (2017). A book similar in spirit to this one, and that has many examples drawn from New Zealand and Australia, is Scott and Baehler (2010).

This new edition of *A Practical Guide for Policy Analysis* incorporates up-to-date examples of the concepts of policy analysis. It gives much more attention than previous editions to the various and sundry implementation, administrative, and political challenges associated with making policies actually work on the ground—what we call the “Last Mile” problem. “Last Mile problems are numerous, dynamic, and

often not easy to solve. As a result, policymakers may give them insufficient attention during the design process, hoping they will somehow resolve themselves. This is nearly always a mistake. Confronting these implementation challenges is essential to ensuring that policies actually work and promote social welfare.” The new edition features an annotated excerpt from a Congressional Budget Office report (see Appendix A). In addition, the book includes shorter excerpts from several other real-world reports to illustrate each step of the Eightfold Path. It also contains a new appendix (Appendix D) providing suggestions to readers about how to do high-quality, professional policy analytic work in an era of partisan polarization.

Finally, even with the addition of new material, or perhaps especially with these additions, we trust there is continuity with the spirit of previous editions. That spirit is about posing the right questions before moving on to search for the right answers. It is also about helping the reader/user under challenging intellectual, political, and logistical pressures to fend off confusion and anxiety. This is meant to be a friendly sort of book.

ACKNOWLEDGMENTS

We wish to acknowledge the patience and helpful response of the students, friends, and family members who have provided helpful suggestions for improving this handbook, especially those who withstood its earlier versions. Special thanks are due Dan Acland, Nancy Bardach, Naomi Bardach, Rebecca Bardach, Mary Ann Bates, Robert Behn, Joy Bonaguro, Sanford Borins, Henry Brady, Jeanine Braithwaite, David Breneman, José Canela-Cacho, Eileen Chou, Ben Converse, Hank Dempsey, David Dery, John Ellwood, Lee Friedman, David Garcia-Junco Machado, Chloe Gibbs, Nina Goldman, Debbie Gordon, Justine Hastings, David Kirp, Jake Lavin, Leo Levenson, Martin A. Levin, Randall Lutter, Duncan MacRae, Christine Mahoney, Sarah Marxer, Carolyn Marzke, Jane Mauldon, Maria McKee, John Mendeloff, Michael O'Hare, Steven Page, Beryl Radin, Andres Roemer, Larry Rosenthal, Jesse Rothstein, Chris Ruhm, Mark Sabeen, Jim Savage, Ray Scheppach, Peter Schuck, Elsa Schultze, Jay Shimshack, Bill Shobe, Eugene Smolensky, Alicia Sutton, Patrice Sutton, Craig Volden, David Weimer, Evan White, Jim Wyckoff, and Marc Zegans.

We wish to extend our thanks to our reviewers for their help with this edition: Peter Johannessen, University of Virginia; Rebecca Padot, Misericordia University; Michael Mumper, Adams State University; and Pamela A. Gibson, Troy University. Thanks also go to Melinda Masson and Astha Jaiswal for their help in bringing this new edition to press. We also wish to thank the practitioners and scholars who shared their insights at a workshop we held on polarization and policy analysis. We thank Ed Steinfeld, director of the Watson Institute for International and Public Affairs at Brown University, for providing financial support for this workshop.

Sasha Dobrovolsky deserves our gratitude more than anyone else, however. Sasha was in Bardach's undergraduate Public Policy 101 class in 1991. An unusually gifted and entrepreneurial fellow, he once accosted his teacher with this announcement: "Professor Bardach, these handouts you give us are outstanding. You should publish a book. When I graduate, I'm creating my own publishing house, and your book is the first I'm putting out." Bardach said, "Sasha, you are surely mad. It's fine by me, but I am not going to be responsible for your financial losses. You are on your own." Sasha did exactly as promised. Alas, his publishing venture, Berkeley Academic Press, did not last long, but he went on to great success in other fields. We have unaccountably neglected to thank Sasha in the preface to some earlier editions. We hope we are now making sufficient amends.

Finally, we wish to thank our families for their love and support: Nancy, Naomi, Rebecca, and Elizabeth Bardach, and Debbie Gordon, Michael Patashnik, and Josh Patashnik.

ABOUT THE AUTHORS

Eugene Bardach has been teaching graduate-level policy analysis workshop classes since 1973 at the Goldman School of Public Policy, University of California, Berkeley, in which time he has coached some five hundred projects. He is a broadly based political scientist with wide-ranging teaching and research interests. His focus is primarily on policy implementation and public management, and most recently on problems of facilitating better interorganizational collaboration in service delivery (e.g., in human services, environmental enforcement, fire prevention, and habitat preservation). He also maintains an interest in problems of homeland defense, as well as regulatory program design and execution, particularly in areas of health, safety, consumer protection, and equal opportunity. Bardach has developed novel teaching methods and materials at Berkeley, has directed and taught in residentially based training programs for higher-level public managers, and has worked for the Office of Policy Analysis at the US Department of the Interior. He is the recipient of the 1998 Donald T. Campbell Award of the Policy Studies Organization for creative contribution to the methodology of policy analysis, and is a fellow of the American Academy of Arts and Sciences. This book is based on his experience teaching students the principles of policy analysis and then helping them to execute their project work.

Eric M. Patashnik is the Julis-Rabinowitz Professor of Public Policy, a professor of political science, and chair of the Political Science Department at Brown University. He is also a nonresident senior fellow at the Brookings Institution and a fellow of the National Academy of Public Administration. He previously served as director of Brown's Master of Public Affairs program. Before coming to Brown, Patashnik held faculty positions at the University of Virginia (UVA), UCLA, and Yale University. During his time at UVA, he served as associate dean and acting dean at the Frank Batten School of Leadership and Public Policy. Patashnik's research focuses on the politics of American national policymaking, especially health policy, the welfare state, and the reform process. He is the author or editor of nine books. Patashnik has twice won the Louis Brownlow Book Award of the National Academy of Public Administration and has also won the Don K. Price Award of the American Political Science Association. Patashnik received his master of public policy and doctoral degrees from the University of California, Berkeley. Earlier in his career, Patashnik was a legislative analyst for the US House Administration Subcommittee on Elections.

INTRODUCTION

Policy analysis is a social and political activity. True, analysts take moral and intellectual responsibility for the quality of their policy-analytic work. But policy analysis goes beyond personal decision-making. First, the subject matter concerns the lives and well-being of large numbers of their fellow citizens. Second, the process and results of policy analysis usually involve other professionals and interested parties: it is often done in teams or office-wide settings; the immediate consumer is a “client” of some sort, such as a hierarchical superior; and the ultimate audience will include diverse subgroups of politically attuned supporters and opponents of the analysts’ work. All of these facts condition the nature of policy analysis and have a bearing on the nature of what is meant by “quality work.”

A policy analyst can work in any number of positions. Once upon a time, the term implied a rather wonkish individual who worked in a large government bureaucracy, serving up very technical projections of the possible impacts of one or more policy alternatives to some undersecretary of planning. No longer. Today’s policy analysts help in program evaluation, program design, program management, public communications, planning, budgeting, and other functions. They work alone, in teams, and in loose networks that cut across organizations. They work in the public, nonprofit, and for-profit spheres, both in the United States and abroad. Although their work is ideally distinguished by transparency of method and interpretation, the analysts themselves may explicitly bring to their jobs the values and passions of advocacy groups as well as the technical expertise of “neutral” civil servants. The professional networks in which they work may contain—in most cases, do contain—colleagues drawn from law, engineering, accounting, and so on, and in those settings the policy-analytic point of view has to struggle for the right to counter—or, better yet, synthesize—the viewpoints of these other professionals. Although policy-analytic work products typically involve written reports, they may also include briefings, slide presentations, magazine articles, television interviews, and the use of social media. The recipients of these products may be broad and diffuse audiences as well as narrowly construed paying clients or employers.

The advice in this handbook is directed both to policy analysts in practice and to students and others who, for whatever reasons, are attempting to look at the world through the eyes of a practitioner.

THE EIGHTFOLD PATH

Policy analysis is more art than science. It draws on intuition as much as on method. Nevertheless, given the choice between advice that imposes too much structure on the problem-solving process and advice that offers too little, most beginning practitioners quite reasonably prefer too much. We have therefore developed the following approach, which we call the Eightfold Path:

- Define the Problem
- Assemble Some Evidence
- Construct the Alternatives
- Select the Criteria
- Project the Outcomes
- Confront the Trade-Offs
- Stop, Focus, Narrow, Deepen, Decide!
- Tell Your Story

These steps are not necessarily taken in precisely this order, nor are all of them necessarily significant in every problem. However, an effort to define the problem is usually the right starting place, and telling the story is almost inevitably the ending point. Constructing alternatives and selecting criteria for evaluating them must surely come toward the beginning of the process. Assembling some evidence is actually a step that recurs throughout the entire process, and it applies particularly to efforts to define the problem and to project the outcomes of the alternatives being considered.

