

# Analyzing Strategic Nuclear Policy

**Charles L.  
Glaser**

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## Preface

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SWEEPING CHANGES in the Soviet Union and East Europe have shaken the core assumptions of U.S. defense policy. By the end of 1989, the Cold War, which had characterized U.S.-Soviet relations since the dawn of the nuclear age, was commonly believed to have come to an end. In the three decades during which the United States developed its nuclear doctrine, and the wide array of arguments supporting it, the prevailing American view of the Soviet Union was far more hostile than it is today. Thus, basic questions about American nuclear strategy and force requirements must be reexamined.

For the foreseeable future, the United States must continue pursuing policies designed to avoid nuclear war while protecting its interests in a world of extreme vulnerability to nuclear attack. Even before recent changes in the Soviet Union, the probability of nuclear war between the Soviet Union and the United States was very small. Convincing scenarios in which the superpowers ended up in an all-out nuclear war were hard to develop. Superpower nuclear war warranted continuing attention not because it was likely, but rather because it would be so horrible. The end of the Cold War may further reduce the probability of nuclear war. Pessimists, however, believe that the coming dissolution of the NATO and Warsaw Pact alliances will increase political instability in Europe and, as a result, increase the number of paths by which the United States and the Soviet Union could find themselves in a large war. Either way, nuclear war will remain possible. Reduced superpower tensions may make the questions appear less urgent, but they are hardly less important.

Debate over the implications of radical changes in the Soviet Union for U.S. nuclear strategy has barely begun. Numerous recent proposals have called for the United States to forgo some modernization of its strategic nuclear triad. However, they are motivated primarily by the desire to reduce the U.S. defense budget and create a "peace dividend," not by a revised assessment of U.S. strategy and military requirements. Consequently, these proposals provide little insight into whether the United States can maintain its security without these new and more capable nuclear weapons systems.

Beyond raising questions about current nuclear strategy and force modernization, changes in the Soviet Union are likely to fuel interest in alternatives to our current nuclear world of mutual assured destruction capabilities (MAD). There are three basic alternatives—nuclear disarmament, mutual perfect defenses, and U.S. superiority. Much of the previous interest in alternatives to MAD was generated by the vulnerability of the U.S. population to nuclear incineration. This vulnerability remains a fact that is unaltered by the

ending of the Cold War. Most obviously, nuclear disarmament is likely to receive increasing attention since improved superpower relations appear to make such extensive cooperation more feasible. In the coming decades, other alternatives might come to appear more feasible. For example, arms control agreements that drastically reduce American and Soviet nuclear forces could support calls for strategic defenses capable of defeating these smaller forces, but not much larger ones. Breakthroughs in strategic defense technology would lend additional weight to these arguments. If U.S.-Soviet relations take a turn for the worse and the Soviet economy remains in a shambles, drastically reduced nuclear forces might contribute to American confidence in the U.S. ability to win an arms race back to nuclear superiority.

This book analyzes which nuclear strategy and forces can provide the United States with the greatest security. To establish a solid foundation for this analysis, Part I identifies and evaluates the basic factual and theoretical disputes that underlie the ongoing debate over U.S. nuclear weapons policy. To assess which long-term goals should influence current policies, Part II compares U.S. security in our current nuclear world of mutual assured destruction capabilities to the basic alternatives. Part III draws on the earlier parts of the book to analyze key issues in MAD, including whether U.S. security requires the ability to destroy Soviet nuclear forces and what type of arms control agreements the United States should negotiate with the Soviet Union.

This book seeks to be comprehensive, offering a detailed analysis of the central questions of American nuclear strategy. It identifies where familiar beliefs about nuclear strategy and force requirements should be qualified and demonstrates how systematic analysis can lead to surprising and counterintuitive conclusions.

Changes in the Soviet Union help demonstrate the importance of the book's methodological argument: by beginning with an assessment of the basic facts and theories that underlie the nuclear debate, analysts can focus attention on the issues that really matter while avoiding the often passing and/or relatively unimportant details of competing policy options. Using this approach, the implications of the changing international environment for U.S. strategic nuclear policy are clear.

