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Analysis of Strategy and Strategies of Analysis

David C. Gompert, Paul K. Davis, Stuart E. Johnson,
Duncan Long

Prepared for the Joint Staff

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Preface

This monograph explores new ideas for analyzing national defense strategy, building on concepts that enjoy credence in the defense world while borrowing other concepts from the business world. It is the companion of a longer analytical report on the same subject.¹ Both result from a study of how to assess the implications of national defense strategy, conducted by RAND at the behest of the Joint Staff's J-8 and the Office of the Secretary of Defense.

For decades, RAND has partnered with the U.S. Department of Defense (DoD) in developing and using methods of analysis to solve complex defense problems. From the early days of systems analysis and cost-benefit analysis to the recent advent of capabilities-based planning and portfolio management, RAND has sought useful methods wherever they might be found, and it has invented others. In this study, methods that have proved successful in complex corporations are examined for their potential value in setting and assessing national defense strategy. These methods are driven by the imperative to focus capabilities and align resources toward goals in a dynamic environment, fundamentally the same imperative currently facing DoD as it strives for “jointness” in an unsettled security environment. This is an auspicious time to combine ideas from corporate success with methods developed over the last decade at RAND and elsewhere to improve the assessment of national defense strategy.

¹ Paul K. Davis, Stuart Johnson, Duncan Long, and David C. Gompert, *Developing Resource-Informed Strategic Assessments and Recommendations*, Santa Monica, Calif.: RAND Corporation, 2008.

The application of these ideas and methods is contained in our companion report. Although each document can stand alone, the authors recommend viewing them in tandem. Both should be of interest to practitioners and researchers concerned with connecting the ends with the means of national defense strategy. This essay may be of greater value to decisionmakers, but the main report will be of particular interest to persons with responsibility to perform the analysis. Questions and comments are welcome and should be addressed to David Gompert (gompert@rand.org).

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Summary

Analyzing alternative national defense strategies and their implications is hard work, especially in unsettled global security conditions. Time may be short, decisionmakers impatient, experience unhelpful, intuition unreliable, and the future unpredictable. Yet failing to analyze strategy before, not after, it is adopted can produce costs, risks, and results for which the Department of Defense (DoD) and the nation are unprepared and which, if understood in the first place, might have argued for a different or reworked strategy. For example, DoD has spent some \$0.8 trillion more than originally projected to perform its part in what the current U.S. administration describes as the “global war on terrorism” (GWOT). Although the United States might in any case have opted to take large-scale offensive military action in the Muslim world, a strategy chosen without analysis in the pressurized political atmosphere following the attacks of September 11, 2001, has led to unexpected bills, uneven results, and unwanted side effects.

An unstable security environment makes strategic analysis as essential as it is difficult. Yet DoD, for all its analytic prowess, does not afford the consideration of strategy the same disciplined reasoning that goes into routine annual budget-building and acquisition decisionmaking in the execution of strategy. Official strategy statements are more for documenting strategy than analyzing it. Shifts in global security of the sort that may warrant a change in strategy do not conform to the quadrennial rhythm of mandated national defense reviews.

This is the context in which the Joint Staff asked RAND to find a way to perform “resource-informed” strategic analysis, of the sort that

would enable the Chairman of the Joint Chiefs of Staff to advise the Secretary of Defense of the main implications of defense strategy before its adoption. Although the impetus for this study was concern about the costs of national defense strategy—an obvious concern in times of mounting defense costs—the work necessarily addressed as well the expected results and risks of strategy. Each of these major implications of strategy affects the others: Improving expected results may involve increasing likely costs; decreasing costs may mean accepting greater risks; and so forth. Indeed, so interdependent are these three factors that they must be examined together, making strategic analysis that much harder.

In tackling this problem, we have explored how other *complex enterprises operating in dynamic environments* go about analyzing strategic alternatives and implications. In particular, large diversified corporations competing in challenging markets tend to rely on subordinate operating units (or lines of business) not only to carry out strategy but also to provide the prism through which they can assess the likely results, risks, and costs of strategy before embarking on it. Reliance on operating units is not as universal or uniform as business-school teachings suggest, but it is a proven way for corporations to maintain oversight without quashing initiative and to marry strategic direction with market-based responsiveness and opportunism.

For all the differences between the corporate and defense worlds, reliance on operating units both to analyze and to execute strategy is a common key idea. Indeed, the same challenge that leads corporations to plan and manage by operating units—to focus diverse capabilities for success in fluid conditions—makes operating units important in the performance and analysis of national defense. As with other complex enterprises operating in turbulent environments, DoD needs visibility into operations without micromanaging them; it needs to shape but not dictate how subordinate line organizations respond to conditions; and it needs to know how to align resources to achieve the operating objectives that flow from national strategy. As the nearest thing to corporate operating units, the unified combatant commands (COCOMs) can serve these purposes.

The key to improving strategic analysis is thus to pursue further the logic of jointness by giving greater prominence to COCOMs in linking the goals to the requirements of global strategy. The COCOMs are expected to respond with agility, unity, and focus—despite DoD’s size and complexity—to the demands and opportunities of an unstable security environment. Because they are the chief agents of strategy, their operating objectives should define the need for the capabilities and resources a given strategy requires. As with corporate operating units, COCOMs offer a way to analyze the implications of strategic choice.

It has been observed that COCOMs are generally not good at taking a long view—owing to the immediate pressures they face—and so strategy is not their forte. Of course, this is also true of most business operating units, especially with the impatience of Wall Street traders and corporate headquarters to see quarterly results. This is one reason why, in both worlds, responsibility for setting strategy rests with corporate executives (or national leaders), whose horizons are both long-term and market-wide (or global). The potential importance of COCOMs lies not in setting national strategy but in translating it into operating objectives and in turn expressing demand for capabilities to achieve those objectives, thus allowing strategy and resources to be linked.

The experience of complex enterprises suggests two other, complementary ideas of significance to strategic analysis. One is portfolio analysis, which is particularly important for a world power with diverse interests and responsibilities. National defense, as with diversified corporations, is best understood as a portfolio, in which multiple goals compete for capabilities and resources—for instance, countering Islamist insurgencies, ensuring access to world energy supplies, coping with increased Chinese power, partnering with allies, and protecting the United States. Just as strategy must address these goals, stressing some without neglecting others, strategic analysis must be portfolio analysis. Because operating units are the chief agents of strategy, they provide a good way to analyze the portfolio that is national defense.

The third idea is to develop what we call “inside-out” strategy, which is the exploitation of the enduring strengths of an enterprise—often referred to as “core competencies” in the business realm—in

meeting external demands and opportunities. In national defense, harnessing the basic qualities of the country itself—inventiveness, market freedom, scale, and geographic advantages—can offer an especially potent and economical way to meet external demands and opportunities. All else being equal, the integration of inside-out strategy with “outside-in” (externally determined) strategy can help produce desired results at affordable costs with manageable risks. It follows that the awareness of core strengths and how they can be embodied in defense capabilities is a crucial aspect of strategic analysis and of strategy itself.

Drawing on what we believe are sound methods of strategic analysis for complex enterprises operating in unstable environments, we offer the following approach to DoD strategic analysis:

- a. Express *global strategic goals* in the current environment.
- b. From these goals, derive specific *objectives* for each operating unit.
- c. Identify *capabilities* that operating units need to achieve these objectives.
- d. Specify the *forces and support* needed to deliver these capabilities.
- e. Using *portfolio analysis*, assess the costs of preparing, deploying, and employing these forces and support, along with expected results and risks.
- f. Do likewise for *alternative strategies* of interest to permit comparison.
- g. *Iterate* to improve strategy in light of implications and core strengths.

DoD has ample analytic capability and experience for each link in this chain of reasoning: The innovation lies in the chain, not the individual links. Of special importance in associating strategy with resources—the Joint Staff’s original query—is the ability to identify the *capabilities* needed to enable operating units to meet their *objectives* pursuant to strategy. In this regard, the “component commands”—i.e., for ground, naval, and air forces—that couple the COCOMs with

the military services are critical to connecting the needs and means of strategy.

As noted, organizing strategic analysis around COCOMs is a natural next step in advancing jointness. At the same time, the military services are crucial to strategy because they provide most of the capabilities needed to meet operating objectives: forces, equipment, support, doctrine, and skills. More than that, they are the repository of deep, lasting knowledge and competence, as well as the source of most innovations in capabilities based on their interpretation of global needs. In this sense, they are also the adaptors and conveyors of those core national strengths that can produce better results economically. A central point is that the COCOMs and the military services—the demanders and providers of capabilities—can and should form a natural partnership that links global strategy to core strengths. Finally, just as the top managers of any complex enterprise must outline strategy and nurture the partnership of operators and capability providers, so must DoD’s civilian leaders and the Joint Chiefs of Staff. Thus, for all their differences, the Defense Department and typical large diverse corporations are architectural kin.

Applying these ideas in the study on which this report is based, we offer a framework for strategic analysis with three dimensions:

- operating units (COCOMs) that constitute the portfolio of national defense
- alternative strategies that distribute weight, and thus capabilities and resources, differently across this portfolio
- assessment and comparison of implications—expected results, risks, and costs—of each portfolio strategy.

Using this framework, our companion report offers first-order assessments of the implications, by COCOM, of three illustrative strategies, each with a different primary emphasis: countering Islamic insurgency directly with U.S. forces; building up effective local partners to bear more of the burden of security; and responding to rising Chinese power and assertiveness. Although only illustrative, the results indicate significant differences among the alternatives in the composi-

tion and assignment of military capabilities, likely effectiveness, risks, and costs. The same framework also invites “exploratory analysis” that permits leaders to see how tailoring strategy affects expected results, risks, and costs. The formulation of national defense strategy is best accomplished through iterative reasoning, whereby the objectives may be rethought and revised in the light of their implications.

For any complex enterprise, analyzing and setting strategy based on external demands and opportunities, although essential, may be insufficient to deliver success. Leading corporations integrate the needs of their operating units with a clear sense of their core competencies and how to apply them. For example, Toyota’s strategic goal is to achieve the leading market share globally. Because this requires that it compete aggressively in the U.S. market, it aligns its marketing objectives and investments accordingly. Simultaneously, Toyota understands that its ability to make consistently reliable cars on a large scale—its core strength—is the key to taking U.S. market share, which in turn enlarges production.