The primary utility of this structured approach is that it reminds you of important tasks and choices that otherwise might slip your mind; its primary drawback is that, taken by itself, it can be mechanistic.

The Problem-Solving Process

The problem-solving process—being a process of trial and error—is iterative, so you usually must repeat each of these steps, sometimes more than once.

The spirit in which you take any one of these steps, especially in the earliest phases of your project, should be highly tentative. As you move through the problem-solving process, you will probably keep changing your problem definition, as well as your menu of alternatives, your set of evaluative criteria, and your sense of what evidence bears on the problem. With each successive iteration, you will become a bit more confident that you are on the right track, that you are focusing on the right question, and

so on. This can be a frustrating process, but it can also be rewarding—if you learn to enjoy the challenges of search, discovery, and invention.

Some of the guidelines are practical, but most are conceptual.

Most of the concepts used will seem obvious, but there are exceptions. First, technical terms are sometimes employed. Second, some commonsense terms may be used in a special way that strips them of certain connotations and perhaps imports others. For the most part, all these concepts will become intelligible through experience and practice.

The concepts come embedded in concrete particulars.

In real life, policy problems appear as a confusing welter of details: personalities, interest groups, rhetorical demands, budget figures, legal rules and interpretations, bureaucratic routines, citizen attitudes, and so on. Yet the concepts described in this handbook are formulated in the abstract. You therefore need to learn to “see” the analytic concepts in the concrete manifestations of everyday life.

Caution: sometimes, some steps are already determined.

Suppose your client says, “We need an extra million dollars to run this program in the next budget year: find it.” Does the Eightfold Path apply to this “analysis”? In a limited way. The client has already defined the problem and narrowed the relevant criteria very tightly. There won’t be much creative scope for you when it comes to those steps. But all the other steps are likely to be relevant.

This challenge to “find it” is a simplified version of a more complex challenge—to “design it,” as in to “figure out [that is, ‘design’] a way to protect this subway system from terrorist attack.” Here, too, the problem definition step has already been settled by the client, though the other steps are likely to get the creative juices flowing. Ideas for dealing with design problems in general are introduced in Part III, “Handling a Design Problem.”

Your Final Product

So what will your final product look like? Here is a very rough sketch of a typical written policy-analytic report:

- In a coherent narrative style, you describe some problem that needs to be mitigated or solved.
- You lay out a few alternative courses of action that might be taken.
- To each course of action, you attach a set of projected outcomes that you think your client or audience would care about, suggesting the evidentiary grounds for your projections.

- If no alternative dominates all other alternatives with respect to all the evaluative criteria of interest, you indicate the nature and magnitude of the trade-offs implicit in different policy choices.
- Depending on the client's expectations, you may state your own recommendation as to which alternative should be chosen.

As a complement or even alternative to a traditional prose report, your final product might take the form of a policy brief or PowerPoint presentation. This type of product is becoming more and more common as a result of the increasing premium on delivering clear, crisp messages to busy decision-makers.

- Using a visually attractive format, you focus the audience's attention on the key problem you analyzed and/or your main recommendation.
- You present a small number of figures that capture your key takeaway message (see Appendix F on "Big Data" and visualization tools).
- Your policy brief or PowerPoint presentation should be self-contained and make sense to someone who has not read your full prose report.

The Spirit of the Eightfold Path

The spirit of the Eightfold Path is, we hope, economizing and uplifting. Analyzing public policy problems is a complex activity. It is easy to get lost, to waste a lot of time, to become demoralized. Other manuals and textbooks in policy analysis are primarily concerned that you get the analysis "right," in some sense. This one should help in that respect, too. But, in addition, we hope that this handbook will help you to get it done with reasonable efficiency—and with a minimum of anxious confusion.

Finally, just as policy analysis originates in politics, so it concludes in politics. Political life has two sides: channeling conflict and building community. Policy analysis serves both sides. It channels conflict by showing that some arguments, and their proponents, are in some sense superior to others and deserve to win out. But it helps to build community by marking off potential common ground as well. This common ground is defined by the rules and conventions of rational discourse—where opponents may employ analytical procedures to resolve disagreements, or where they may discover that at least some seemingly irreducible values conflicts can be recast as dry-as-dust technical disagreements over how much higher a probability Policy A has than Policy B for mitigating Problem P. In short, policy analysis contributes to better governance in a democratic society by focusing debate on the real-world consequences of collective decisions.

OVERVIEW OF THE BOOK

This book is a compilation of many component parts. The primary component is Part I, describing the Eightfold Path and recommending heuristics to help you negotiate it.

Part II focuses on one particular step in the Eightfold Path: assembling evidence. It first appeared thirty-five years ago as a journal article, but we have since modified it and tried to integrate it better into the overall book in terms of both style and content. We include it because its objective is, we think, unique among the many prescriptive works in the social sciences and in journalism about data gathering and interpretation: it is, above all, concerned with using the researcher's time and energy efficiently.

In the first several editions of this book, Part I incorporated suggestions for analyzing not only conventional, discrete problems of policy choice (in which the analytic task is to craft an intervention that will improve an otherwise well-functioning system), but also more ambitious "design" problems (in which the system itself is broken or missing). Because the two generic types of problems were both covered in a single part, it was easy for readers to miss the subtle distinctions between them. Accordingly, this edition includes a Part III that pulls out the material on design thinking. We show how the steps of the Eightfold Path can be "crosswalked" to design "systems of action" that will generate desired outcomes when multiple elements are interdependent and need to work together.

Part IV addresses a specialized topic in policy analysis not dealt with in other works: making use of ideas—and specimens of "smart practices"—that are to be found in other sites. Imitation and adaptation are standard routes to progress (albeit, occasionally, to regress) in other areas of life, so why not in public policy?

Appendix A includes sections of a Congressional Budget Office study on policy options to reduce the prices that commercial insurers pay for medical services (CBO 2022). In addition, we illustrate the concepts of policy analysis in Part I by providing excerpts from a variety of reports from think tanks, research organizations, and government agencies. We have chosen this approach for several reasons. First, there is no one-size-fits-all model of a policy analysis report. Policy analysis reports come in different forms, and analysts should tailor their studies, and the communication of their studies, to the specific problem and audience at hand. Second, we seek to demonstrate the array of substantive issues on which policy analysis can be performed. Finally, we wish to draw readers' attention to the diversity of modeling tools and data sources that policy analysts today are using to define problems, project outcomes, and cope with uncertainty. While we regard all the excerpted studies as professional work products, we hasten to add that our inclusion of a portion of a particular study should not be taken as an endorsement of the study's methodology, findings, or recommendations. Instructors using this book might consider having their students read the full studies

and identify their respective strengths and weaknesses as an assignment or a classroom discussion topic.

Appendix B, “Things Governments Do,” is a condensed survey of eleven types of governmental instruments for intervening in society. This edition also offers Appendix C, “Understanding Public and Nonprofit Institutions: Asking the Right Questions”; a new Appendix D, “Tips for Doing Policy Analysis in a Polarized Age”; Appendix E, “Tips for Working with Clients”; and a new Appendix F, “Suggestions for Incorporating ‘Big Data’ and Rigorous Scientific Evidence into Policy Analysis.” Appendix F discusses the expanding use of large administrative data sets and increasing reliance on field experiments and other sophisticated methods for causal inference in policy labs and a growing number of government agencies. This appendix offers tips for policy analysts who wish to come up to speed on this important development.

We have tried to keep the style simple and the text short. But the topics covered are numerous and complicated. The result is that the book is in some respects very dense. Our students tell us that the book should be treated not just as a quick and pleasurable read, which of course it is, but as a reference volume to be experienced again and again for its delicious subtleties. No doubt they are right.

THE EIGHTFOLD PATH

The analytic work in problem solving generally proceeds in a certain direction, from defining the problem at the beginning all the way to making a decision and explaining it at the end. But remember, this is a process much given to reconsidering, reviewing, and changing your mind—in other words, retracing your steps on the path before starting out once more. Also, in some cases, the client or, perhaps, the political situation has already narrowed and focused the analytic task to such a degree that you need not even bother thinking through some of the steps. The exposition that follows lays out a generic process that must be adapted to particular contexts.

STEP ONE: DEFINE THE PROBLEM

Your first problem definition is a crucial step: it gives you both a reason for doing all the work necessary to complete the project and a sense of direction for your evidence-gathering activity. And in the last phases of the policy analysis, your final problem definition will probably help you structure how you *tell your story*.