I conclude that the United States should revise its nuclear strategy, rejecting deterrent threats that require the ability to destroy Soviet nuclear forces—that is, that require extensive counterforce capabilities—and forgoing entirely efforts to limit the damage if all-out nuclear war occurs. This finding, however, is not the result of recent changes; the arguments supporting such a basic revision were strong even before the recent radical changes in the Soviet Union. Nonetheless, these arguments are stronger today, since the case for extensive counterforce capabilities is built partially on the need for the United States to extend deterrence to allies, most importantly to enhance deterrence of Soviet

conventional and limited nuclear attacks against Western Europe. Changes in the Soviet Union, therefore, may be best viewed as improving the prospects for implementing changes that are more than twenty years overdue, not as requiring a new nuclear strategy. Further, there is some risk in focusing on changes in the Soviet Union, since the Soviet Union will retain large military capabilities and we cannot entirely rule out the possibility of a reversal in Soviet foreign policy. A case for not changing American nuclear strategy can be built on the need to hedge against the possibility that the Soviet Union will be more dangerous in the future. I believe, however, that this case is undermined by the weakness of the arguments that currently support American nuclear strategy.

Regarding the alternatives to MAD, I conclude that the United States is probably safer in MAD than any of the alternatives. Thus, although these alternatives are commonly presumed to be preferable to MAD, the United States should not pursue policies to increase the prospects of eventually reaching any of these alternative worlds.

Over many years of working on this book I have acquired numerous personal and intellectual debts. I have been unusually fortunate in receiving valuable advice and criticism from a large number of friends and colleagues. Al Carnesale and Tom Schelling provided me with a wonderful introduction to questions of nuclear strategy. I thank them, and Joseph Nye, for assistance with my dissertation, which Chapter Four draws on heavily. For comments on various chapters I thank Robert Art, Richard Betts, Albert Carnesale, Ashton Carter, Ted Hopf, Stuart Kaufman, Steven Miller, Michael Nacht, Barry O'Neill, Robert Powell, Philip Sabin, Scott Sagan, Jack Snyder, Frank Wayman, and many of my former colleagues at the Center for Science and International Affairs at Harvard. I thank George Downs, Lynn Eden, Matthew Evangelista, David Glaser, Donald Hafner, Donald Herzog, Paul Huth, Chaim Kaufman, John Mearsheimer, Robert Pape, Stephen Van Evera, Steven Walt, William Zimmerman, and an anonymous reviewer for helpful comments on the entire manuscript. I must admit that at moments so much help seemed like a mixed blessing, leaving me convinced that some of my colleagues would never be satisfied. It is to them, however, that I owe the greatest debt. My work has benefited enormously from their advice and from the high standards they set, even if I did not meet them entirely. For help with making the manuscript easier to read I would like to thank my friend Bradley Seeman, and my copyeditor Ron Twisdale.

A number of organizations provided financial support and office space while I worked on this book. In the early stages of the project I was affiliated with the Center for Science and International Affairs, John F. Kennedy School of Government, Harvard University; during this period I received financial support from the Institute for the Study of World Politics and the Avoiding

Nuclear War Project, which was funded by the Carnegie Corporation, as well as from the CSIA. The Defense and Arms Control Studies Program at the Center for International Studies, Massachusetts Institute of Technology, provided me with the critical opportunity to finish a draft of the manuscript before I began teaching. Numerous rounds of revisions were completed while I was at the University of Michigan, where the Program for International Peace & Security Research supported my work. I was a fellow at the United States Institute of Peace during the final stages of finishing the manuscript.

Chapter Two of this book appeared in a rather different form as a chapter in Lynn Eden and Steven E. Miller, eds., *Nuclear Arguments: Understanding the Strategic Nuclear Arms and Arms Control Debates* (Cornell University Press, 1989). Early versions of Chapters Four and Nine appeared as articles in *International Security*. Some of the arguments in Chapter Eight also appeared in an *International Security* article that I coauthored with Albert Carnesale. I thank Cornell University Press and *International Security* for granting me permission to include this material in my book.