Such holistic thinking can also be found in the annals of the strategy of nations. Great Britain’s 18th- and 19th-century strategy of using its maritime superiority to acquire choice colonies, thus expanding its resource base and power, permitted *Pax Britannia* and guaranteed national security and prosperity. Today, China’s effort to extend its reach and clout globally is motivated by the need to assure access to the markets and inputs it needs to sustain strong economic growth, which provides it with the wherewithal to be a global power.

- The United States today possesses exceptional national qualities—individualism, political and economic freedom, natural abundance, size, and geographic location. From these flow certain strengths relevant to national defense: risk-tolerance, learning by testing the limits of performance, scientific inquisitiveness, rapid technological innovation and application, openness with information and ideas, an enviable political-economic system, market scale and dynamism, mobility of production factors, organizational adaptability, geographic depth and reach, access to all domains (sea, air, space, and cyberspace), and worldwide relation-

ships. In turn, it is up to DoD, especially the military services, to make economical use of these strengths in building the capabilities to enable operating units to achieve their objectives—in effect, building the bridge between national strategy and national strengths from both ends.

Using this reasoning, one can imagine *integrated* U.S. defense strategies and associated measures. To illustrate:

- Given its core abilities in scientific inquisitiveness, risk-tolerance, learning, and rapid innovation, the United States could outpace and deter China by virtue of persistent technological advantage. More specifically, it could develop and field superior sensors to observe all Chinese forces, capabilities to frustrate Chinese attempts to interfere with such sensors, countermeasures to interfere with Chinese sensors, and networks to communicate tracking and targeting information for long-range precision strike.
- With its inherent strengths in generating and sharing ideas, information, and know-how, the United States could motivate and mobilize like-minded allies and local partners to contribute more to defense against extremists, allowing the United States to capitalize on using its technological advantages and its geographic depth and reach to provide those capabilities only it can. To this end, the U.S. military would expand investment in the ability to organize, train, equip, advise, and enable allied and local forces.

Today, not all U.S. core strengths that ought to contribute to national defense actually do:

- Despite its track record, the American political-economic model is not winning consistently abroad in competition with statism and extremism.
- Organizing, training, and enabling indigenous forces is, in fact, a weakness.
- Allied forces are not being enabled by shared information networks.

- Defense innovation and procurement are lagging commercial performance.
- The costs of complex defense systems are rising while those of civil systems fall.
- Organizational structures resist change.
- Initiative and risk-taking are not common or strong enough.

Thus, inside-out strategic analysis must include a candid assessment of discrepancies between national core strengths and the reality of national defense, with a view to discovering impediments, e.g., misdirected strategic communications, anachronistic innovation and procurement procedures, constricted defense-industrial competition, organizational inertia, and failure to challenge orthodoxy in professional military education. This becomes an agenda for reform. Of course, if a strategy depends on major reforms, the time to know this is before it is adopted.

The concepts offered here require intellectual innovation to improve and connect outside-in and inside-out strategic analysis. Yet they fit well with the structures, roles, and responsibilities of DoD today and therefore require no organizational upheaval. Indeed, they are natural next steps in defense planning within a joint setting. An unsettled security environment, an uncertain future, institutional complexity, competing goals, and rising costs are challenges for strategic analysis, especially under pressures of the sort our country, defense establishment, and analysts—not to mention our troops—face today. Yet these same conditions, along with the climbing cost of defense, make good strategic analysis imperative. Building on progress toward greater jointness and on DoD's ability to adapt, the combination of insights from analogous enterprises and methods developed over the years by RAND and others offers a way to do better.

Abbreviations

AFRICOM	Africa Command
CENTCOM	U.S. Central Command
COCOM	combatant command
COIN	counterinsurgency
DoD	Department of Defense
EUCOM	Europe Command
GWOT	global war on terrorism
JCS	Joint Chiefs of Staff
JFCOM	Joint Forces Command
MAD	mutual assured destruction
MTW	major theater war
NATO	North Atlantic Treaty Organization
NORTHCOM	Northern Command
NPV	net present value
O&M	operations and maintenance
OSD	Office of the Secretary of Defense
PACOM	U.S. Pacific Command

R&D	research and development
SOCOM	Special Operations Command
SOUTHCOM	Southern Command
STRATCOM	Strategic Command
TRANSCOM	Transportation Command

Introduction

Shifts in defense strategy—by which we mean declared intentions to meet major challenges to national security by chosen military means—ordinarily come in response to external developments, such as crises, international realignments, or the rise or fall of adversaries.¹ Because such developments can happen suddenly or slowly, strategic responses to them may be bold or gradual. In 1979, for instance, the Soviet invasion of Afghanistan and the fall of the Shah of Iran prompted the United States to extend its containment strategy to cover Southwest Asia. Later, throughout the 1990s, the disappearance of the Soviet threat to Europe and East Asia allowed the United States to focus its expeditionary military power to counter growing dangers in the Middle East.² Within days of the attacks on September 11, 2001, a global war on terrorism (GWOT) was declared, calling for offensive and preventive force against Islamist extremists and those who would back or furnish weapons of mass destruction to them. In all these cases, the United

¹ Shifts may also result from changes in U.S. interests. However, these tend to occur more gradually than, or are the result of adjustments to, changes in the security environment. For instance, U.S. dependence on foreign oil did not arise and will not vanish quickly; however, particular threats to foreign oil supplies can be comparatively abrupt. Therefore, as a general rule, we will treat the stimulus for change in strategy to be exogenous.

² Examples of gradual strategy changes include (1) increasing emphasis on conventional defense of Europe instead of dependence on massive nuclear retaliation (in the 1950s), (2) creating a credible capability for nuclear escalation to “reestablish” deterrence (in the 1960s), broadening nuclear strategy to encompass counterforce (in the 1970s), and (4) shifting from a strategy of preparing for two major wars to one of addressing near-term (“shaping”) and long-term adaptation (in the 1990s).

States responded, slowly or swiftly, to external change by refashioning and repositioning its military capabilities. All led to changes, intended and not, in the operating objectives, resource requirements, and risks of national defense.

National defense strategies are customarily recorded in Presidential and Pentagon directives, which refine them and, with greater or lesser clarity, connect them to the allocation of resources and other implementation measures. By and large, they articulate strategy rather than create it.³ The impetus for new strategy, especially in response to discontinuities in global security, is more likely to come from on high, as presidents and cabinet officers duly exercise their political duties based on their sense of threats and opportunities. Official strategy documents, although useful, typically do not analyze options and implications before strategy is set. This is not good enough.

We contend that the “post-9/11” global security environment heightens the need for disciplined analysis of national defense strategy—a contention supported by GWOT’s uneven results and unanticipated costs. The dynamic and unfamiliar security conditions of the current era, along with the need to act with agility in such conditions, place a premium on the ability to weigh options and implications before setting strategy. Yet the same conditions that make such analysis important also make it difficult. Pressures to decide and act can limit both the time and the tolerance for analyzing strategy with care. Strong personalities do not always welcome analysis, which they fear may lead to paralysis by analysis. Meeting this challenge will take new and better perspectives, processes, and methods. This monograph explores how strategic analysis can catch up with strategic reality.

What exactly do we mean by “strategic analysis”? After all, one can think of many ways to use reasoning in making strategy, e.g., listing pros and cons, considering lessons of history, applying game theory to explore what-ifs, collecting diverse expert views, even dialectic debate

³ These directives include the national security strategy, the national defense strategy, the national military strategy, and the Quadrennial Defense Review. For the most part, these statements articulate strategy rather than form it. One notable exception is the National Security Strategy of 2002, which introduced the idea of “preemptive” war.

(with or without synthesis). Yet, it is our view that an endeavor as essential and elaborate as national defense demands analysis of a particular sort and standard: one that assesses, together, the *expected results*, full costs, and most serious risks of strategy—better yet, of alternative strategies—and reveals what ought to be the best of all feasible courses of action. Whatever the pressures and uncertainties, the challenge of strategic analysis is to give leaders a broad and clear view of the implications of choice and thus help them choose wisely.

The Challenge of Strategic Analysis

For *any* complex enterprise operating in a dynamic environment, the demand for strategy-making is driven by shifting external challenges and opportunities, whereas the quality of that strategy-making is determined by the reasoning that buttresses it. This poses a serious problem for making strategy under fluid conditions, such as those that define the current era of global security. In relatively settled and familiar conditions, the experience and thus the intuition of seasoned leaders and savvy strategists can be fairly dependable. Moreover, such conditions offer more time to think through calmly the options and implications of strategic choice. But in unsettled and unfamiliar conditions, when inexperience can make intuition unreliable, analysis is essential. Yet these same conditions may limit the chance, if not also the patience, for analysis.

These are the sorts of conditions in which the U.S. Department of Defense (DoD)—clearly a complex enterprise operating in a dynamic environment—is struggling with strategic analysis. DoD is renowned for its analytic prowess, which it uses to good effect in annual planning, programming, and budgeting; investment decisions; and force planning. However, defense analysis has not kept pace with today's fluid strategic environment. It is used more to chart the execution of a given strategy than to assess options and implications before strategy is declared, especially if in response to sharp discontinuities in global security. The irregular seismic quakes that trigger strategy shifts do not conform to the annual and quadrennial rhythms of defense planning.

Recall that in September 2001, just as the Pentagon was putting the finishing touches on a scheduled, months-long Quadrennial Defense Review, a terrorist-piloted commercial airliner slammed into it, superseding much of the analysis on which the review was based.

The need to make timely strategic choices does not relieve the need to make good ones. If this is true in general for complex enterprises, in none is it truer than in national defense, where results and risks are denominated in war and peace, and where costs have been escalating of late. In national defense, as in other fields, the quality of strategic decisionmaking depends not only on staking out worthy goals but also on forming realistic expectations of results, risks, and resource requirements. Such matters are more than details of implementation: The better they are understood before strategic decisions are made, the more likely that good strategies will be chosen and then well executed.⁴

The Case of GWOT, 2001–2007

Consider the case of GWOT,⁵ announced by the President to an alarmed nation anxious for action in the aftermath of the September

⁴ We distinguish between abstract force-sizing standards that DoD has used over the years—the bygone “2-MTW” (major theater war) standard, for example—and strategy that clarifies major actual defense challenges and intentions to meet them, e.g., GWOT. Of course, the two should be consistent. In the 1990s, the 2-MTW force-sizing standard dovetailed reasonably well with the declared general strategy of “shape, respond, and prepare now.” Today’s more complex force-sizing standard and GWOT strategy bear some relationship in that the former explicitly accounts for the need to “conduct a large-scale, potentially long-duration irregular warfare campaign including counterinsurgency and security, stability, transition and reconstruction operations” against terrorist groups abroad (Rumsfeld, 2006, pp. 35–38).