It is easy to get the problem definition step wrong. Analytic looseness can creep in, creating a muddle. For example, at a congressional hearing about regulation of social media, lawmakers expressed the following concerns about Facebook:

- Facebook is too big and needs to be broken up.
- Facebook does not exercise sufficient care about sharing the data with outside organizations.
- Facebook collects too much data in the first place.
- Facebook is causing ideological polarization.
- Facebook is vulnerable to political exploitation and is not doing enough to curb hate speech and fake news.
- Facebook is promoting addictive message products to children.¹

Might some of these concerns form the basis for a usable problem definition? Possibly, but all of them would require much greater precision. Many of the

aforementioned concerns point not to problems but rather to policy options. Still others are merely claims (which may or may not be accurate) about Facebook or social trends. The following suggestions can help improve problem definitions.

Think of Deficit and Excess

Semantic Tip It often—but not always—helps to think in terms of deficit and excess. For instance:

- “There are too many homeless people in the United States.”
- “The demand for agricultural water is growing faster than our ability to supply it at an acceptable financial and environmental cost.”
- “Utah’s population of school-aged children is projected to grow by 10 percent over the next seven years, and our ability to develop the physical facilities in which to educate them is not growing nearly as fast.”

It often helps to include the word *too* in the definition—as in “too big,” “too small,” “growing too slowly,” or “growing too fast.” These last two phrases (about “growing”) remind us that problems deserving our attention don’t necessarily exist today but are (at least potentially) in prospect for the future, whether near or distant.

However, it does not help to think in terms of deficit and excess when your problem is an already well-structured decision choice—for example, “Dump the dredging spoils either in the Bay or somewhere out in the Pacific Ocean.” Nor does it help if your challenge is to invent *any* way to accomplish some defined objective—for example, “Find some grant funds to close the anticipated gap between revenues and expenditures.” These decision- and invention-type challenges are problems *for* the policy analyst but are not the substantive sort of problems we are addressing in this section.

Make the Definition Evaluative

The idea of a “problem” usually means that people think there is something wrong with the world, but *wrong* is a debatable term. Even if everyone accepts the same facts, not everyone will agree that the facts you (or others) have defined as a problem really do constitute a problem, for each person may apply a different evaluative framework to these facts. For example, some people believe that the fact of a growing foreign-born share of the US population is a problem; others believe it is not. Unfortunately, there are no obvious or accepted ways to resolve philosophical differences of this type.

A common philosophical as well as practical question is this: “What private troubles warrant definition as public problems and thereby legitimately raise claims for amelioration by public resources?” It is often helpful to view the situation through the “market failure” lens (Friedman 2002; Weimer and Vining 2017, chap. 5).² In its

simplest formulation, market failure occurs when the technical properties of a good or service have one of the following effects:

- Making it hard to collect payment from all the potential beneficiaries—for instance, the large number of people who profit, albeit indirectly, from national defense or advances in basic science (“public goods”). Trust in others, trust in institutions, and the practice of civil discourse, even in heated political contests, are also “public goods,” albeit of a novel sort.
- Making it hard to collect from the beneficiaries of consumption the true economic cost of making use of the good or service—such as the fresh air that vehicle owners use as a sink for their auto emissions (“negative externalities”).
- Making it hard to collect from all the beneficiaries for the true economic value of producing a good or service—such as all the citizens and co-workers who benefit from the education received by individuals looking mainly after their own self-interest (“positive externalities”).
- Making it hard for consumers (and sometimes suppliers) to know the true qualities of the good or service they are acquiring—for instance, many repair-type services, including those performed by physicians as well as those performed by auto mechanics (“information asymmetries”). Insurance and other such “selection markets” often fail because those who select in have knowledge about their own vulnerabilities that the sellers’ side does not. This can lead to disappearance of a seller’s side altogether.³
- Making competition on the producer side socially too costly to permit competition altogether, such as a dozen companies building a dozen power plants to serve the same service area. That classic example of social cost is now supplemented by that of competition that undercuts broad and inclusive information networks (“natural monopolies”).

Distributional outcomes can also legitimately raise claims for amelioration by public resources. Areas of possible concern include low living standards, income or wealth inequality, stalled economic mobility, and the existence of discrimination against women and racial and other minorities. The policy analyst’s tool kit can contribute to the understanding of such problems in several ways. Policy analysts can assess whether and to what extent proposals intended to reduce employer discrimination will increase opportunities for minority job applicants. Policy analysts can also measure the efficiency costs of redistributive policies—and identify the most cost-effective ways to combat poverty. More generally, policy analysts can project the distributional consequences of policy options and identify the potential benefits and harms of policies to marginalized populations. Finally, as noted later in Part I, policy analysis can incorporate equity concerns into their analyses as an evaluative criterion.

In addition to market failures and distributional concerns, there are “legal-framework failures” that affect injured parties’ abilities to sue under usual common-law (torts, contracts, property) rules. If you get food poisoning eating at Greasy Spoon, how do you prove that Greasy Spoon was actually responsible? If some factory dumps smoke into the air you breathe, a court would probably find you have no property right to clean air in the first place. If an oil slick on the factory floor causes you to fall and break your arm, it may be too costly and uncertain to sue the employer—who may not be found liable anyway. Market failures often overlap with legal-framework failures and may be called “market failures,” by analysts, but that characterization can obscure what is essentially at issue and suggest market-related solutions that may be blunt or irrelevant.

Finally, less formal social institutions, such as families and neighborhoods, can fail, leading parents to neglect or abuse their children, for instance. A related type of failure is that of self-management practices like avoiding addiction. Other related types of failure have to do with community climates, such as consensus on language(s), what to consider “legal tender,” enforcement of norms on civil discourse, and a climate of trust and trustworthiness across strangers. We can call these “social capital failures.”⁴

One important implication of trying to find and label various social “failures” is that, absent such identification, it is usually hard to see how government can usefully improve matters. Worse, government may be led to intervene in a way that exposes the society to a variety of “government failures.” While the theory of “government failure” (Weimer and Vining 2017, chap. 8) is not as well developed as the theory of market failure, scholars have identified seven main sources of government failure:

- Problems of direct democracy, such as a majority imposing very high costs on a minority. These are complemented by other problems such as the relative underweighting of interests that have little chance of tipping the balance of power in elections.
- Problems of representative democracy. Between elections, the costs of different interests gaining access to elected representatives and senior administrators differ substantially. The ones with lower costs of collective organization and seeking access do much better in gaining their preferred political outcomes. Political scientists often speak of these as “concentrated” versus “diffuse interests.” Concentrated interests might also have an easier time raising campaign contributions when elections roll around.
- With representative government, time horizons often differ substantially among those whose careers depend on being in government, like representatives always sensitive to votes in the next election or senior managers awaiting retirement, versus the general citizenry. Those with relatively short time horizons prefer to put off costs and risks until their careers are safely over and someone else has to take responsibility.

- Problems due to “overhead agencies” of government, such as procurement, space management, personnel, women and ethnic or racial minority preferences, contracting, legal review, fiscal control, and so on. These have accumulated over the years mainly with the objective of reducing waste, fraud, abuse, and unwarranted discrimination. But their combined presence can slow down government and sometimes forces cumbersome work-arounds to get the job done.
- Problems of multiple veto points and demands for “democratic representation.” One of the main—and justified—complaints about government is that “nothing ever happens.” Or, slightly more optimistically, “it just takes forever.” In the interests of “democratic participation,” fearful and aggrieved interests are given, and also create, countless opportunities to hold things up till they are satisfied or are beaten down.
- Problems of risk aversion among bureaucrats. The “public choice” school of bureaucratic behavior sees elected “principals” struggling to control rogue bureaucrats (appointed and civil service alike) who are in democratic theory supposed to be nothing more than the principals’ “agents.” This model fits some bureaucrats some of the time. However, an equal, if not greater, problem among public managers is the desire to avoid subsequent criticism for their actions. They are fearful rather than imperious. Much delay occurs while the public managers worry, consult, and study.
- Problems of administrative standardization. Private markets can cater to every human particularity of taste and need. But governments need to simplify, homogenize, and standardize. To the extent administrators can do this effectively, standardization is not a failure but a success. Otherwise governance would be impossible. On the flip side of success, though, individual citizens are made to feel like cogs in a machine. Additionally, their real needs and tastes are ignored in favor of a hypothetical “everyman.”

Just because a government failure is occurring does not necessarily mean that shrinking the government’s role would improve social welfare; doing so might make a bad situation worse. Many policy interventions are responses to failures of social institutions or distributional concerns, and some government programs accomplish enormous good for society. Policy design matters a lot. For example, nationally uniform programs that involve direct financial transfers to beneficiaries are often more robust and less vulnerable to problems of administrative coordination and delay. The point in recognizing and analyzing government failure is not to resolve debates about the appropriate size and scope of government, but rather to help craft and implement solutions that will further legitimate policy goals at reasonable cost. In an era in which the government has a presence in virtually every aspect of the economy and society,

an important task for the policy analyst is to identify whether and to what extent current policy interventions are underperforming relative to feasible alternatives or otherwise falling short. Policy analysts thus have a key role in diagnosing and remedying both market failures *and* government failures.