My wife, Carol Carter, has been a loving companion through this project, and deserves thanks for being patient through years without weekends. I dedicate this book to my parents, who have always been a great source of encouragement and emotional support. From them I learned the importance of trying to contribute to society's well-being.

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## Analyzing Strategic Nuclear Policy



### Introduction

THIS BOOK seeks to provide a comprehensive analysis of the basic issues of American nuclear strategy and force requirements. Strategic nuclear weapons play a central and controversial role in protecting U.S. interests. They are commonly believed to provide important benefits, by reducing the probability of superpower war,<sup>1</sup> while at the same time creating grave dangers, by providing the Soviet Union with the ability to destroy the United States. Beyond such broad judgments, however, lies a continuing debate over which nuclear strategy can most effectively deter the Soviet Union. Further, looking to the future, many analysts hope to find policies that eliminate American vulnerability to Soviet nuclear attack, but disagree about which alternatives are most promising and about how the United States should try to move toward them.

The analysis in this book proceeds through three stages. Part I, “The Questions behind the Questions,” identifies and evaluates the basic factual and theoretical disputes that underlie disagreements about U.S. nuclear weapons policy. Among the key disputes are questions about the nature of the adversary (what are Soviet intentions?), about the nature of military capabilities (can the United States acquire capabilities required to reduce the damage from a Soviet nuclear attack?), and about the role of military policy in the U.S.-Soviet relationship (will competitive American policies generate unnecessary tensions or instead convince the Soviets to cooperate?). Since facts and theories are the essential building blocks of policy analysis, assessing these basic premises establishes a solid foundation from which to analyze U.S. nuclear policy. It also enables us to cut to the core of specific policy debates, since the major divisions between analysts are usually determined by fundamental disputes.

“Alternative Nuclear Worlds” compares our current nuclear world—in which both superpowers’ societies are highly vulnerable to nuclear retaliation—to the basic alternatives: mutual perfect defenses, U.S. superiority, and nuclear disarmament. Neither superpower can today protect its society; instead, both maintain the capability to virtually destroy each other following an attack against their nuclear forces. This condition in which both superpowers have assured retaliatory capabilities is often described as one of “mutual assured destruction” capabilities, and referred to by its acronym—MAD.<sup>2</sup>

<sup>1</sup> An exception is John Mueller, *Retreat from Doomsday: The Obsolescence of Major War* (New York: Basic Books, 1989).

<sup>2</sup> An “assured destruction” capability was defined by Secretary of Defense McNamara as the ability to destroy, in a retaliatory attack, approximately 20–25 percent of the Soviet population

Would any of the basic alternatives be preferable to MAD? Technological and political constraints prevent either superpower from escaping MAD for the foreseeable future. Nevertheless, although currently infeasible, these alternatives need to be understood, since conclusions about U.S. nuclear strategy and force requirements should reflect long-term U.S. objectives.

“Decisions in MAD” draws on the earlier sections of the book to analyze key American choices in MAD. MAD is a condition, not a strategy; within MAD a spectrum of strategies and force postures are possible. The United States could maintain forces of moderate size or quite large ones. Probably more important are the kinds of forces the United States deploys. A key choice is between “counterforce” weapons designed to destroy Soviet nuclear forces and “countervalue” weapons that threaten primarily Soviet society. With a given nuclear force, the United States could plan only quite large attacks, or it could in addition plan an array of smaller nuclear attacks. And, in attempting to satisfy its force requirements, the United States could pursue more or less cooperative and competitive policies, which would influence the importance of arms control and unilateral restraint in American policy. Consequently, in MAD, basic questions remain: Which nuclear strategy can provide the United States with the greatest security? Closely related, which types of strategic nuclear weapons are required to support this strategy?