⁵ The expression “war on terrorism” was first used by President Bush on September 18, 2001, one week after the attacks on New York, Washington, and Pennsylvania. “Global war against terrorism” was coined in the President’s *Message to Congress* of September 23, 2001.

11 attacks.⁶ In the months and years to follow, GWOT was invoked by the administration as a warrant for direct military intervention in the Muslim world to destroy terrorist networks and eliminate regimes that did, or might, support those networks.⁷ The invasions and occupations of Afghanistan and Iraq were declared to be essential campaigns of the strategy.⁸ In the controversy surrounding the invasion of Iraq—whether Saddam had weapons of mass destruction and was working with al Qaeda—Congress and others had questions about the expected costs. As it turned out, the costs of the Iraq War have greatly exceeded estimates inferred from what the Pentagon said before the invasion. Although one can question the claim that the conflict in Iraq and thus its costs were and are needed to combat terror, the fact that the government makes this claim justifies assigning the costs to GWOT.

GWOT as whole has cost far more than predicted. Actual defense spending has been much greater than projected by DoD in the early days of GWOT: DoD's 2003 forecast of its 2003–2008 funding needs has been exceeded by *actual* DoD budget authority for those same years by a whopping \$813 billion (FY 2008\$)⁹ (see Figure 1.1). None

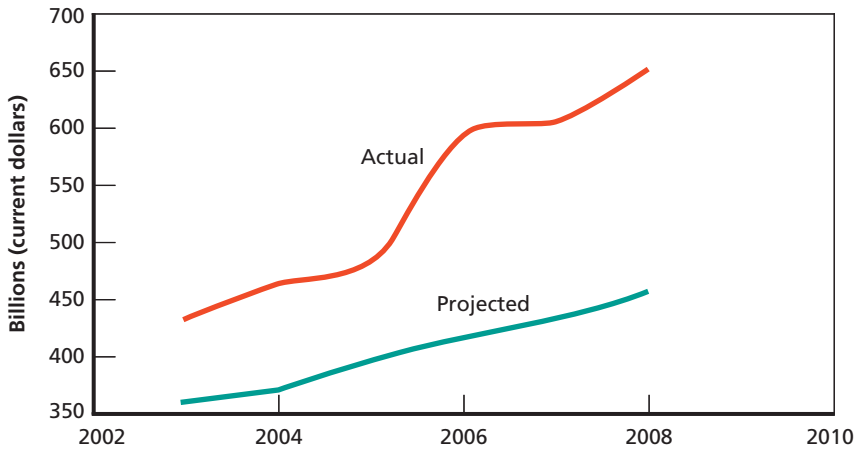
⁶ Was GWOT the only viable option at the time? It would seem not: Other possibilities included building up and relying on local partners in the Muslim world, erecting high homeland defense barriers, and strengthening and using multilateral institutions.

⁷ It became increasingly evident in the years after 9/11 that the U.S. administration's definition of GWOT was far more sweeping than conducting military operations against terrorists. Readers may believe that a narrower definition would have been and would still be more appropriate, more efficacious, and less costly, and that the invasion and occupation of Iraq were not indicated by the need to counter terrorists abroad. But for the purposes of this monograph, the costs of the wider definition are the relevant ones.

⁸ One especially pointed justification offered for the invasion of Iraq was to prevent weapons of mass destruction from falling into the hands of terrorists.

⁹ In every annual budget submission, DoD forecasts funding requirements extending out five to six years (so called "out-year" funding). Comparing these to actual requests in each coming year is a reasonable way to determine the quality of the original forecast. Of course, a change in strategy could account for significant divergence between forecasted and actual funding requests. In the case of GWOT, however, national strategy has not changed substantially since 2003.

Figure 1.1
Projected Versus Actual DoD Costs, 2003–2008



RAND MG718-1.1

of this discrepancy is attributable to national-security concerns other than combating Islamist extremists and those who might aid them. Direct costs incurred thus far only start to tell the story: Bills have yet to arrive for restoring the health of the U.S. Army, replenishing run-down and worn-out equipment, and caring for veterans with damaged bodies and minds. The Congressional Budget Office released a forecast of the total U.S. costs (not just DoD costs) of the Iraq and Afghanistan wars alone—\$2.4 trillion through 2017 (Orszag, 2007). The point here is not that these costs are excessive or unjustified—readers must decide that for themselves—but that they far exceed any that were contemplated when GWOT was launched.

It is fair to ask why the possibility of such costs was largely overlooked—or disparaged and even suppressed—when the government adopted a strategy of attacking terrorists and their backers.¹⁰ The

¹⁰ Estimates in 2002, in fact, indicated the possibility of costs of many hundreds of billions of dollars (Congressional Budget Office, 2002), and even the President’s chief economic advisor at the time estimated that costs might reach \$200 billion. There were also intelligence-community estimates warning of the possibility of serious and prolonged problems (Pillar, 2008).

likelihood of major offensive operations was implied—indeed, heralded—when the strategy was adopted. Moreover, the possibility that these conflicts would drag on should have been obvious from the very nature of the enemy.¹¹ True, the complexity of and U.S. unfamiliarity with the Islamist threat would have made solid cost estimates difficult, especially under the pressures to act against al Qaeda. However, the difficulty of planning should never be accepted as an excuse for not doing it. In this case, awareness of the adaptive and determined character of these adversaries would have argued for more care, not less, in estimating the strategy's risks, costs, and likely results. In sum, the possible consequences of GWOT might have been at least loosely grasped in 2001, but they were not because intuition prevailed over reasoning under pressure.

The entire GWOT experience speaks loudly for the principle that a strategy's costs, as well as expected results and risks, should be objectively analyzed while that strategy, along with possible alternatives, is under consideration—no matter the pressure. Even if a strategy is chosen despite high estimated costs and risks, as GWOT may well have been, at least the country and its defense establishment are better prepared for what will be required of them.

How, then, can useful analysis be done before strategic directions are set, not merely to clarify the particulars of execution but to expose weighty issues leaders should ponder before deciding? How can strategic analysis be reliable and comprehensive while also expeditious? We will try to answer these questions at the conceptual level in the pages that follow.

Next Steps in Defense Planning

Of course, the superheated atmosphere of 9/11 may not be indicative of the conditions that will attend future changes in national defense

¹¹ In fact, at the time the 2003 budget was submitted, the war in Afghanistan was already under way, and planning for the invasion of Iraq was well along. Both conflicts have been explained as campaigns in the war on terrorism, with its stress on attacking threats at their source, even preemptively.

strategy. In the years to come, strategic choices may range from abrupt to evolutionary. Yet, analysis will have to be timely, insightful, correct to the first order, objective, candid, and comprehensive, regardless of the tempo of decisionmaking and the impatience of decisionmakers. Whether a strategy is demanded suddenly or emerges gradually, analysis must ensure that possible consequences are understood, that resource implications are broadly clear from the outset, and that risks are recognized long before they become imminent. To meet this standard, the science and art of strategic analysis has to improve.

The challenge of analyzing national defense strategy for a fluid security environment is compounded by the way the United States must conduct itself in such an environment. Strategic success depends increasingly on agility and focus, not only of military forces commanded and operated jointly but now of other U.S. government agencies as well.¹² Yet, defense analysis and planning lag behind the movement toward such operational unity, at least in DoD. A theme of this monograph is that strategic analysis should be organized to assure that chief agents of global defense strategy—the COCOMs—have the operating objectives, authorities, and resources needed to deliver what is intended by strategy and to adapt as circumstances demand. Of course, this should be done, and can be done, while preserving the strong role of the national command authority in security and defense.

Assuring that the chief agents of strategy can be effective in executing it is a common problem for large and complex enterprises that operate in dynamic conditions. Such enterprises must be able to act nimbly while drawing on whichever of their vast capabilities are needed. In defense, the ability of the COCOMs, each with its own role to play in strategy, to draw on capabilities furnished by the military services, each with its own strengths, is a complex problem both of

¹² Although military “jointness” was legislated 20 years ago, it is increasingly clear that joint action by unified combatant commands (COCOMs) is the key to meeting the demands of a fluid security environment. Insofar as those demands include complex civil-military responses, as in postconflict operations and counterinsurgency, the need for agility and “unity of effort” extends beyond military forces to encompass diplomacy, foreign aid, and other policy arms.

analysis and of execution—all the more so when in an unstable security environment.

The challenge, then, is to be able to perform timely analysis

- that exposes the expected results, costs, and risks of alternative strategies
- that can be carried out by multiple agents
- that must each operate with focus in fluid conditions
- that can be accomplished while relying on the capabilities of a complex enterprise.

Not a simple challenge. But, as we will see, DoD is not unique in facing it and therefore can learn from how other major enterprises cope.

Toward an Integrated Analytic Framework: The Search for Analogs

The impetus for this inquiry came in the form of a specific question posed by the Vice Director of the Joint Staff's J-8, namely: When changes in national defense strategy are under consideration, is there a way to estimate the *costs*? The answer, we find, is yes, although it takes a fresh way of looking at the connection between strategy and resources. It also requires analytic methods that are thorough but not tedious, readily usable by DoD staffs, and easily understood by decisionmakers—a tall order. Our study of this problem has led us to conclude that solving this problem requires a blend of new tools for defense analysis and ideas used by other complex enterprises to set strategy in the face of uncertainty.

Beyond the specific problem of assessing the costs of strategy, the Joint Staff's initial query illuminates the larger problem of how to analyze national defense strategy under dynamic conditions. Because the implications of choosing a strategy include *expected results* and *risks*, along with expected *costs*, strategic analysis must encompass all three if it is to help leaders choose strategy and thus improve its quality and execution. Moreover, costs, expected results, and risks are interdepen-

dent in that, generally speaking, changing strategy to improve results or to lower risks or costs will affect the others. It follows that all three types of expectations must be analyzed in combination.