Using Issue Rhetoric

Usually, the raw material for the evaluative aspect of your initial problem definition comes from your client and derives from the ordinary language of debate and discussion in the client's political environment—language that we call generically “issue rhetoric.” Such rhetoric may be narrowly confined to a seemingly technical problem or broadly located in a controversy of wide social interest. In either case, you have to get beyond the rhetoric to define a problem that is analytically manageable and that makes sense in light of the political and institutional means available for mitigating it.

Use the raw material of issue rhetoric with care. It often points to some condition of the world that people don't like or consider “bad” in some sense, such as “decay-ing infrastructure,” “corporate welfare,” or “wage stagnation.” These evaluations do not necessarily need to be taken at face value. You will sometimes wish to explore the philosophical and empirical grounds on which you, your client, or others in your eventual audience should or should not consider the alleged condition “bad.” Furthermore, issue rhetoric may point to some alleged—but not necessarily real—cause of a troubling condition, such as “gentrification” or “globalization.”

Issue rhetoric often has a partisan or ideological flavor. Although most ordinary Americans do not possess a consistent ideology, issue rhetoric is created by the more passionate and often more articulate individuals whose views tend to be uniformly extreme in one direction. The great ideological divide in most developed democracies concerns the role of government assistance and regulation in solving problems relative to reliance on self, kin, and neighbors. Self-reliance is generally presumed to be the ideal, but this is a rebuttable presumption. “Liberal” issue rhetoric typically offers many rebuttals, usually involving distrust of “the market,” but only some of these rebuttals are grounded in realistic understanding of how markets do and do not work. “Conservative” issue rhetoric sometimes offers thoughtful defenses of “the market” but can also fall silent when favored business interests seek protectionist legislation. Because government as an institution is the chief alternative to private and community problem solving, liberals and conservatives alike ideologize the question of just how competent and trustworthy it is. Selective perception abounds on both sides of this argument, especially in today's polarized environment.

A growing source of issue rhetoric today is populism. Populists divide the world into “the elite” and “the people.” Right-wing populists cast blame on cultural elites and credentialed experts. Left-wing populists argue that plutocrats are “rigging the economy.” Populist rhetoric can sometimes give voice to the frustrations of ordinary people but rarely suffices to settle concrete issues of problem definition and policy design.

Policy analysis typically bridges all political ideologies by reliance on the normative standard of “maximizing welfare” and on social science theorizing and evidence about the comparative advantages of different institutions for different purposes. Thus you want not simply to echo the issue rhetoric in your problem definition, but to use it as raw material for a provisional problem definition that you hope will prove analytically useful.

Note also that some issue labels may signify more than one problem. Depending on the audience, for example, “teenage pregnancy” may connote any or all of the following conditions: sexual immorality, the blighting of young people’s and their children’s life chances, exploitation of taxpayers, and social disintegration. Usually you will want to determine a primary problem focus, to ensure that the analysis does not get out of hand. But if the problems aren’t too complicated, you may feel willing to define more than one.

“Uncertainty” Is the Problem That Evaluation Addresses

If you are evaluating how well some policy or program has been working, what “problem” are you working on? How does evaluation fit into the Eightfold Path framework?

Like all policy analysis, your work here is answering questions about the future. True, you are looking at the past, but the intention is to use your conclusions to shape future action. Depending on your assessment of past performance, the typical future action could be to expand the program, cut the program back, kill the program altogether, start it up in some additional site, or modify it in some way. But what exactly is past performance, how does this performance measure against evaluative criteria, and what aspects of program design and implementation seem to have produced that outcome? It is this uncertainty that your evaluative work is addressing; therefore “too much uncertainty” is the problem.

Quantify If Possible

Your problem definition should, insofar as possible, include a quantitative feature. Assertions of deficit or excess should come with *magnitudes* attached. How big is “too big”? How small is “too small”? How about “too slowly” or “too fast”? With regard to homelessness, how many homeless people are there in the United States? Or in the case of agricultural water, how many acre-feet of water are used now, and how does that amount compare with the demand in some specified future year (given certain assumptions about water pricing)? Exactly what is “our ability to develop physical facilities for water storage,” and how do we expect it to grow, or shrink, over time?

If necessary, gather information to help you calibrate the relevant magnitudes. (See the discussion under “Step Two: Assemble Some Evidence.”)

In many or most cases, you will have to estimate—or, more likely, “guesstimate”—the magnitudes in question. Sometimes you should furnish a *range* as well as a *point*

estimate of magnitudes—for example, “Our best guess of the number of homeless persons in families is 250,000, although the truth could lie between 100,000 and 400,000.”

Even if you cannot come up with good numbers yourself, qualitatively defining a *metric* that might be used to quantify the problem helps you make your problem definition more behavioral and concrete. It is better to say, “Too many people with annual incomes over \$60,000 are living in subsidized apartments,” than simply, “Too many relatively well-off people are taking advantage of low-rent public housing.” The \$60,000 value provides desirable texture and information about a threshold number that will serve in the promised analysis.

Diagnose Conditions That Cause Problems

Some problematic conditions are not experienced as troublesome per se by citizens but are perceived by them, or by analysts working on their behalf, to be causes of trouble. It is sometimes useful to diagnose at least one alleged condition of this type and to define it as a problem to be mitigated or removed—as in “One of the problems in the air pollution area is that states have not been willing to force motorists to keep their engines tuned up and their exhaust systems in proper order.”

Semantic Tip Note that this sort of problem definition is not merely descriptive but is also diagnostic. It implicitly asserts that some condition, which people may or may not find troubling on its own, is an important cause of some other condition that is indeed troubling. Problem definitions that pretend to such diagnostic power can be useful, but they can also be treacherous. Suppose, after all, that the causal diagnosis is mistaken or misleading—for example, that states’ unwillingness to enforce engine maintenance routines is *not* in fact a very important cause of air pollution. Because the term *definition* in some contexts connotes legitimate arbitrariness (“I’ll define *justice* to mean . . .”), the causal claims implicit in diagnostic problem definitions can easily escape needed scrutiny. (See “Step Five: Project the Outcomes” for further discussion.)

Risky Conditions: “The Odds”

“The odds are too high that this nuclear reactor will suffer an accident in the next twenty-five years that will emit excessive radiation.” This sentence does indicate a problem, but it is not something tangible, like “Too many cases of asthma are being reported in this neighborhood.” It refers to risk and is stated in probabilistic language dealing with “the odds.”

Semantic Tip Referring to the odds is a useful way to talk about anything that is uncertain in your analysis (not just the problem definition) where the probabilities of outcomes can be approximately described or at least debated. It can also refer to the risk that an alternative will not work out as planned, or the likelihood that a key political actor will remain in office in order to oversee policy implementation. It is an especially useful locution when talking about risks that are particularly resistant to precise quantification—for example, “The odds are that the US nuclear modernization

program is causing other countries to look more favorably on acquiring nuclear weaponry themselves.”

The odds formulation can also be used for specifying criteria. For instance, one could say that one criterion is “Maximize the odds that members of the Freedom Caucus will hold a majority on the Ways and Means Committee following the next election,” or “Minimize the odds that the health department’s new computer system for verifying benefit eligibility will crash upon rollout.”

Work on Hypothetical Problems—Up to a Point

Often “the problem” is implicit in a statement by the client (or some concerned group) that if only some alternative practice (“solution,” in a sense) were in place, the world would be much better off. The analyst is charged with evaluating the merits of this supposition. For example, “If we’d had an up-to-date purchasing department, we would have anticipated this price increase and stocked up on X beforehand.” Because Purchasing has allegedly been slack with regard to anticipated price movements, public money has been wasted. But there is a potential confusion lurking here: This is a useful problem definition only if the allegation is true. If it is not true, this problem does not exist. Should the analyst go off in search of a solution to a problem that does not really exist?

The simple solution is to conceive of “the problem” as “hypothetical” (or “possible”) rather than actual. It is perfectly reasonable to study a hypothetical problem while not committing oneself to a belief in its reality just yet. Commitment is deferred until the study is completed or nearly completed.

The idea of a “hypothetical” problem implies a troublesome question: Of the billions of “hypothetical problems” in the world, how do we recognize, and characterize, this one? Primarily, it is implied by the statement of the supposed solution. The bundle of hypothetical problems implied by “lack of an up-to-date purchasing department” is not so very large, and it is even further focused by the particular example given by the client, being obliged to pay a price for X that is higher than would have been necessary. In the real world, certain policy areas seem to generate more of these hypothetical problems than others. The leading one concerns waste and inefficiency: “If we do things this way, the results will be more efficient.” Or: “Currently, our procedures waste a lot of time going back and forth, checking and rechecking, whereas that would all be minimized were we to do Y.” Hence, if someone alleges that the failure to do something is a problem, see if you can reframe “the problem” as “(possibly) too much waste.” Note the waste does not have to be of money only—it could be time or opportunities to improve output in a cost-effective way.