These questions are not new. Since the nuclear age began over 40 years ago, hundreds of books and articles have been written analyzing the implications of nuclear weapons for strategy and international politics. Although innovative ideas and approaches occasionally appear, the central issues raised by nuclear weapons were identified long ago. The broad outlines of the debate have been clear since the late 1940s<sup>3</sup> and the formative theoretical work on deterrence and nuclear strategy was completed in the late 1950s and early 1960s.<sup>4</sup> The terms of the debate—first strike and second strike capability,

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and 50 percent of Soviet industry, which corresponded roughly to the ability to destroy the Soviet Union’s largest cities. McNamara’s criteria for assured destruction were heavily influenced by the diminishing damage potential of increasing the size of the U.S. attack—that is, once the United States could inflict this level of damage, large increases in U.S. forces were required to achieve relatively small increases in the damage the United States could inflict on the Soviet Union. McNamara estimated that 200 “equivalent megatons” could inflict the level of damage required for assured destruction. Alain C. Enthoven and K. Wayne Smith, *How Much Is Enough?: Shaping the Defense Program, 1961–1969* (New York: Harper & Row, 1971), p. 207.

<sup>3</sup> Well ahead of its time was Bernard Brodie, ed., *The Absolute Weapon* (New York: Harcourt Brace, 1946). An opposing view is found in William Borden, *There Will Be No Time* (New York: Macmillan, 1946).

<sup>4</sup> Key works include William W. Kaufmann, ed., *Military Policy and National Security* (Princeton: Princeton University Press, 1956); Albert Wohlstetter, “The Delicate Balance of Terror,” *Foreign Affairs* 37, no. 2 (January 1959); Thomas C. Schelling, *The Strategy of Conflict* (Cambridge: Harvard University Press, 1960); idem, *Arms and Influence* (New Haven: Yale University Press, 1966); Bernard Brodie, *Strategy in the Missile Age* (Princeton: Princeton University Press, 1959); Herman Kahn, *On Thermonuclear War* (Princeton: Princeton University Press,

counterforce and countervalue targeting, credibility of threats, crisis stability, and arms race stability—have not changed significantly. Since then scholars have explored the logic of U.S. nuclear doctrine in great detail,<sup>5</sup> improved our understanding of the history of U.S. nuclear doctrine and warplans,<sup>6</sup> identified important dangers that were not previously appreciated,<sup>7</sup> and provided valuable technical analysis of key policy issues.<sup>8</sup> Given the attention that this subject has received, to offer one more book may seem quixotic or superfluous.

I do not believe so. Despite the enormous attention that has been devoted to these issues, the existing literature suffers important weaknesses. First, underlying sources of policy disagreement are rarely explicit. As a result, why analysts actually disagree often remains obscure. The policy debate tends to focus on the details of specific options, while overlooking the more basic disagreements about the facts and theories on which the analyses are based. This burying of basic premises slows progress in resolving or at least narrow-

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1960); and Glenn H. Snyder, *Deterrence and Defense* (Princeton: Princeton University Press, 1961). On early works on arms control see Chapter Ten. On the development of nuclear strategy see Lawrence Freedman, *The Evolution of Nuclear Strategy* (New York: St. Martin's, 1981), Fred Kaplan, *The Wizards of Armageddon* (New York: Simon and Schuster, 1983), and Marc Trachtenberg, "Strategic Thought in America, 1952–1966," *Political Science Quarterly* 104, no. 2 (Summer 1989): 301–34..

<sup>5</sup> The key example is Robert Jervis, *The Illogic of American Nuclear Strategy* (Ithaca: Cornell University Press, 1984).