As just noted, DoD is not the only enterprise facing the problem of strategic analysis. Other enterprises, notably diversified corporations operating in dynamic markets, must also try to understand the requirements and implications of strategy as it is being formulated. Although business planning and management methods vary widely, three with particular significance for DoD are

1. reliance on *operating units* to reveal what strategy implies in expected results, required resources, and risks before being adopted
2. the discipline of *portfolio management* to guide the shaping of strategy involving multiple goals competing for common resources
3. *integration* of external (outside-in) strategy and what we call core (inside-out) strategy—the former responding to environmental demands and opportunities, the latter exploiting enduring corporate strengths.

DoD has had some exposure to the second of these concepts but is inexperienced with the first and third.¹³ As we will see, the three are related; indeed, their integration is the essence of good strategy and good strategic analysis.

Although common in business, these ideas are not peculiar to it. They are generally effective ways of relating strategy to means and means to strategy for complex enterprises operating in dynamic conditions. The typical large diversified corporation comprises several operating units. If the strategic goals of the corporation as a whole are well

¹³ As far as we know, the first suggestion about using portfolio-analysis methods for defense planning was in a 1996 RAND paper (Davis, Gompert, and Kugler, 1996), a purpose of which was to reorient DoD away from characterizing strategy by the number of simultaneous wars against which to size and toward a description highlighting a combination of environment-shaping, capability for warfighting, and preparation for an uncertain future. Many enhancements have followed (Davis, 2002; Davis, Shaver, and Beck, 2008).

translated into the objectives of its operating units, the aggregate effect of achieving the latter is to realize the former. Whether in business or national defense, the lens of operating units provides a way to examine the implications of strategy.

The linkage of strategy and resources via operating-unit objectives and corresponding capabilities can provide opportunities for timely and effective strategic analysis, but it still demands other tools. One in particular—portfolio assessment—can help reveal and connect the expected effects, costs, and risks of alternative strategies. Generally speaking, complex enterprises consist of portfolios of multiple competing goals with different weights supported by a corresponding allocation of resources.¹⁴ Because goals vie for scarce resources, strategy is concerned largely with assigning importance among goals and aligning operating capabilities and investments accordingly.

In a complex corporation with several operating units, it must be understood how each unit is expected to contribute to the achievement of corporate goals (e.g., market share, cash flow, and diversification), with what requirements, at what cost, and with what risk. The corporation's portfolio strategy might stress one business, maintain another, divest another, and explore the possibility of yet another. By understanding the relationship of each operating unit to corporate goals, it is possible to analyze and shape overall strategy to optimize expected results, costs, and risks for the corporation as a whole by the way capabilities and capital are employed among and by operating units. Of course, portfolios are not static. In changing markets, strategy is adjusted by altering weights among corporate goals and, for diverse corporations, among the operating units that pursue these goals.

What does this have to do with national defense strategy? Because the United States is a world power with diverse interests and responsibilities, it must pursue a portfolio of multiple strategic goals. Given scarce resources, these goals compete with one another for capabilities and resources. Decisionmakers must have a clear sense of priority among these goals and strike a balance among them. As with other

¹⁴ Of course, this is not limited to complex enterprises. Individuals can use different investment instruments to pursue their various financial goals.

complex enterprises, the United States relies on subordinate operating units to pursue its goals. Therefore, the way to set and carry out national defense strategy is to align capabilities and resources with operating units consistent with their role in the portfolio. Because the international environment is dynamic, the portfolio strategy must be as well. So strategy is adjusted by shifting emphasis among goals and, necessarily, among the capabilities and resources available to operating units. Because national defense strategy should be managed as a portfolio, alternative strategies should be assessed as alternative portfolios.

Thus, defense strategy may stress new capabilities to meet rising threats while retaining “legacy” capabilities to cover familiar ones and hedging against unlikely but consequential ones. A current example is how the United States relies on superior maritime and aerospace forces to offset China’s rising power in the Western Pacific even while concentrating its land forces on the more pressing problem of Islamic insurgency in the greater Middle East. To some extent, this portfolio is managed by having the right capabilities in the right place at the right time. But it also requires investing resources to acquire the right sets of capabilities.

These two perspectives—operating units and portfolios—can be coupled with a third way to analyze and make strategy: the integration of external (what we will call “outside-in”) and internal (“inside-out”) strategic perspectives. Corporate strategy and national defense strategy are, or should be, strongly shaped by key goals and external challenges to them: What does the market want? What is the competition up to? What are U.S. security interests? What threats to those interests does the United States face? In both realms, however, a strategy devised to harness core strengths can offer an especially potent and economical way to meet external demands and opportunities. The essence of a winning strategy is the exploitation of core strengths to achieve important results. Essential though it may be for capabilities to be shaped by external demands, it helps if they also embody enduring qualities that distinguish the enterprise from others. Therefore, although emphasis may vary between outside-in and inside-out perspectives—depending on circumstances and culture—integrating them is key.

It is fair to question whether such concepts and analytical methods will actually *work* in national defense. The history of defense planning is littered with failed attempts to import business planning concepts—some proving impractical, others unsuitable for stewardship of public monies, still others just too foreign for government bureaucracy. But our work reveals that the concepts offered here are applicable and practicable for assessing and selecting an effective and supportable national defense strategy.¹⁵ This is not another appeal for DoD to be run more like a business; rather, it is a recognition that *both* DoD and complex companies face problems of forming strategy in dynamic worlds.

Actually, developments within DoD present a golden opportunity to apply corporate methods for assessing strategy. In particular, DoD relies increasingly on its own operating units—COCOMs—to provide unity, focus, and agility externally. These units are oriented and empowered to operate in the security environment, drawing on the military services for capabilities that effectively exploit national strengths (e.g., new technology, high-quality personnel, geography, and scale). Because COCOMs are the chief agents of strategy, the assignment of capabilities to them and the corresponding allocation of resources is the way the portfolio of national defense goals is made operational. Moreover, the involvement of both COCOM and service perspectives in defense planning offers a way to integrate both outside-in and inside-out strategies. Even as DoD struggles to grasp the implications of shifts in strategy in a dynamic world and an age of jointness, methods such as those offered here can be natural extensions of current DoD directions, not alien implants.

In sum, recent progress in DoD and its approach to planning provides an open door for ways to assess the costs and other implications of strategy and to integrate external needs with internal strengths. On this optimistic note, the rest of this report explores why and how to adapt these methods to national defense.

¹⁵ In fact, there is nothing about these perspectives that make them peculiar to business: They are general ideas that happen to have been developed in business but seem applicable to other complex organizations that must apply resources to operate in challenging environments.

Chapter Two deals with how an operating-unit perspective can shed analytical light on the implications of global (outside-in) strategy, especially but not only the problem of estimating resource implications. It also suggests how the producers and providers of capabilities—the military services—fit into this picture as full partners.

Chapter Three illustrates how global defense strategy and the corresponding objectives of operating units imply costs. It then shows how portfolio analysis can be used to assess the costs along with the expected results and risks of alternative strategies, and it attempts to reckon with the problem of resource demands that money alone cannot meet.

Chapter Four applies to national defense the idea of exploiting core strengths in strategy. It includes some thoughts about how outside-in—in DoD's case, global—strategy should be fused with inside-out strategy to produce integrated strategy.

The Operating-Unit Perspective

Significant analytical challenges face strategic planners who toil in complex organizations and under dynamic conditions. Estimating resource implications is only one such challenge, but it is the one we were first asked by our sponsor to address and so will be our starting point; the growing economic burden of defense makes it a critical question. At the same time, the reader will learn that the operating-unit perspective is key to analyzing all important aspects of strategy within a portfolio framework that is demanded by the nature of national defense.

The “Strategy-to-Costs” Problem

Deliberations over national defense strategy normally and rightly start with global aims for U.S. security—defeating terrorism, discouraging Chinese expansion, securing world energy supplies, gaining more and stronger allies, and the like. But, confining such deliberations to aims can lead to setting a strategy whose costs are heavier than supposed and perhaps unsupportable. If the costs of a strategy are not estimated until the bills arrive, by then they may far exceed what was assumed when the strategy was declared. Yet, for the United States to jettison its defense strategy, or to execute it poorly, when confronted with surprisingly large costs could imperil U.S. interests and credibility, not to mention the purposes of that strategy. Either way, embarking on a strategy without understanding its resource requirements is perilous.

This problem lies at the heart of the Joint Staff’s request that RAND find a way to perform “resource-informed” analysis of strategic

choice. Specifically, at times when the Chairman of the Joint Chiefs of Staff (JCS) is expected to give the Secretary of Defense advice on national defense strategy, the secretary—indeed, the nation—would be well served if that advice were informed by rough but realistic estimates of the costs of the strategy or of alternative strategies under discussion. Although DoD has used a variety of ways over the years to match resources to strategy, the concern, recent experience suggests, is that costs are not adequately understood until well after a strategy is adopted, perhaps not until they are incurred, especially if the strategy is developed in the face of uncertainty. Monetary costs are not the only resource implications of choice that may get short shrift in deliberations on strategy. Five types of nonmonetary costs come to mind:

Personnel with needed qualities in adequate numbers may be hard to find, regardless of funds available. A telling current example is the difficulty in recruiting and qualifying sufficient numbers of special operations forces to keep pace with the desired expansion of such forces for GWOT.

Expected casualties are not calculable in dollars. The nominal cost of caring for a wounded soldier or of replacing one killed, while also compensating the family, is a pittance compared to the human loss. Moreover, insofar as casualties erode domestic political support, a strategy that implies significant losses may prove that much more costly, constrained, or untenable. Predicting casualties is hardly easy. Yet, if one strategy involves a low probability of huge losses and an alternative portends likely but lesser losses, this should not escape analysis.

Organizational changes carry costs, including opportunity costs if other missions have to be downgraded. Would the Federal Emergency Management Agency have performed better during Hurricane Katrina had it still been independent and not been absorbed into the Department of Homeland Security as part of the post-9/11 government reorganization?