Identify Latent Opportunities

A special kind of problem is an opportunity missed. Is it not rather small-minded to think of policy analysis as devoted merely to the amelioration of problems? Might

policy analysis not rise above the tedious and uninspiring business of patching and fixing? Can we not aspire to a world in which we can identify opportunities to do creative—not to say wonderful—things? “If it ain’t broke, don’t fix it” is a confining idea, and certainly policy analysts, policymakers, and public managers ought not to allow the problem focus to restrict the search for plausible opportunities. Unfortunately, the working agenda of most policy professionals is set by complaints, threats, worries, and troubles—often leaving little time or energy to think about improvements that no one has identified as needful. Still, if latent opportunities are really lying around, it would be a pity to ignore them.

Where do we find opportunities for creative policy improvements that haven’t first been identified by complaints, threats, and so on? Relatively little academic or technical theory is available to answer this question.⁵ Box I-1 contains a list that is suggestive.

BOX I-1: SOME GENERIC OPPORTUNITIES FOR SOCIAL IMPROVEMENT THAT OFTEN GO UNNOTICED

Reducing administrative burdens. *Many government programs make it difficult for people to apply for or receive benefits or assistance for which they are entitled. Reducing unnecessary administrative burdens can save people time, effort, and money, and reduce the stress that people may experience when interacting with public agencies.*

Designing the architecture of choice. *By varying the ways in which choices are presented to people, it may be possible to overcome cognitive biases that lead to poor decision-making. For instance, flipping the preselected, default choice (the choice people automatically receive if they do not actively indicate a preference) from “opt out” to “opt in” can increase participation rates in organ donation programs and employee savings plans.*

Social norms marketing. *People often wish to follow social norms, but they can’t do so if they are unaware of them. For example, many college students believe they drink less alcohol than the average—and increase their consumption to be more like their peers. When the true drinking rate is disseminated, peer pressure to binge is greatly reduced.*

Internalizing the social effects of individual decisions. *Many opportunities exist to improve social welfare by removing incentives for individuals to ignore the spillover costs of their decisions. For example, introducing congestion tolls would reduce traffic congestion by discouraging drivers from using roads during peak hours.*

Operations research strategies. *By means of sequencing, timing, prioritizing, matching, clustering, and other such rationalizing arrangements, it may be possible to use a fixed stock of resources to achieve higher productivity than is possible otherwise. For instance, provided that traffic flow conditions are within certain parameters, high-occupancy-vehicle (HOV) lanes can maximize vehicle throughput in a fixed section of roadway.*

Cost-based pricing. Discrepancies between prices and real costs present an opportunity for enhancing social welfare by adjusting prices to better reflect reality. For instance, removing rent controls would bring prices more into line with real housing costs.

By-products of personal aspirations. It is possible to structure new incentives or create new opportunities for personal advantage or satisfaction that can indirectly result in social benefit. For example, public-sector employers can offer to share the benefits of cost-reducing innovations with the employees who conceive them and implement them.

Complementarity. Two or more activities can potentially be joined so that each may make the other more productive. For example, increased public works construction can combat unemployment.

Input substitution. The world abounds in opportunities to substitute less costly inputs in a current production process while achieving roughly equivalent results. For instance, municipalities can hire lower-paid civilians to perform police clerical tasks rather than use expensive uniformed officers.

Development. A sequence of activities or operations may be arranged to take advantage of a developmental process. For example, a welfare agency can assess clients for employability and vocational interest before, rather than after, sending them out to search for a job.

Exchange. Unrealized possibilities for exchange can increase social value. Policymakers typically design policies to simulate market-like arrangements—for example, conducting pollution permit auctions or reimbursing an agency for services it renders to another agency's clients or customers.

Multiple functions. A system can be designed so that one feature has the potential to perform two or more functions. For example, a tax administrator can dramatize an enforcement case in such a way as both to deter potential violators and to reassure non-violators that they are not being played for suckers because of their honesty.

Nontraditional participants. Line-level employees of public agencies—as well as their customers, their clients, or the parties whom they regulate—often have knowledge of potential program improvements that could usefully be incorporated into the agencies' policies and operations. The Internal Revenue Service (IRS), for instance, has sought feedback from ordinary tax filers about how to improve federal tax forms.

Underutilized capacity. Governments sometimes systematically underutilize resources at their disposal. In many communities, school facilities are used for relatively limited purposes for only part of the day and for only part of the year—although school officials would be quick to warn that tapping this capacity without harming school functions is not always easy.

Avoid Common Pitfalls in Problem Definition

Problem definition is a step beset by at least three pitfalls.

Semantic Tip *Defining the solution into the “problem.”*

Your problem definition should not include an implicit solution introduced by semantic carelessness. Projected solutions must be evaluated empirically and not

legitimated merely by definition. Therefore, keep the problem definition stripped down to a mere description, and leave it open where you will look for solutions.

- *Don't say:* "There is too little shelter for homeless families." Inadvertently implying that "more shelter" is the best solution may inhibit you from thinking about ways to prevent families from becoming homeless in the first place. *Try instead:* "Too many families are homeless."
- *Don't say:* "New schools are being built too slowly." Simply assuming that "more schools" is the solution may inhibit you from thinking about ways to use existing facilities more efficiently or even to try forms of "distance learning." *Try instead:* "There are too many schoolchildren relative to the currently available classroom space."

A tip-off that you're probably smuggling an implicit solution into the problem definition is to hear yourself saying, "Aha, but that's not the real problem; the real problem is . . ." While there are better and worse ways to conceptualize a problem—or to solve a problem—it stretches ordinary usage too much to say that one problem could be "more (or less) real" than another.

Accepting Too Easily the Causal Claims Implicit in Diagnostic Problem Definitions

We suggested earlier that conditions that cause problems may also be problems themselves. However, the causes must be real, not merely assumed. You have to evaluate the causal chain that goes from the situation itself to the bad effects it is alleged to cause, and to convince yourself that the causal relationship is real. For instance, for some people, cocaine use is not a problem in itself, but it may become a problem if it *leads* to crime, poor health, family disintegration, and so on. But does it lead to these outcomes, and to what degree? The evidence on this question should be evaluated very carefully before you decide that it's okay to work with a problem definition that sounds like "too much cocaine use." (See Appendix F on the use of experimental methods in policy analysis.)

It is easy to get causal attributions wrong and then follow a suboptimal path of searching and reasoning. Consider the problem of low vaccination rates. In some parts of the country, a significant fraction of parents delay or refuse to vaccinate their children out of a fear that vaccination causes autism. When local vaccination rates fall below 90–95 percent, communities lack "herd immunity," leaving children at risk of contracting vaccine-preventable diseases like measles. Given this, it is tempting to work with a problem definition like "too many parents believe vaccines cause autism" and focus on options to reduce vaccination misperceptions, such as public health information campaigns to educate people about the true benefits and harms of immunizing their children. But the presumed causal chain that goes from parental beliefs to

vaccination rates may be wrong. And in fact studies have shown that pro-vaccination messaging may not be effective and can even backfire.⁶ Further, research has shown that imposing strict school vaccination rules (which make it harder for parents to enroll children who haven't received required immunizations) significantly boosts vaccination rates.⁷ In other words, changing people's minds about vaccinations may not be required to change their behavior.

Ignoring the Context of the Problem

Context makes a difference. Possible solutions that work in one place fail in another, and vice versa. This is not just because many public policy problems are very difficult, and often overwhelming, but because some contexts are favorable to a particular strategy while others are not. If context is likely to matter—and, even though it mostly does, that is not always the case—and problem contexts differ, problem definition should recognize this by specifying the contextual conditions under which the problem is likely to be encountered. For example, if public trust and confidence in the police is significantly influenced by neighborhood crime rates, the problem of “too little satisfaction with the police” should be defined at the local rather than national level.

The “Last Mile” Problem

Until now our focus has been on what we really want to accomplish. What market failure or government failure do we wish to solve? What value do we seek to advance? These are important questions, but our answers will count for little if preferred policy solutions cannot be implemented. We call the various and sundry administrative, political, organizational, and legal challenges associated with making policies work on the ground “Last Mile” problems.

Consider a government's plan to lay an underwater cable from shore to shore. Eventually, the government will have designed, built, and laid down almost all of it. All except the Last Mile. Your grand design and all of yours and everybody else's heroic labor are of little value unless you can take that cable the Last Mile. In that Last Mile there are permitting agencies, neighborhood preservationists, endangered species habitats, local city council members, taxpayer-protecting city and county budget bureaus, and more that you can't even imagine at this point.