<sup>6</sup> The authoritative study of the earlier years is David Alan Rosenberg, "The Origins of Overkill: Nuclear Weapons and American Strategy, 1945–1960," *International Security* 7, no. 4 (Spring 1983): 3–72. On later years see Desmond Ball, *Deja Vu: The Return of Counterforce under the Nixon Administration* (Los Angeles: California Seminar on Arms Control and Foreign Policy, 1975); idem, *Targeting for Strategic Deterrence*, Adelphi Paper No. 185 (London: IISS, 1983); idem, "U.S. Strategic Forces: How Would They Be Used?" *International Security* 7, no. 3 (Winter 1982/1983): 31–60; Desmond Ball and Robert C. Toth, "Revising the SIOP: Taking War-Fighting to Dangerous Extremes," *International Security* 14, no. 2 (Spring 1990): 65–92; Aaron L. Friedberg, "The Evolution of U.S. Strategic Doctrine, 1945–1980," in Samuel P. Huntington, ed., *The Strategic Imperative* (Cambridge, Mass.: Ballinger, 1982), pp. 53–100; Henry S. Rowen, "The Evolution of Strategic Nuclear Doctrine," in Laurence Martin, ed., *Strategic Thought in the Nuclear Age* (Baltimore: Johns Hopkins University Press, 1979), pp. 131–56; Leon Sloss and Marc Dean Millot, "U.S. Nuclear Strategy in Evolution," *Strategic Review* 12, no. 1 (Winter 1984): 19–28; and Scott D. Sagan, "The Evolution of U.S. Nuclear Strategy," in his *Moving Targets: Nuclear Strategy and National Security* (Princeton: Princeton University Press, 1989).

<sup>7</sup> Comprising perhaps the most prominent example are the dangers that result from vulnerable command and control systems. See, for example, John D. Steinbruner, "National Security and the Concept of Strategic Stability," *Journal of Conflict Resolution* 22, no. 3 (September 1978); for additional citations see Chapter Two.

<sup>8</sup> For example, on command and control see Bruce G. Blair, *Strategic Command and Control: Redefining the Nuclear Threat* (Washington, D.C.: Brookings Institution, 1985), and Ashton B. Carter, John D. Steinbruner, and Charles A. Zraket, eds., *Managing Nuclear Operations* (Washington, D.C.: Brookings Institution, 1987); on basing ICBMs see Office of Technology Assessment, *MX Missile Basing* (Washington, D.C.: GPO, 1981); and on ballistic missile defense see citations in Chapter Four.

ing debates, and increases the chances that the United States will pursue undesirable policies.

Second, alternatives to MAD are rarely analyzed.<sup>9</sup> Instead, they are presumed to be far preferable to MAD, and as a result exert influence on current policy. However, this lack of analysis leaves us with little insight into how much and what type of influence is justified.

Third, notwithstanding the large number of arguments and counterarguments, analysis of nuclear weapons policy is rarely systematic and complete. Although the basic concepts that have guided the field are essentially sound, analysts often use them incorrectly, overlooking the conditions that limit when and how they apply, and that lead to important qualifications. Consider, for example, the debate over nuclear weapons designed to destroy Soviet nuclear forces. The standard logic holds that these counterforce weapons can increase the probability of all-out war: if both superpowers can reduce the damage they might suffer in an all-out war by launching a preemptive first strike, then each may feel pressure in a time of crisis, when nuclear war appears likely, to start the nuclear war instead of suffering the other's first strike. Yet opponents of counterforce commonly argue both that counterforce *cannot* limit damage in MAD and, based on the logic of preemptive strikes, that counterforce is dangerous.

More surprising, some central questions about U.S. policy in MAD have not been thoroughly addressed. For example, is counterforce dangerous in MAD? As just noted, the most prominent argument against counterforce—that in times of crisis it generates pressures for preemptive attack, thus reducing “crisis stability”—does not apply if damage limitation is understood to be infeasible.<sup>10</sup> Additional possible dangers of counterforce, including other dimensions of the problem of preemptive incentives in MAD, have received far less attention. To take another example: Can arms control help reduce the probability of war when neither superpower can build its way out of MAD? Classic arms control theory focuses on the value of limiting forces that might jeopardize the superpowers' retaliatory capabilities, and therefore sheds little light on this question when retaliatory capabilities are assured.