Technological- and industrial-base requirements may also be at best hazy when goals are embraced and thus may act as brakes on implementation unless and until they respond. These are market-driven factors over which government has limited influence, especially as it relies more and more on applied commercial technology. For example, DoD

has largely failed to get leading, innovative information technology firms to participate actively in its market.

Allied defense capabilities and collaboration may be important factors, depending on strategy. For instance, those aspects of counterterrorism that engage allied capabilities are going to do better than those that do not. Yet, the U.S. government has limited control over what allies can and will do.

To some extent, nonmonetary demands can be met by spending dollars. But some resources cannot be organized quickly enough to respond to the demands of strategy under dynamic conditions. Insofar as they require substantial adjustments in personnel policies, organizational structures, markets, and foreign relations, such resource implications act as constraints. As with dollar costs, it is obviously far better to understand such constraints while defense strategy is being considered than after it is adopted. A strategy that demands resources that will be unavailable at the time the strategy demands them may argue for a different strategy on feasibility grounds.¹ We will return below to such nonmonetary resource implications. For now, though, let us focus on the dollar costs of strategy, starting with the issues of affordability and allocation.

Even in defense, where there is a presumed will to “pay any price” to protect the nation and its interests, costs should not be overlooked in the selection of strategy. As important to national security as a strategy’s goals may be, resources come at the expense of other critical public interests. Is cost unimportant if the goal is to protect American cities from terrorist attack? It is not if it means reduced resources for, say, educational excellence or infrastructure renewal, or if the costs are covered by incurring oppressive debt for the next generation to pay. Even when the Soviet Union was perceived as threatening the American way of life, national defense had to be “affordable.” Recognizing that resources for capabilities to counter the Soviet Union were finite, DoD routinely measured and accepted *risk* to spare resources throughout

¹ An increasingly obvious example is the dependence of GWOT on large-scale nonmilitary commitments, e.g., foreign aid and civilian personnel, that the U.S. government is not organized to meet.

the Cold War. If costs always matter, it follows that knowledge of them may affect the preference for one strategy over others. Estimated costs may argue for a different strategy, altered priorities among the aims of a strategy, or at least a reworked strategy to lower costs. Estimating costs is as crucial to strategy formulation in national defense, where it is not done well, as in business, where it is done routinely.

Indeed, there are reasons why solving the strategy-to-costs problem is especially important for DoD:

- the large sums of public resources involved
- the difficulty of altering national defense strategy once adopted (even if costs prove higher than assumed)
- the difficulty of reallocating defense resources
- the fact that the responsibility for executing defense strategy operationally and the bulk of the cost of doing so lie in separate organizations.

On the first point, a national defense strategy that costs much more over time than the one preceding it has large implications for other federal resource priorities, for fiscal integrity, and even for the economy. The extent to which the increase was underestimated when the strategy was adopted compounds the economic problem. To illustrate, in 2003, DoD budget authority was projected to increase by about 25 percent through 2007 (from \$413 billion in FY 2008 dollars to \$462 billion); in fact, it has increased by 57 percent (from \$413 billion to \$648 billion). The total difference between the projection and the reality over the intervening years, as already noted, is \$813 billion. The effect of this hefty sum is felt all the more for not having been forecast when the strategy was adopted. That the funds for much of this unanticipated increase were sought through supplemental budget requests has no bearing on the adverse economic consequences.

How important, then, are defense-spending forecasts? Corporations depend vitally on forecasts, without which they cannot competently allocate funds for operations, make investment decisions, or obtain capital. Of course, it is somewhat different for the government,

given its easy recourse to public financing (taxation or debt) and the annual appropriations cycle. Still, when actual funding requirements exceed projections by large amounts, which can happen because of the magnitude of defense spending, government budgeting, financing, economic policy, and even markets can be thrown off, with real costs to the public.

Thus, just as the managers of a corporation must answer to its owners for the economics of their business strategy, DoD must answer to the public, via its elected representatives, for the economics of defense strategy. “Pay any price” may be rousing rhetoric, but it is not helpful guidance for national defense. Given the economic stakes and ramifications, expected costs should be weighed before strategy is adopted. They cannot be weighed if they are not estimated, and they cannot be estimated without objective analysis. Urgency and other pressures to embark on new strategy do not alter this.

On the second point, national defense strategies acquire political, industrial, and international interests; bureaucratic convenience and intellectual comfort. Notice, for instance, how GWOT has crept into every nook and cranny of defense planning, acquisition, and foreign policy. Note as well the durability of GWOT as a declared strategy despite a morphing of the threat and our objective understanding of it.² Again, national defense strategy cannot lightly be discarded if and when its costs prove greater than assumed or than justified by expected results. The phenomenon of strategic inertia is not new: America’s credibility was invoked as a reason to continue and escalate the fight in Indochina well after it was apparent (to most) that this was not the most effective or economical way to confront Soviet power. The lesson is that if costs are not understood until after strategy is adopted, it may be too late, or take too long, to alter strategy in light of unexpectedly

² A growing body of research and analysis indicates that counterinsurgency is a better concept than counterterrorism for meeting the threat of Islamist violence. (Gompert et al., 2008).

high costs.³ Thanks to such inertia, a strategy may prove unaffordable and fail and a better strategy forgone.

Even when strategies have outlived their usefulness, they can keep devouring resources. Some weapons and platforms specifically designed to defeat Soviet tanks and bombers have survived two decades longer than the Soviet Union did, some just now being fielded. The United States still had one hundred thousand troops in Europe and thousands of nuclear weapons in its arsenal years after the strategy that called for these capabilities was retired. The costs of a new strategy are thus often laid on top of the costs of the one replaced. Conversely, realistic estimates of the costs of a new strategy can exert healthy pressure to find resources by shedding capabilities that are no longer warranted.

Third, the allocation of resources can be more important than their sum in implementing strategy. A slight increase in total defense spending may mask a major redistribution of resources from one threat to another, one region to another, or one service to another. Shifting interests or threats imply shifting strategies, which imply shifting resources, whether or not total spending increases. Yet, reallocating defense funds can be harder than increasing them. Breaking settled allocation patterns risks internecine warfare. For instance, any major and lasting change in proposed “shares” of spending allocated to the four military services is sure to meet stiff congressional resistance.

Reallocating spending among cabinet departments in line with changed strategy is easier—there are no departmental “shares”—but still difficult and slow to do. Since 2001, growth in Defense Department outlays has dwarfed (by 7:1) growth in spending in smaller departments also engaged in combating terrorism, notably, State, Justice, and Homeland Security.⁴ Reasonable people may disagree over

³ Here, the principle of ignoring sunk costs may also come into play. Even if strategy’s costs have exceeded expectations, what matters is whether it is justified nonetheless in light of estimated *future* costs. Of course, if costs grossly exceeded expectations in the first place, revised cost forecasts could be suspect.

⁴ The cumulative increase in DoD spending since 2002 has been over \$1 trillion, whereas the cumulative increase for State, Homeland Security, and Justice combined has been on the order of \$150 billion.

whether DoD has received an appropriate level of funding to counter terrorism, but most would agree that other agencies have not.⁵ Yet, the possibility of wholesale shifting of resources from the former to the latter is remote for bureaucratic and political reasons. At the same time, the discipline of at least seeking “bill-payers” within DoD to cover increases indicated by a shift in strategy is preferable to blithely increasing debt or starving other agencies with a role in national security. This argues for analysis as therapy for habit and expediency. Assessing the resource-reallocation implications of national defense strategy can be at least as important as assessing changes in total demand. The time to learn whether a strategy depends on difficult reallocation is before, not after, it is chosen.

On the fourth point, about 85 percent of DoD total costs are incurred by the military services, which are responsible for organizing, training, and equipping forces but not for using them in the pursuit of the operating objectives implied by strategy. The costs of extant forces, of maintaining them, of investing to replace and modernize them, and of the infrastructure needed to support them are all associated with the services. The organizations responsible for translating strategy into operating objectives and then pursuing those objectives—the COCOMs—account for a mere 1 percent of budgeted costs. They have little insight into, and even less control over, the vast majority of costs associated with the pursuit of operating objectives called for by strategy.⁶ Thus, although defense strategy conveys expected outputs, defense costs correspond most readily to inputs. This does not make it impossible to relate costs to strategy but it does make it hard, especially while shifts in strategy are being actively considered.

⁵ A recent RAND study (Gompert et al., 2008) makes the case that at least \$30 billion in funds for countering Islamist insurgency should be reallocated from Defense to State and other departments.

⁶ DoD understands but is struggling with the problem of how to account for COCOM needs in its planning, programming, budgeting, and execution process.

Getting Started: Expressing Strategy

An important question, touched on earlier, is how strategy is conceived and expressed. Of course, strategy is about connecting effective means to important goals. At times, however, either means or goals can dominate the consideration of strategy. When the external security environment is perceived to be stable—during much of the Cold War, for instance—strategy is mainly about the choice of means (e.g., general-purpose versus nuclear forces, maritime forces versus land forces, or modernized forces versus large force structures) to accomplish a more or less constant goal, namely, containing the USSR.⁷ By contrast, in today’s fluid global security environment, debate over strategy tends to be dominated by goals, which change as conditions, including enemies, do. Below, we will turn to inside-out strategy, based on how to employ core strengths. For now, we will confine our discussion to outside-in strategy, responding to or affecting the security environment.

In business and, we contend, in defense as well, formulating strategy so that key operating units can translate it into what is expected of them helps not only to align operations with strategy but also to generate capabilities and meet resource needs. Thus, a corporate strategy to expand global market share should provide some indication of where, with what, and by whom—in what markets, with what products, and by which operating units—the expansion should come. Similarly, a national defense strategy to induce an increasingly powerful and ambitious China to be a cooperative member of the family of nations, say, should indicate whether the U.S. Pacific Command (PACOM) should concentrate on dissuasive military power, on engagement, or on both.

A tension exists between catchy one-liner strategies and nuanced ones that give some indication of how goals are to be accomplished. Although flexibility is important, there are better ways to achieve it than to be vague about strategy. During the Cold War, the strategy of “mutual assured destruction” (MAD) did not indicate whether the

⁷ The Cold-War strategic goal of containment was not reopened for debate until the mid-1980s, by which time the rollback of Soviet communism began to appear less far-fetched and risky. Of course, as the goal began to shift from stalemate to victory, the national defense resources associated with the emerging strategy rose sharply.