Last Mile problems are ubiquitous in policymaking and largely spring from the cherished institutions and practices of liberal democracy itself. They involve all those moving parts of bureaucratic imperialism and turf protection and all the nonmoving parts as well, which are made up of bureaucratic lethargy, obstructionism, incompetence, and fear. They also involve multiple and often competing goals, rent-seeking, and partisanship.

A program ultimately must be administered, and this typically means turning it over to some agency of government. But which agency? One that will be eager to

administer it, of course, and will in the long run try to protect it from hostile interests both within and without government. The agency should also have the sheer administrative capacity to do the job—for example, the accounting, computational, and human resources to handle what might prove to be complex tasks.

A common Last Mile problem is that the designated agency views its existing program and administrative responsibilities as having much greater priority than some new program landing in its lap. Care must be taken to provide enough new resources so that the agency does not simply go through the motions of trying to implement it.

Certain semipredictable long-run bureaucratic problems can be anticipated and certain safeguards installed, though their effectiveness is always somewhat unpredictable. Regulatory agencies might become captive of the firms and other interests they regulate. *Rent-seeking* is the common name for this process, a formerly technical term meaning profiting by efforts to impose anticompetitive regulatory rules and enforcement procedures on others in the same industry. Rent-seeking also plagues service delivery agencies, although in this case the captors are typically private-sector nongovernmental organizations, or NGOs, and for-profit contractors that accept government funds in exchange for actually delivering, or appearing to deliver, the services.

Another common problem is sclerosis: as it grows older, the agency becomes progressively more inflexible and procedure-bound, lacking in energy and imagination. We also cannot omit “WFA,” being beset by waste, fraud, and abuse.

Federalism is a major contributor to Last Mile problems. National programs that require the buy-in of state governments give opponents multiple venues in which to block implementation. For example, when Congress enacted the Affordable Care Act in 2010, advocates of Medicaid expansion believed they had won. As of 2023, however, ten states have not adopted Medicaid expansion plans for their residents, leaving millions without health insurance.

Iterate

Defining the problem is a crucial step. (See Box I-2 for an illustrative specimen of a problem definition from a policy analysis report.) Because problem definition is hard to get right, however, you may take that same step again and again. Also, your empirical and conceptual understanding will evolve over the course of your analytic work. For instance, you may start out thinking that the main problem is “too many halfway houses for people with mental illness in our city” but end up concluding that the main problem is how badly some of these residences are managed.⁸ As you begin to rule out alternative approaches to solving or mitigating your problem, you will probably want to sculpt the problem definition so that, in the end, you and the political system will have some chance of attacking the problem successfully. Finally,

if you are working in an office or agency context, you will implicitly be negotiating a mutually acceptable problem definition with your analyst colleagues and your hierarchical superiors.⁹

BOX I-2: AN ILLUSTRATIVE EXAMPLE OF “DEFINING THE PROBLEM” FROM A POLICY ANALYSIS REPORT

The supply of skilled workers is not keeping up with the demand for them (Goldin and Katz 2012). Employers report shortages of workers with occupation-specific skills (Holzer et al. 2011). A recent survey of 2,000 U.S. companies found that 30 percent had been unable to fill skilled job positions for more than six months (Manyika et al. 2012).

Many low-income workers would not be able to access vocational training without assistance from government programs. Although the vast majority of vocational training in the United States is provided by employers (Mikelson and Nightingale 2004), employers are less likely to provide training for their lower-skilled positions, which tend to have higher rates of turnover (Lane 2000). Hypothetically, workers could pay for their own training, but many unemployed and low-skill workers do not have the financial resources or the ability to borrow to pay for training.

The United States does not currently invest heavily in vocational training compared with other countries, and funding for vocational training has declined over the past decades. Whereas the United States spends less than 0.05 percent of its gross domestic product on vocational training, other industrialized nations invest up to ten times as much. Since 1985 the amount budgeted for key U.S. Department of Labor training programs has declined by about 20 percent in real terms.

Even among supporters of vocational training, there is legitimate concern that many people who start programs do not complete them. Within three years of enrollment in a community college, fewer than half of all enrollees have attained an associate’s degree or vocational certificate, transferred to a four-year institution, or remain in college (Horn and Weko 2009). Only about 55 percent of the people who begin two-year colleges obtain either an associate’s degree or a certificate (Holzer and Dunlap 2013). Analysis of data on training vouchers provided by the WIA [Workforce Investment Act] Adult and Dislocated Worker programs found that only 64 percent of workers who enrolled in training programs at community colleges completed a training program within three years (Perez-Johnson, Moore, and Santillano 2011). Although the rate of completion for those enrolled in training at a private training provider was higher, about 15 percent of trainees still did not complete a training program within three years.

A second concern is that too many workers who complete training cannot subsequently find a job to use the acquired skills. A study of training vouchers provided through the WIA Adult and Dislocated Worker programs reported that only about 40 percent of the participants found employment in the occupation for which they

received training (Perez-Johnson, Moore, and Santillano 2011). Similarly, a study of the Trade Adjustment Assistance program found that only 37 percent of people who participated in training funded by that program held a job in the occupation for which they were trained in the fourth year after they were initially laid off (Schochet et al. 2012). These statistics suggest that there is often a missing link between employers and training programs.

Source: Sheena McConnell, Irma Perez-Johnson, and Jillian Berk, "Proposal 9: Providing Disadvantaged Workers with Skills to Succeed in the Labor Market," in *Policies to Address Poverty in America*, ed. Melissa S. Kearney and Benjamin H. Harris (Washington, DC: The Hamilton Project, June 2014), 98, http://www.hamiltonproject.org/assets/files/policies_address_poverty_in_america_full_book.pdf.

Note: Endnotes and references to figures omitted from excerpt.

STEP TWO: ASSEMBLE SOME EVIDENCE

All of your time doing a policy analysis is spent on two activities: thinking (sometimes aloud and sometimes with others) and hustling data that can be turned into evidence. Of these two activities, thinking is generally the more important, but hustling data takes much more time: reading documents, hunting in libraries, poring over studies and statistics, interviewing people, traveling to interviews, waiting for appointments, and so on.

The real-world settings in which policy analysis is done rarely afford the time for a research effort that would please a careful academic researcher. In fact, time pressure is probably almost as dangerous an enemy of high-quality policy analysis as is politically motivated bias, if not more so. Therefore, economize on your data collection activities. The key to economizing is this: try to collect only those data that can be turned into "information" that, in turn, can be converted into "evidence" that has some bearing on your problem.

Semantic Tip For the logically minded, here are some definitions: *Data* are facts—or, some might say, representations of facts—about the world. Data include all sorts of statistics but go well beyond statistics, too. Data also include, for instance, facts about an agency manager's ability to deal constructively with the press. *Information* consists of data that have "meaning," in the sense that they can help you sort the world into different logical or empirical categories. The prevalence of cigarette smoking in five different countries constitutes data, but these data become information when you decide it is interesting to array the countries comparatively (e.g., from lowest to highest prevalence). *Evidence* is information that affects the existing beliefs of important people (including yourself) about significant features of the problem you are studying and how it might be solved or mitigated. Differential prevalence of smoking, for instance, can become evidence bearing on hypotheses regarding different levels of concern about personal health across countries.

You need evidence for three principal purposes, all of which are relevant to the goal of producing realistic projections of possible policy outcomes. One purpose is to assess the nature and extent of the problem(s) you are trying to define. A second is to assess the particular features of the concrete policy situation you are engaged in studying. For instance, you may need to know—or guess—about agency workloads, recent budget figures, demographic changes in a service area, the political ideology of the agency chief, the competency of the middle-level managers in the agency, and the current attitude of some other agency that nominally cooperates with yours on some problem. The third purpose is to assess policies that have been thought, by at least some people, to have worked effectively in situations apparently similar to your own, in other jurisdictions, perhaps, or at other times. (Sometimes these situations will have been evaluated statistically and sometimes not: see Part IV, “Smart (Best) Practices’ Research: Understanding and Making Use of What Look Like Good Ideas from Somewhere Else.”)

Because each of these purposes becomes salient in different phases of the policy analysis process, the second step on the Eightfold Path, “Assemble Some Evidence,” will be taken more than once but with a different focus each time.

Think before You Collect

Thinking and collecting data are complementary activities: You can be a much more efficient collector of data if you think, and keep on thinking, about what you do and don’t need (or want) to know, and why. The principal—and exceedingly common—mistake made by beginners and veterans alike is to spend time collecting data that have little or no potential to be developed into evidence concerning anything you actually care about. People often do this because running around collecting data looks and feels productive, whereas first-rate thinking is hard and frustrating. Also, when they see you busily collecting data, the people paying for your work tend to be reassured that somehow they are getting their money’s worth.