Finally, scholars have left a gap at the intersection of theory and policy analysis. There are few analyses of key questions of U.S. strategic nuclear force requirements which lay out the full range of important competing argu-

<sup>9</sup> An exception is Stephen W. Van Evera, “Causes of War,” (Ph.D. diss., University of California at Berkeley, 1984), Chapter 13. See also David C. Gompert, Michael Mandelbaum, Richard L. Garwin, and John H. Barton, *Nuclear Weapons and World Politics: Alternatives for the Future* (New York: McGraw-Hill, 1977), and relevant chapters in Joseph S. Nye, Jr., Graham T. Allison, and Albert Carnesale, *Fateful Visions: Avoiding Nuclear Catastrophe* (Cambridge, Mass.: Ballinger, 1988).

<sup>10</sup> Chapter Seven analyzes disagreements about the feasibility of damage limitation in MAD, reviews the dangers that have been identified, and suggests additional ones.

ments, evaluate their strengths in terms of broader theoretical and factual disputes, and reach overall assessments.

In short, therefore, this book has twin objectives. The first, and in the end the more important one, is to reach conclusions about U.S. nuclear strategy and force requirements. In addition, I have a primarily methodological objective: to demonstrate the power of rigorous analysis that starts from basic premises.

## PART I: THE QUESTIONS BEHIND THE QUESTIONS

### *Analyzing U.S. National Security Policy*

To better appreciate the significance of current weaknesses in the strategic nuclear debate, it is useful to briefly review the necessary elements of policy analysis. In principle, policy analysis has a neat logical structure. It matches means to ends while taking account of constraints.

The end we are interested in here is U.S. national security. U.S. security depends upon the probability of war and the costs if war occurs. It also depends upon the United States' ability to protect allies and other areas of "vital" interest. Some also include U.S. economic health among the factors determining national security.<sup>11</sup>

Strategic nuclear weapons are one of a variety of possible means for achieving U.S. security. Other military means include theater nuclear forces and conventional forces. Arms control, that is, cooperating with the Soviet Union over the size, type, and/or operation of the superpowers' arsenals is a closely related means of achieving security. In addition, the United States possesses important nonmilitary means: its foreign policy and international economic policy can play key roles in protecting its interests.

Theories play an integral part in policy analysis, providing the logical link between means and ends. They reflect beliefs and conclusions about how the world works. For example, without theories we could not judge whether, and how, the size and type of U.S. forces influence the probability of war. Deterrence theory provides the key link in most analyses of this relationship.

<sup>11</sup> Thoughtful discussions include Alexander L. George and Robert O. Keohane, "The Concept of National Interests: Uses and Limitations," in Alexander L. George, *Presidential Decisionmaking in Foreign Policy* (Boulder, Colo.: Westview Press, 1980); James N. Rosenau, "National Interest," *International Encyclopedia of Social Sciences*, Vol. 11 (1968); Richard H. Ullman, "Redefining Security," *International Security* 8, no. 1 (Summer 1983): 129–53; Bernard Brodie, *War & Politics* (New York: Macmillan, 1973), pp. 341–74; Stephen M. Walt, "The Case for Finite Containment: Analyzing U.S. Grand Strategy," Steven R. David, "Why the Third World Matters," and Michael C. Desch, "The Keys that Lock Up the World: Identifying American Interests in the Periphery," all in *International Security* 14, no. 1 (Summer 1989); and Stephen Van Evera, "American Strategic Interests: Why Europe Matters, Why the Third World Doesn't," *Journal of Strategic Studies*, (forthcoming).

Theories also play a role in determining constraints. For example, beliefs about Soviet reactions to a U.S. military buildup influence judgments about whether the United States can acquire certain military capabilities. To take a specific example, judgments about whether the United States could build an effective defense against Soviet missiles depend on one's beliefs about how the Soviet Union will respond to U.S. strategic defenses. Analysts who believe that the Soviet Union will place high priority on defeating U.S. missile defenses are more likely to find that the United States cannot protect itself against Soviet attack. In turn, beliefs about Soviet responses can be based on general beliefs about how superpowers react to military threats to their vital interests.