United States needed as big a nuclear arsenal as that of the Soviet Union, whether the United States should be prepared to use nuclear weapons first in response to Soviet aggression against the North Atlantic Treaty Organization (NATO), or whether nuclear-warfighting plans were needed. Consequently, substrategies—“effective equivalence,” “flexible response,” and “limited options”—were crafted.⁸ These clarifications established meaningful operating objectives and determined costs (and risks), which are critical aspects of strategy. GWOT is a very elastic expression of strategy; but instead of clarifying what it does and does not call for, DoD (and the government at large) has allowed all sorts of interpretations and actions under its banner, which may help explain why the costs have been so large and the effects so uneven.

Even if strategic goals are well articulated, an emphasis on them without considering means compounds the problem of estimating costs while strategy is debated, since costs cannot be fathomed unless the means of strategy are clarified. Yet, in DoD, means are largely defined and controlled by organizations (the military services) rather than the chief agents of global strategy (the COCOMs). This is what makes “resource-informed” strategy-making both difficult and important in today’s dynamic security environment, in which strategy comes mainly in response to external factors and in which reliance on COCOMs is correspondingly high. The most demanding U.S. military organization at present is U.S. Central Command (CENTCOM); yet the full cost of accomplishing CENTCOM’s objectives—obviously an important figure—is not readily available.

Summing up, despite the obvious importance, it is difficult to relate the expected results of global defense strategy to the expected costs of achieving those results, especially at that critical time when a change in strategy is under consideration. The result, once again, can be strategy that is unsustainable or unjustifiable. The challenge for DoD is to look at strategy and determine resource implications. This demands analysis of the costs of strategy from a different vantage point than that traditionally used by DoD to analyze and allocate resources.

⁸ These more precise strategies were at once consistent with, but not necessarily required by, MAD.

Operating Units: Agents of Global Strategy

The problem of connecting a strategy's expected results with its expected costs is not unique to defense. In business, forecasting earnings, supporting share prices, constructing operating budgets, and meeting capital requirements depend on it. Failure to estimate and connect expected costs with expected revenue can mean large losses or underfunded strategy.⁹ Moreover, in diversified corporations, the sort loosely analogous to DoD, it is not enough to be able to estimate the total costs of implementing a given strategy: Unless it connects costs to different streams of revenue—in this or that market, from the sale of this or that product line—a corporation cannot really relate expected results to costs or, for that matter, actual results to costs. Consequently, it cannot comprehend, plan, or manage its profitability.

Large corporations usually look to marketing divisions to deliver the expected results of strategy (e.g., revenue and market share). Yet, most costs may be borne by separate production divisions (e.g., development, manufacturing, and engineering). Although this structural separation is important for efficiency, functional excellence, and management focus, it complicates the problem of associating the results of strategy with the costs of strategy. The problem has largely been solved in recent decades by the concept of “lines of business.”¹⁰ These are operating units that unite marketing and production functions for the pur-

⁹ In one of the most notable cases, IBM—at the time the most successful corporation in the world—went into a lengthy swoon in the 1980s when the costs of making mainframe computers rose steadily while revenues went flat because of the advent of distributed processing. IBM managed to escape this pattern by shifting to a new, PC-based strategy that promised, and delivered, growing revenue and declining costs. When it discovered that it could not transfer its dominance in mainframes into dominance in PCs, it shifted further into its information-services business.

¹⁰ Often, a change in corporate strategy takes the form of the creation or dissolution of lines of business. The same has happened, in effect, in defense—for example, when the onset of irregular threats convinced the Kennedy administration to create the Special Operations Command (SOCOM), in effect a new “line of business.” Lines of business are not strictly synonymous with operating units, the former being more generic than the latter. “Entertainment,” for instance, is a line of business, while General Electric Company’s entertainment-focused operating unit is NBC Universal. For our purposes, however, the two terms will be used interchangeably.

suit of business—but not necessarily structurally—and are responsible for the “bottom line.” They can span fixed organizations to improve market responsiveness, agility, profitability, and shareholder value. Virtual or real, as lines of business go, so goes their company.

For many complex corporations, the line-of-business concept is considered indispensable for connecting results and costs both in planning and in measuring performance. Marketing costs, production costs, and pro rata overhead costs are “fully allocated” to these units. This permits profit to be derived from revenue for each and all of the different contributors to corporate income, both planned and actual. Advances in information systems have helped insofar as they make it easier to gather, collate, and allocate costs in a way that relates them to operating-unit objectives and results. Beyond planning and accounting, operating units bear the ultimate responsibility for meeting the expectations for *results* and *costs* of corporate strategy. Moreover, risks—e.g., of financial losses—are commonly associated with operating units.

Although reliance on operating units is not as universal as business-school teachings imply, it is a proven way for complex corporations to maintain oversight without quashing initiative and to inform market-based responsiveness and opportunism with strategic goals and constraints.¹¹ For all the differences between the corporate and defense worlds, reliance on operating units both to analyze and to execute strategy is a potent common theme. Indeed, the same challenge that leads corporations to plan and manage by operating units—to focus diverse capabilities for success in fluid conditions—makes operating units important in the performance and analysis of national defense. As with other complex enterprises operating in dynamic conditions, DoD needs visibility into operations without micromanaging them; it needs to shape but not dictate how subordinate line organizations respond to conditions; and it needs to know how to align resources to achieve the operating objectives that flow from national strategy. For these reasons, the operating unit is key both to analysis of national defense strategy and to the management of national defense.

¹¹ These and other comments about business operating units benefited from comments of Yale University’s Paul Bracken.

In DoD, the nearest thing to corporate operating units are, as already noted, the organizations that carry out strategy in the global security environment, the COCOMs:¹² both regional, namely, CENTCOM, PACOM, European Command (EUCOM), Southern Command (SOUTHCOM), Northern Command (NORTHCOM), and the nascent Africa Command (AFRICOM), and global, namely, Strategic Command (STRATCOM) and SOCOM.¹³ The growing importance of COCOMs is a natural development in the evolution of jointness. Strategically, COCOMs are crucial to performing with agility and unity in an unsettled security environment. Indeed, the advent of COCOMs in national defense is a response to the same conditions, fundamentally, that gave rise to modern corporate lines of business: the need to focus strategy and action in dynamic conditions while harnessing the capabilities of a necessarily complex organization.

COCOMs, regional and global, are increasingly expected to set objectives and produce results within their respective domains pursuant to national defense strategy. Of course, the results are not easily quantifiable, let alone denominated in a common currency, as profit is. It is said that business methods do not work in DoD because the former produce earnings and the latter wages war. But this cliché does not argue against doing a better job of linking the results expected of COCOMs, quantifiable or not, to resources.

COCOMs today perform only part of the function of a corporate operating unit. They are responsible for the results of strategy but not for

¹² Given the way DoD conceives of COCOMs today, their crudest business analogs are marketing divisions. Typically, corporate marketing divisions, rather than being engaged only in sales, are in fact the agents of awareness, analysis, and execution in the external environment. Because this full sense of the term *marketing* is not well understood, it is not helpful to equate COCOMs with marketing.

¹³ STRATCOM and SOCOM have dual personalities. They may provide capabilities to support regional COCOMs, but they may also operate directly, globally—e.g., STRATCOM in strategic nuclear operations and missile defense; SOCOM in global counterterrorist operations. There are also two other major joint commands: Transportation Command (TRANSCOM) and Joint Forces Command (JFCOM). Like STRATCOM and SOCOM, they are global rather than regional; but unlike STRATCOM and SOCOM, which have combatant command roles, they only provide capabilities to support regional COCOMs.

the capabilities and resources needed to achieve those results. Despite these limitations, it helps at least analytically to think of these joint military organizations not merely as commands but as capable units to which forces and enabling support are made available to pursue objectives derived from national strategic goals. Today, for instance, CENTCOM can be thought of not only as a staff and facilities in Tampa and Doha but also as the 200,000 or so forces and all that goes with them that operate in Iraq, Afghanistan, and elsewhere under its command. The growing importance of COCOMs in DoD planning and action signifies an increasing recognition that joint engagement in the current security environment, in war and peace, is the best way to achieve the operating results called for by global strategy. Although DoD has not formally defined COCOMs in these terms, we will use the terms “COCOMs” and defense “operating units” interchangeably.¹⁴

Achieving the goals of global defense strategy depends, *inter alia*, on whether (a) those goals are faithfully translated into the desired results, or objectives, of these operating units and (b) these units have the means to achieve these results. Whether operating units can achieve the results indicated by strategy depends on whether they are furnished by the military services with the requisite forces and support. However, for reasons already noted, DoD’s operating units have little insight into, and even less control over, the dollars and other resources needed to achieve their objectives as required by global strategy.¹⁵ To be clear, we are not suggesting that COCOMs be given the final say in defining requirements for military capabilities, a function best retained by the services—“force providers,” by statute—with their global perspective, their institutional memory, and their facility for contemplating the long-term future. Understanding resource requirements *by operat-*

¹⁴ Although discussion of the proper role of COCOMs is beyond the scope of this study, we treat them here as line operating units only as an analytical device to help connect strategy with cost and other implications, not to join a debate about how much responsibility and authority they should have.

¹⁵ Recent innovations in defense planning have given the COCOMs a greater voice in both capabilities planning and resource allocation. However, it is still up to the services, as force providers, to define and propose needs, based in part on COCOM inputs.

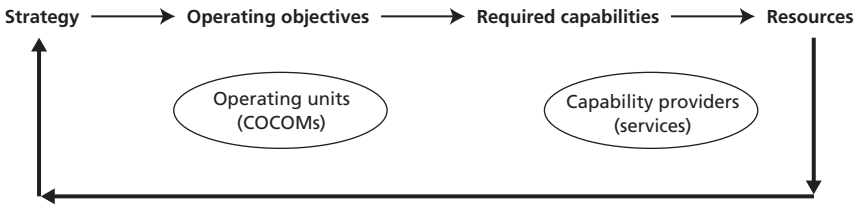
ing unit requires new methods of analysis but not a reordering of basic responsibilities.