The Value of Evidence

Since most evidence is costly to produce, you must weigh its likely cost against its likely value. How is its likely value to be estimated? The answer may be cast in a decision-analytic framework (decision trees), though remember that the process of making a decision involves a great many elements prior to the moment of actual choice, such as defining a useful problem, thinking up better candidate solutions, and selecting a useful model. In general, the value of any piece of evidence depends on these factors:

- The likelihood that it will cause you to substitute some better decision for whatever decision you would have made without it (which might have been an “acceptable” decision in and of itself)

- The likelihood that the substituted decision will, directly or indirectly, produce a better policy outcome than the outcome that would have been produced by the original decision
- The magnitude of the difference in value between the likely-to-be-improved outcome and the original outcome

The Utility of Research

Although evidence is costly to produce, there are instances when a high price may be worth paying. If the evidence required to understand a situation does not exist but could be assembled, analysts may choose to invest in substantial data generation efforts, which may range from qualitative interviews and case studies to quantitative modeling. (Box I-3 provides an example of modeling using a hard-edged engineering approach to estimate the greenhouse gas emissions from global oils. The evidence produced by the model is intended to serve as an input into the design of climate mitigation strategies for the “unconventional” energy resources being unleashed through technologies such as fracking.)

BOX I-3: AN ILLUSTRATIVE EXAMPLE OF “ASSEMBLING SOME EVIDENCE” FROM A POLICY ANALYSIS REPORT

The character of oil is changing. Consumers may not notice the transformation—prices have fluctuated, but little else appears to have changed at the gas pump. Behind the scenes, though, the definition of oil is shifting in substantial ways. There is oil trapped tightly in shale rock, and oil pooled many miles below the oceans. Oil can be found in boreal forests, Arctic permafrost, and isolated geologic formations. Some oils are as thick as molasses or as gummy as tar, while others are solid or contain vastly more water or gas than normal.

Oil resources were once fairly homogeneous, produced using conventional means and refined into a limited number of end products by relatively simple methods. This is no longer the case. Advancements in technology mean that a wider array of hydrocarbon deposits in once-unreachable areas are now viable, extractable resources. And the techniques to turn these unconventional oils into petroleum products are becoming increasingly complex.

As oil is changing, so, too, is the global climate. The year 2014 ranked as the earth’s warmest since 1880. Fossil fuels—oil along with coal and methane gas—are the major culprits.

The only way to determine the climate impacts of these previously untapped resources—and to compare how they stack up against one another—is to assess their

greenhouse gas (GHG) emissions at each stage in the oil supply chain: exploration, extraction, processing, refining, transport, and end use. The more energy it takes to carry out these processes, the greater the impact on the climate. And in the extreme case of some of these oils, it may take nearly as much energy to produce, refine, and transport them as they provide to consumers. Moreover, each oil yields a different slate of petroleum products with different combustion characteristics and climate footprints.

The Oil-Climate Index (OCI) is a metric that takes into account the total life-cycle GHG emissions of individual oils—from upstream extraction to midstream refining to downstream end use. It offers a powerful, yet user-friendly, tool that allows investors, policymakers, industry, the public, and other stakeholders to compare crudes and assess their climate consequences both before development decisions are made as well as once operations are in progress. The Oil-Climate Index will also inform oil and climate policy making.

The index highlights two central facts: The fate of the entire oil barrel is critical to understanding and designing policies that reduce a crude oil's climate impacts. And oils' different climate impacts are not currently identified or priced into the market value of competing crudes or their petroleum products. As such, different oils may in fact entail very different carbon risks for resource owners or developers.

Analysis of the first 30 test oils to be modeled with the index reveals that emission differences between oils are far greater than currently acknowledged. Wide emission ranges exist whether values are calculated per barrel of crude, per megajoule of products, or per dollar value of products, and it is expected that these emission ranges could grow as new, unconventional oils are identified.

There are several critical variables that lead to these variations in oils' life-cycle climate emissions. They include how gas trapped with the oil is handled by producers, whether significant steam is required for oil production, if a lot of water is present as the oil reservoir depletes, how heavy (viscous) or deep the oil is, what type of refinery is used, and whether bottom-of-the-barrel products like petroleum coke (known as petcoke) are combusted. Given these factors, the most climate-intensive oils currently identified—gassy oils, heavy oils, watery and depleted oils, and extreme oils—require special attention from investors, operators, and policymakers.

Source: Deborah Gordon, Adam Brandt, Joule Bergerson, and Jonathan Koomey, *Know Your Oil: Creating a Global Oil-Climate Index* (Washington, DC: Carnegie Endowment for International Peace, 2015), 3–4, https://carnegieendowment.org/files/know_your_oil.pdf.

Note: See another excerpt from this report on coping with uncertainty in Step Five.

The Utility of an Educated Guess

It is surprising how well you can do in many cases by gathering no evidence at all but simply sitting down and thinking something through and then making some serious educated guesses. There is nothing shameful about acting on such guesstimates and thereby conserving your data-collecting time and energies for answering questions for which good evidence is really necessary (see Part II, “Assembling Evidence”).

A helpful check on your thinking, to avoid collecting useless data, is to ask yourself the following questions before embarking on some data collection venture:

- “Suppose the data turn out to look like so-and-so as opposed to thus-and-such. What implication would that have for my understanding of how to solve this problem?”
- “Compared to my best guess about how the data will look once I’ve got them, how different might they look if I actually took the trouble to get them?”
- “How much is it worth to me to confirm the actual difference between what I can guess and what I can learn about the world by really getting the data?”

It is this sort of critical attitude about the value of expensive data collection (especially ad hoc surveys and “needs assessments”!) that often leads good and experienced policy analysts to make do with back-of-the-envelope estimates. However, none of this reasoning is meant to be an excuse for shirking the job of getting good data—and sometimes a lot of data, at huge costs in time and money—when you’ve convinced yourself that the investment really will pay off. There’s an obvious and critical difference between justifiable and unjustifiable guesstimates.

Review the Available Literature

There hardly exists a problem on whose causes and solutions some academic discipline or professional association is not doing research. It is easy to find journals and various professional publications disseminating empirical results, theories, case studies, and so on. The internet brings much of this literature to your desktop. Studies vary in their quality, rigor, and internal and external validity. Policy analysts should evaluate research with a critical eye, focusing not only on a study’s “bottom line” but also on the strengths and limitations of its research design and, especially, on the relevance of its findings to the problem-solving tasks at hand.¹⁰

Advocacy organizations often publish a great deal of interesting work and may take special pains to disseminate their findings on the internet. However, because advocacy-based analyses are not, in general, as reliable as more disinterested work, there is a danger of relying too much on such sources just because they are readily available.

Survey “Best Practices”

The chances are good that the problem you are studying is not unique and that policy-makers and public managers in other jurisdictions, perhaps not very different from the one you are studying, have already dealt with it in some fashion. See if you can track down some of these past solutions and extrapolate them to the situation you are studying. Bear in mind, however, that the extrapolation process is complicated (see Part IV, “‘Smart (Best) Practices’ Research”).

Use Analogies

Sometimes it pays to gather data about things that, on the surface, seem quite unlike the problem you are studying but, on a deeper level, show instructive similarities. For instance, your understanding of how a merit pay plan for compensating managers in the public sector might work could perhaps be improved by seeing how similar schemes work in the private sector. Or, if you are working on the problem of how a state can discipline, and perhaps disbar, incompetent attorneys, you might usefully spend a good deal of your time learning about how the medical profession handles problems of physician incompetence. If you are working on how to reduce neighborhoods' resistance to accepting low-income housing projects, you could usefully look into the literature on community resistance to accepting solid-waste incinerators.

As these examples suggest, some analogies are easier to perceive, and to make sense of, than others. It takes a little imagination to see an instructive analogy and, occasionally, is a little daring to try to convince others to recognize both its usefulness and its inevitable limitations.

Start Early

You are often dependent on the very busy schedules of other people whom you ask to furnish information or to make time for an interview. It is extremely important to submit requests for information—and especially for interviews—well in advance of when you want to have completed the data collection. (For a useful description of how to conduct literature reviews, library searches, phone interviews, and personal interviews, see Weimer and Vining 2017, chap. 14; see also Part II, “Assembling Evidence.”)

Touch Base, Gain Credibility, Broker Consensus

The process of assembling evidence inevitably has a political as well as a purely analytic purpose. Sometimes it entails touching base with potential critics of your work so that they will not be able to complain later that you have ignored their perspectives. Conversely, by making yourself known to potential supporters of your work, you may be able to create a cadre of defenders.

A more complex objective, where appropriate, might be to blend policy analysis with the process of improving a policy idea or decision during the course of implementation. (See the following discussion of “improvability” as a practical criterion.) This objective entails obtaining feedback from participants, usually in an iterative process, and sharing some of your own reactions with them. You thereby become more of a partner in the process than an outside observer and diagnostician. An even more complex and challenging role would be for you to become a particular type of “partner,” a facilitator and broker, whether by acting as a conduit from one person to another or by convening meetings and other gatherings.