Thus, analysts holding different theoretical convictions are likely to reach divergent policy conclusions. They may disagree about which policies are desirable and which outcomes are feasible. Resolving these policy disputes requires first identifying the theoretical disagreements, and then determining which positions are strongest.

Given the central role of theory, it is odd that policy analysis is often believed to be atheoretical. Policy analysts are necessarily applying theories. They should be the most important consumers of theorists' work. Further, policy analysts can help to generate and focus important theoretical questions. By structuring complete analyses, they can identify theories that are underdeveloped.

Possibly more obvious than the role of theories is the role of facts. Facts determine the conditions under which the relevant theories are to be applied. They are especially important because theoretical predictions are usually conditional. For example, according to contending models of how to exert international influence, the choice between cooperative and competitive policies depends on one's view of the adversary: if one's adversary is bent on expansion, then competitive policies might be necessary; on the other hand, if the adversary is a status quo power, then competitive policies are likely to be self-defeating.

Facts also play a central role in determining constraints. Continuing with the example of the feasibility of strategic defenses, whether the United States can build a highly effective defense against Soviet missiles depends heavily on how the cost of building defenses compares to the cost of building offenses that can defeat them.

Ideally, analysts would make their analysis as "transparent" as possible. They would begin with a statement of the objectives of the policies being considered. For most strategic nuclear issues this may seem superfluous—the objective is understood to be reducing the probability of large superpower war, especially nuclear war. There are exceptions, however. Certain policies—for example, greatly increasing the U.S. ability to destroy Soviet forces—might be pursued partly to reduce the costs if war occurs; other strategic nuclear



policies might be directed at influencing Soviet foreign policy; still others might be pursued to reduce the economic costs of maintaining U.S. security.

Next, analysts would establish the foundations of their analysis by providing their views on the relevant facts, theories, and constraints. Beyond these basics, they could provide valuable insights by laying out which theories and facts are disputed, by explaining why certain ones were chosen over competing alternatives, and by describing the uncertainties that will be incorporated into the analysis. Then the analyst's task is to apply theories under specific conditions, eventually identifying tradeoffs between competing options and conflicting objectives. In effect, the analyst would be providing an analytic road map in which theories provide the link between available means and ends, while the specific conditions determine which theories apply and their implications. The analysis of complicated issues will remain complex, but its logic should be readily accessible.

Reaching policy conclusions requires performing net assessments—comparisons of overall benefits and costs—which in turn demands that analysts strive for “completeness,” that is, they must explore the full range of options and the full range of arguments over the cost and benefits of these options.<sup>12</sup> Partial analyses are easily biased and do not provide sufficient grounds for reaching an overall conclusion. When completeness is beyond their scope, analysts should explain what part of the overall issue they have explored and qualify their policy conclusions accordingly.

Among its many advantages, such transparent and complete analysis would make it relatively easy to determine where analysts disagree. They might have started from different facts and theories, have considered different options (i.e., different means and constraints), or have weighed the costs and benefits of competing options differently. With this type of analysis the policy debate could focus immediately on the points of divergence. Equally important, for a given analytic structure it would be relatively straightforward to determine the implications of different facts and theories.

Unfortunately, we see little of this type of analysis in the debate over strategic nuclear weapons. Analysts are, of course, applying theories; without them, drawing conclusions about the effects of policy would be impossible. The problem is that analysts frequently build theoretical beliefs into arguments without making them explicit and without laying out the conditions under

<sup>12</sup> In principle, this could be guaranteed by applying the full set of relevant theories to each option. In practice, a somewhat less fundamental, but no less complete, structure is more common. Specific arguments about costs and benefits will have already gained currency in the policy debate. These arguments are themselves the product of theories having been applied to the options in question. In this case, the analyst joins the debate by starting with existing arguments and then assessing them by identifying the theories on which they are based. If the existing arguments about costs and benefits are incomplete, then the analyst should offer additional arguments based upon relevant but still unapplied theories.