It has been observed that COCOMs are generally not good at taking a long view, owing to the immediate pressures they face, and that grand strategy is not their forte. Of course, this is also true of most corporate operating units, especially with Wall Street traders and company headquarters anxious to see quarterly results. This is one reason why, in both worlds, responsibility for setting strategy rests with corporate executives (or national leaders), whose horizons are both long-term and marketwide (or global). The potential importance of COCOMs is not in setting national strategy but in translating strategy into operating objectives and in turn expressing the demand for capabilities to achieve those objectives, thus allowing strategy and resources to be linked.

Despite the obstacles, the operating-unit concept holds out the promise of revealing and connecting both the expected results and the expected costs of strategy, thus allowing “resource-informed” strategy advice and formulation. If strategic goals can be translated into desired operating results, if the capabilities needed to achieve those results can be understood, and if the costs of acquiring and using those capabilities can be understood, it should be possible to clarify the costs and other resource implications of strategy. In simple form, this is depicted in Figure 2.1.

Having laid out the line of reasoning in this direction, we hasten to say that analysis of the resource implications—for that matter, all important implications—of strategy must be *iterative*, and analysis must flow in both directions. Understanding resource implications may argue in favor of revising planned capabilities to pursue the operating objectives of strategy, or even of revising strategy and operating objectives to be more economical or to exploit core capabilities. (This will become clearer when, in Chapter Four, we take up the matters of core strengths and of inside-out strategies that exploit them.) In any case, the challenge is to find an analytic vehicle that can travel quickly

Figure 2.1
From Strategy to Resources



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in either direction along this logical path, while strategy is under debate and without delaying its adoption.

Beyond solving the problem of understanding the costs of strategy, making use of the operating unit concept may help to reveal *all* important implications of strategy: expected results, resource implications, and risks. Although strategy can never be reduced entirely to operating objectives and implications, the discipline of analyzing both and the relationship between them, in planning as well as in monitoring results, is helpful insofar as it addresses the central question: What will, or might, *happen* as a result of choosing a given strategy? U.S. defense strategy has little meaning or assurance of implementation unless it is put into operation (“operationalized”) to achieve intended effects. Operating units, like corporate lines of business, should help DoD capture both the intended effects of strategy and the costs of having these effects.

Not all aspects of global defense strategy can be translated into operating-unit objectives. A notable exception is research and (some) development, which may be pursued as investment in long-term future capabilities whose operational utility cannot and need not be defined. In defense as in business, a strategy might call for the direct control of assets and activities by the central authority to address challenges or opportunities that do not fall squarely into an existing operating unit. Nokia, a leader in innovation, is known for sponsoring discontinuous technologies at the corporate level rather than counting on existing businesses to do so based on current market demand. Until it was incorporated into STRATCOM, ballistic missile defense was given

similar treatment by DoD. Such “corporate” investments or pursuits do not present a problem for strategic analysis insofar as the justifications and costs of such nonoperating investments are treated as separate from the operating-unit framework.¹⁶

In addition, DoD may chose to withhold actual capabilities from operating units to assure adequate global flexibility, not unlike the way some corporations pursue new business that does not fit within any existing line of business. This is not a trivial consideration, since the peacetime and contingent wartime demands for capabilities of the current security environment can limit flexibility. Indeed, one issue of any national defense strategy is whether and what capabilities should not be aligned with COCOM needs. As long as the requirements and costs of such capabilities are accounted for, the practice of withholding them does not diminish the utility of aligning capabilities to operating-unit objectives.

In sum, this approach exploits the need to operationalize strategy as a way to assess the implications of strategy, using the operating unit as the analytical portal.

The Military Services: Providers and Partners

As already explained, many complex corporations plan, manage, and account for their business via line operating units with profit-and-loss responsibilities, although much of their capabilities and corresponding costs reside within production organizations. Research and development, engineering, and manufacturing are in many respects the *core* of a corporation’s capabilities, especially in businesses that differentiate their products from those of their competitors. Conceptually, these capability providers are akin to the military services, just as corporate operating units are akin to COCOMs. Just as the line-of-business con-

¹⁶ The danger in basing research and development (R&D)—especially “R”—on operating requirements is that potentially but not currently important fields may be given short shrift. This is as true in national defense as it is in business. Therefore, we would caution against letting the pendulum swing too far and urge that DoD’s practice of significant research being managed at the “corporate” level be preserved.

cept does not diminish the importance of core corporate capabilities and production organizations, regarding COCOMs as operating units does not diminish the importance of the military services—the core of U.S. military capabilities and institutional home of military knowledge, even with the advent of jointness.

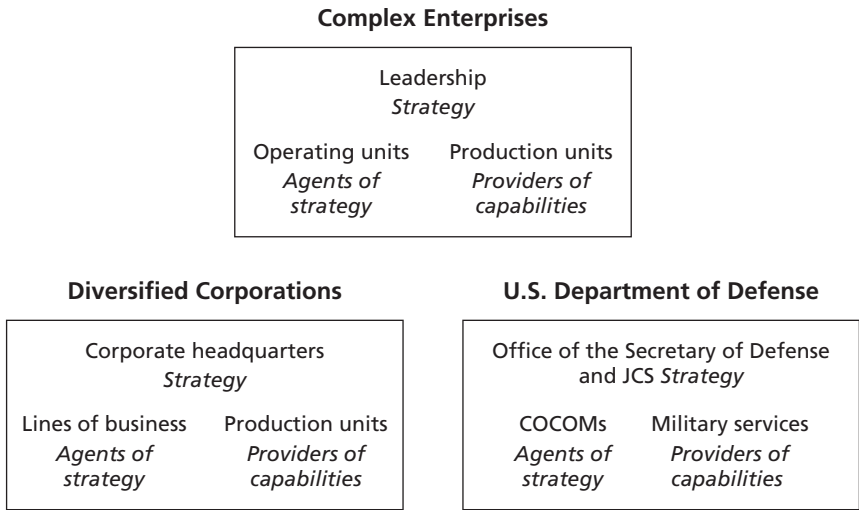
Although such business structures—both operating units and producers—are, at best, very rough analogs for defense, there is something to be learned about how they deal with each another. Corporate planners and accountants may see an arms-length contractual relationship between marketing and production, but what works best in practice is *partnership*. This is not always easy, since the management and allocation of costs can be a source of friction, especially when incentive pay linked to financial performance is on the line. In particular, high production costs militate against good market results on the part of lines of business that may not manage production or control production costs. Yet, the very concept of lines of business is to align the capabilities of the corporation with the challenges and opportunities of the competitive environment, and this is far better done by cooperation and trust than by corporate fiat or contract, much less rivalry.

In the military, this suggests a profound need for partnerships between operating units and capability providers—between the COCOMs and the services. This actually should be easier in the military than it is in business, since COCOM personnel have service backgrounds (and futures). Although there is, by design, a difference in orientation between COCOMs and services, there is not a difference in culture.

Fitting It Together

Because both are of the same genre—complex enterprises operating in dynamic environments—the basic architecture of a typical big diversified corporation and that of DoD is similar (as depicted in Figure 2.2). Many such firms have (a) lines of business that operate in their various markets, (b) production organizations that provide the capabilities

Figure 2.2
Generic Complex Enterprises, Corporations, and DoD



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to succeed in those markets, and (c) corporate management that sets strategy, harmonizes and approves plans, monitors performance, adjudicates between operating and production organizations, and answers to owners. DoD has (a) joint COCOMs, (b) military services, and (c) civilian and military headquarters (Office of the Secretary of Defense and JCS) to set strategy and policy, harmonize and approve plans, monitor performance, adjudicate between COCOMs and services, and answer to the public. Thus, both types of enterprises have organizations that act in the environment; create, maintain, and furnish capabilities; and provide strategic direction and ultimate accountability.

What do these similarities suggest in regard to our topic of assessing national defense strategy? Corporations use strategic-planning processes to link strategy to expected results and associated costs and risks, by line of business. Although strategic planning is less in vogue today than it was in the heyday of Detroit’s “Big Three” and General Electric under “Neutron Jack” Welch, the discipline of forecasting revenue, costs, and income by line of business and for the corporation as a whole

remains standard practice. Although rigid strategic planning has been superseded by the need for flexibility in fluid markets, most complex corporations are still deadly serious about strategic analysis. They just do it with smaller staffs and thus less tediousness.

Typically, lines of business propose operating plans pursuant to corporate strategy. These plans pledge results (e.g., revenue) that are contingent on satisfying needs for resources that lie outside the direct control of operating units (e.g., capital for them to invest and products or services for them to sell).¹⁷ Units and the corporation then agree on the fully allocated costs—of operations, management, products, support, and a fair share of overhead—of achieving expected results, which establishes profit commitments for the units and, taken together, the corporation.

The practice of exchanging binding obligations is not very suitable for DoD. It is important to distinguish between the reasoning that underlies how corporations assess the implications of strategy, which is relevant to defense, and the contractual nature of the relationships among the component organizations, which is not. In business, with profit and loss exactly measurable, mutual assurances of operating results (e.g., revenue) and the capabilities (costs) needed to produce them are appropriate. In DoD, objectives are too inexact and qualitative to establish such rigid connections. More important, the need for flexibility in national defense, even more than in most businesses, argues against locking in expectations. As already noted, partnerships between military operating units and force providers are far more important than formal exchange of obligations. Yet, it is vital for operating units, force providers, and “corporate” DoD to be able to count on each other to deliver that which is expected of them, while taking into account the likelihood of change and the need to be flexible.

With due caveats, one can imagine an approach to assessing national defense strategy that is loosely like that used by complex corporations that also must understand what it will take to achieve their strategic goals. We suggest the following steps:

¹⁷ See Galbraith (2005), for example, for a discussion of related matters.

- a. Express *global strategic goals* in the current environment.
- b. For each operating unit, derive specific *objectives* from global strategy.¹⁸
- c. Identify *capabilities* that operating units need to achieve these objectives.
- d. Specify the *forces and support* needed to deliver these capabilities.
- e. Estimate the direct and indirect *costs*, and other resource implications, of preparing, deploying, and employing these forces and support.
- f. Do likewise for *alternative strategies* of interest to permit comparison.
- g. *Iterate* to improve strategy in light of implications and core strengths.