Free the Captive Mind

In exchange for access to data and a ready-made worldview, researchers sometimes uncritically accept problem definitions and preferred solutions from kindly informants (not to mention from paying clients or employers). To counter such temptations, be sure to make contact with individuals or factions whom you would expect to disagree—the more sharply the better—with those informants. A time-saving, but only partial, substitute is to ask your kindly informants, “Who might object strongly to your point of view about this, and why might they do so?” In today’s era of polarization, this may require you to reach out to people outside of the professional and social networks in which you typically travel. Remember that you do not have to share someone’s values or outlook to learn from them. By engaging people who have a different perspective on a situation, you may gain a new insight into a problem, a new idea for a policy alternative, or a better understanding of how a proposed solution will work on the ground.

The Last Mile

Most of the evidence you will need as a policy analyst or designer comes from “past experience.” Demonstration projects and systematic evaluations of ongoing program components, from your own jurisdiction or from elsewhere, are examples. So is informal, casual appraisal of what has happened in similar jurisdictions or with comparable programs.

It is surprising, though, how little inclined policy designers are to consider other jurisdictions. “We are unique, and no one else has our problems (resources).” Or policymakers, giving into their political biases, may decline to examine what can be learned from the experiences of jurisdictions that face the same challenges but have different partisan leanings (in a polarized age, “blue states” may be unwilling to learn from the implementation experiences of “red states,” and vice versa).¹¹ These are excuses for intellectual laziness; however, some people are simply not up to disentangling the commonalities and the singularities of various situations.

Still, while there can be no such thing as “evidence” about future events—by definition—it is possible to venture estimates about the administrative issues to be faced in the Last Mile simply by interviewing assumedly relevant senior managers about the prospects.

STEP THREE: CONSTRUCT THE ALTERNATIVES

By *alternatives*, we mean something like “policy options,” or “alternative courses of action,” or “alternative strategies of intervention to solve or mitigate the problem.”

For example, the Congressional Budget Office (CBO) in 2013 analyzed four alternatives to the US Army’s plan to develop a new Ground Combat Vehicle (GCV) as a replacement for the Bradley Infantry Fighting Vehicle (IFV): (1) purchase the Israeli Namer armored personnel carrier, (2) upgrade the Bradley IFV, (3) purchase the

German Puma IFV, and (4) retain the current Bradley IFV.¹² See Box I-4 for an illustrative example.

Beware a Linguistic Pitfall

Semantic Tip Specifying alternatives does not necessarily signify that the policy options are mutually exclusive. Policy analysts use the term *alternative* ambiguously: sometimes it means one choice that implies forgoing another, and sometimes it means simply one more policy action that might help to solve or mitigate a problem, perhaps in conjunction with other alternatives. Be aware of the ambiguity in other people's usage, and in telling your story (see Step Eight), be sure that no such ambiguity enters your own usage.

If it is impossible to implement two or more options separately—such as an increase in the length of the school day and a restructuring of after-school programs—it usually makes sense to combine them into a single policy option. Sometimes, though, you won't be entirely sure whether two alternatives are or are not mutually exclusive. For instance, although the mayor may have promised enough money to either fix potholes or provide homeless shelters (but not both), you may have made such a great case for both programs that the mayor may decide to increase the budgetary allocation. See the subsection under “Step Six: Confront the Trade-Offs” that advises you to rank your list of preferred alternatives so that it is up to the decision-maker to decide when enough is enough.

Start Comprehensive, End Up Focused

In the last stages of your analysis, you won't want to be assessing more than two or three principal alternatives, but in the beginning, err on the side of comprehensiveness. Make a list of all the alternatives you might wish to consider in the course of your analysis. Later on, you will discard some obvious losers, combine others, and reorganize still others into a single “basic” alternative with one or more subsidiary “variants.” For your initial list, though, where should you turn for ideas?

One starting point would be to note the alternatives that key political actors are actively proposing or seem to have on their minds. These may include prominent people's pet ideas, institutions' inventories of “off-the-shelf” proposals that simply await a window of opportunity, and prepackaged proposals that party leaders or political ideologues are perennially advocating. Then you could try to *design* alternatives that might prove to be superior to the alternatives currently being discussed by the key political actors.

Entertain Out-of-the-Box Solutions

It's good to brainstorm, to try to be creative. You might not produce much better ideas than those that other people have already advanced. But, then again, you might.

One way to coax your creativity is to refer to the checklist in Appendix B, “Things Governments Do.” For each entry on the list, ask yourself: “Might it make sense to try some version of this generic strategy to help mitigate this problem?” Because it is

a comprehensive list, the answer with respect to any single strategy will usually be no. Going through the list systematically is worthwhile, however. Because the list is not very long, with experience, you will need to spend only a few minutes to decide whether any ideas there might be worth considering further. (See also the valuable discussion about generic policy instruments in Weimer and Vining 2017, chap. 10.)

Another approach is to free your mind to consider unconventional, out-of-the-box solutions. To be sure, most of these ideas won't turn out to be workable for one reason or another; yet many good policy ideas used today (e.g., emissions trading programs) were considered odd or impractical when they were first proposed. Also, technological breakthroughs and changing social norms are continuously expanding the set of feasible solutions.

Following are some suggestions for coming up with a better mousetrap¹³:

- ***Ask how you would solve a problem if cost were no object.*** Of course, in the real world, cost *is* an object. But imagining it isn't can sometimes free the imagination. For example, if cost were no object, you would never wait in line at the post office—you would have an assistant mail your packages. But why couldn't there be a public website where citizens could find out the wait times at every post office—indeed, at every government agency that serves customers?
- ***Ask where else it would work.*** If a solution works in one context, maybe it will work in another. For example, a mathematical algorithm is used to match medical students with residency programs, minimizing the frequency of “bad” matches. Why shouldn't an algorithm also be used to match foster children or adoptive children with qualified adults who wish to be foster or adoptive parents?
- ***Ask why not.*** Many people are upset about the high cost of auto insurance. One reason people are right to complain is that insurance rates hardly vary with mileage. A flat-fee policy also discriminates against people with lower incomes, who tend to drive less. But why *shouldn't* insurance rates be charged on a per-mile basis? That would be fairer and more efficient. GPS devices could monitor the number of miles driven. To be sure, there are privacy concerns and other obstacles to overcome. But asking, “Why not?” often leads to creative thinking.
- ***Ask whether less could be more.*** When people generate ideas for how to solve a problem, they instinctively think about what they can add, such as a new program or activity. But sometimes the best way to improve a situation is to remove a component that is already there, such as a reporting requirement that creates administrative delays without materially improving accountability. As you develop a menu of policy alternatives, remember to consider subtractive options, not just additive ones.¹⁴

Semantic Tip Always include in your first approach to the problem the alternative “Let present trends (or ‘business as usual’) continue undisturbed.” You need to do this because the world is full of naturally occurring, ongoing changes, some of which may mitigate, or worsen, the problem on which you are working. (Note that we are not characterizing this alternative as “Do nothing.” It is not possible to do nothing or to “not decide.” Most of the trends in motion will probably persist and alter the problem, whether for better or for worse.)

To see if “natural” change will affect the scope of the problem, inspect its most common sources in the public policy environment: (1) political changes following elections, as well as changes induced by the prospect of having to contest an election; (2) changes in unemployment and inflation rates that accompany the business cycle; (3) the changing “tightness” or “looseness” of agency budgets caused by overall taxing and spending policies as well as by program features such as automatic cost-of-living increases; (4) demographic changes, such as population migration patterns and population “bulges” moving through certain age levels; and (5) changing technologies. In most cases, however, this “let-present-trends-continue” option will drop out of your final analysis. It follows that if you do your problem definition work well, you will end up with an important problem in your sights that in most cases can be mitigated to some degree by purposive action.

Another frequently helpful alternative is “Learn more.” This can be done by using pilot studies, or by looking around for examples of “smart practices” elsewhere (see Part IV), or by waiting for the future to get less murky, or perhaps by negotiating further with important players to ascertain what they might do under various contingencies. Don’t forget that there is a cost to waiting if, in the absence of further learning, you would have guessed “the right conclusion” anyway. Conversely, there is a cost to premature decision-making or action if you are likely to make a consequential mistake that could be corrected by further learning.

BOX I-4: AN ILLUSTRATIVE EXAMPLE OF “CONSTRUCTING THE ALTERNATIVES” FROM A POLICY ANALYSIS REPORT

Summary

The Federal Housing Administration (FHA) insures the mortgages of people who might otherwise have trouble getting a loan, particularly first-time homebuyers and low-income borrowers seeking to purchase or refinance a home. During and just after the 2007–2009 recession, the share of mortgages insured by FHA grew rapidly as private lenders became more reluctant to provide home loans without an FHA guarantee of repayment. FHA’s expanded role in the mortgage insurance market ensured that