DoD has ample analytic capability for each link in this chain of reasoning: The innovation lies in the chain, not the individual links. Of particular importance is identifying capabilities to enable operating units to meet their objectives pursuant to the global strategy under consideration—i.e., the link between (b) and (c). Deriving capability requirements from operational needs is not easy, but neither is it a new task for DoD analysts.

Making the link between operating objectives and capabilities is facilitated by the fact that the operating units are composed of *component commands*—e.g., land, air, and maritime—which, while joint, correspond closely to and are institutionally aligned with their respective military services. (COCOM component commanders also hold positions in their respective services.) Component commands have dual personalities: They furnish the capabilities that COCOMs need to meet their objectives, and they also are responsible within COCOMs for using those capabilities. As with the COCOMs, they are familiar with operating demands; as with the services, they are aware of

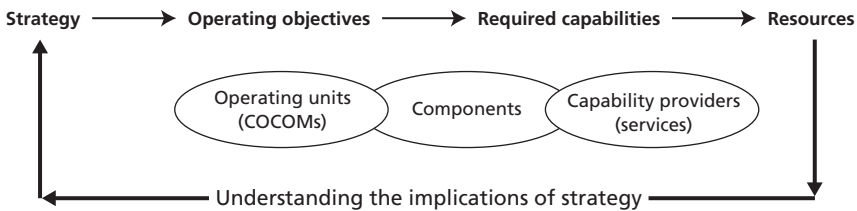
¹⁸ This raises the question of whether COCOMs should, as part of the defense planning process, submit plans that embody commitments contingent on receiving the forces and support they need to deliver results.

resource possibilities and constraints (both monetary and nonmonetary). Because such commands exist, it is not necessary to alter DoD structures or authorities to enact our proposed approach.¹⁹

DoD's existing military organization thus permits the analytic chain shown in Figure 2.3.

In sum, the way the structure of DoD has evolved makes possible the approach to strategic analysis that is needed for complex enterprises operating in dynamic environments. This is no coincidence: The requirement to bring all sorts of capabilities to bear in a focused and agile way is, after all, the underlying motivation for jointness.

Figure 2.3
The Role of Component Commands



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¹⁹ Similarly, corporations have not found it necessary or even advisable to place the providers of capabilities (e.g., R&D, manufacturing, and personnel) under the control of operating units to relate costs to outcomes. However, they do try different ways to represent the various product lines within their marketing divisions and vice versa.

Illustrating and Analyzing Strategy

The best way to animate the approach suggested in the previous chapter is to illustrate it.

Expressing Strategy

As already explained, getting started requires expressing global defense strategy in terms that can be translated into COCOM operating objectives. Therefore, we begin the process—shown as (a) through (g)—with an imaginary strategy under consideration:

- a. Our make-believe national *strategy* consists of countering Islamic insurgency more effectively than at present, while preserving stability in East Asia, enhancing global maritime security, deterring new and potential nuclear states, and expanding multilateral security capacity. (Note the portfolio character.)
- b. This strategy implies operating-unit objectives:
 - CENTCOM should support the building of more effective states in the Muslim world, ensure oil access, and deter Iran.
 - PACOM should offset the growth in Chinese military capabilities in the Western Pacific, keep China from bullying Taiwan, deter North Korean adventurism, and foster regional security (e.g., maritime) cooperation.

- SOUTHCOM and AFRICOM should work to increase local defense capacity and foster political transformation and regional cooperation.
 - EUCOM should foster NATO-allied support for U.S. global strategy.
 - SOCOM should conduct direct counterinsurgency wherever needed.¹
 - STRATCOM should deter the use of nuclear weapons and provide selective global (theater-cum-national) missile defense.
 - NORTHCOM should support homeland security.
- c. As noted, identifying the key *capabilities* implied by these operating objectives is a critical step that demands COCOM-service collaboration, facilitated by COCOM component commands and adjudicated as needed by “corporate” DoD. In our imaginary strategy, we posit that key capabilities include light ground forces, training, and advisory presence in CENTCOM; robust maritime and aerospace power in PACOM; expanded engagement in SOUTHCOM and AFRICOM; greater scope and capability of SOCOM; and an updated (post-Soviet) offensive and defensive posture for STRATCOM.
- d. In turn, the *forces* available to the operating units would need to be expanded, contracted, or otherwise altered to deliver the capabilities, both for peacetime presence and contingent operations, as would the support for those forces. The services would in turn need to adjust their structures, equipment, readiness and so on to satisfy the shift in operating-unit demands.
- e. The *costs and other resource implications* of these adjustments to inputs should be relatively clear. For instance, the strategy might cost \$10 billion per annum in total more than its predecessor, although behind that \$10 billion could be larger

¹ This refers specifically to SOCOM in its global combatant command role. Otherwise, SOCOM is a force provider to regional COCOMs.

swings in dollar allocations to match the movements of the shift. If a strategy calls for more emphasis on the security challenges in one region than another, or more emphasis on one region than extant strategy does, or a shift in emphasis from one region to another, this should be evident in the pattern of resource demands of the operating units.

- f. As a general rule, the United States has *strategic options*, depending on how the people and their government view their interests, how the international security environment is interpreted, and where the greatest threats, demands, and opportunities lie. Therefore, leaders may—when possible, should—consider multiple alternative strategies before selecting what they regard as the best one, or they may blend elements of two or more. Although all alternatives may have certain common, indispensable aspects—protecting the United States proper from attack, keeping trade routes open, and partnering with NATO allies, for instance—each strategy would have a different central theme. To illustrate, national strategy might *stress* one or another of the following aims:²
 - countering Islamist insurgency
 - relying on more-capable partners
 - responding to rising China.

Given the need to express strategy well so that operating objectives can be derived, these alternatives require clarification:

² These are the alternative global defense strategies analyzed in the companion report (Davis, Johnson, Long, and Gompert, 2008). One can think of others, e.g., fashioning and leading stronger international security institutions or forming alliances with other major powers (democratic or not). Their descriptions are meant to imply priority, not exclusive concern; indeed, each strategy contains some elements of the other two. To illustrate, countering strategic terrorists and bolstering local partners would occupy some attention, capabilities, and resources in a strategy of competing with China, albeit not as centrally as in the alternative strategies. It needs to be stressed that DoD has many responsibilities that can be emphasized or de-emphasized but should not be ignored in choosing a strategy. Defense strategies are portfolios and need to be analyzed, resourced, and pursued as such.

- *Countering Islamist insurgency* would entail conducting military (and nonmilitary) operations against “strategic” terrorists (e.g., al Qaeda) and full-fledged counterinsurgency (COIN) against Islamist groups seeking to seize control of states in the Muslim world (in current jargon, GWOT+COIN).
- *Relying on more-capable partners* to combat extremism and meet other challenges, with reduced reliance on direct action by U.S. forces, would require intensified collaboration with major allies (NATO, Japan, Australia, and others) and strengthening local partners militarily, economically, and politically to take on the burdens of local defense—all the while concentrating U.S. military power on protecting global commons, vital resources, and trade routes.
- *Responding to rising China* would require combining superior military capabilities (for dissuasion, deterrence, and crisis) with engagement designed to reward cooperative Chinese conduct—the goal being a responsible China, not an excluded and frustrated one.

The implications of each strategy should be assessed and compared, (a) through (e).

- g. Finally, an understanding of implications can be used to *iterate*, shape, and improve any strategy under consideration by rethinking capabilities, operating objectives, and even the strategy’s basic goals. Moreover, as we will see in this chapter, the advantages of exploiting core strengths should also be factored in, making this iterative process a way to *integrate* outside-in and inside-out strategy.

The point to stress here is that this flow—strategy to objectives, to capabilities, to forces, to resources and other implications, to alternatives, to iteration—would occur not after strategy is chosen and while it is being implemented but as it is being considered. By using the operating-unit framework, each link in the strategy-to-implications chain, and thus the entire chain, could be assessed in a timely yet

rigorous way with existing DoD analytical capabilities. In our judgment, current defense planning processes to determine joint capability requirements, developed in recent years, could be easily adapted to permit strategic analysis along these lines.

Associating the Cost of Defense with Strategy

An important benefit of associating resource implications with operating objectives is that it can provide a better understanding not only of *how* defense costs are influenced by strategy but also of *why*. Whether for DoD planning or for public debate, it would be most helpful to be able to explain national defense spending as much as possible in terms of the strategy being considered or being pursued. Because defense spending is presently explained mainly in term of the operating and investment needs of the military services—inputs, not outputs—its relationship to strategy is obscure. This can be remedied by using the operating-unit perspective.

Corporations try mightily to associate as much of their cost structures as possible with lines of business and, via them, with overall strategy.³ This requires combining (a) the direct, variable costs of the units themselves, (b) the variable costs of the production that supports them, and (c) a fair share of the indirect, fixed costs of the corporation and its common infrastructure. Associating nonoperating costs, (b) and (c), with results (expected and actual) by operating unit is not insurmountable. Corporations do it routinely; indeed, one of the ways information technology has contributed to corporate productivity gains is that it facilitates the allocation of costs to those organizations that are charged with producing results. Government is notoriously bad at this (as are universities and other essentially bureaucratic structures).⁴ Yet, for

³ A good example is our own institution, RAND. In the 1990s, it made each of its research programs operating units. Aided by new information systems and a business-planning process, not only operating (i.e., research) costs but a large fraction of support costs could be attributed to operations. Those costs that could not were allocated pro rata, though centrally managed. This is a standard business model.

⁴ Observation of Paul Bracken.

almost any type of enterprise, thinking in terms of operating units and connecting results and costs through them is possible. DoD, which *has* operating units, could achieve this awareness and allocation of costs with advanced information and accounting systems. Done once, it gets easier.

Figure 3.1 depicts in concentric circles how most defense costs could be associated with operating units and, thus, with global strategy as expressed in operating objectives. This perspective comes from standard cost-structuring for complex corporations. The innermost circle represents the immediate costs of an operating-unit (COCOM)—mainly headquarters and staffs. Ironically, although these costs are insignificant, they are the only ones shown as defense costs that are currently counted.⁵ Working out from the center are direct operating costs (e.g., forces), indirect operating costs (e.g., support) attributable to operating units, and indirect costs that can be allocated by formula to operating units. The cost structure of DoD as a whole would be the aggregation of operating-unit cost structures, allowing for assets, activities, and costs that should not be allocated.

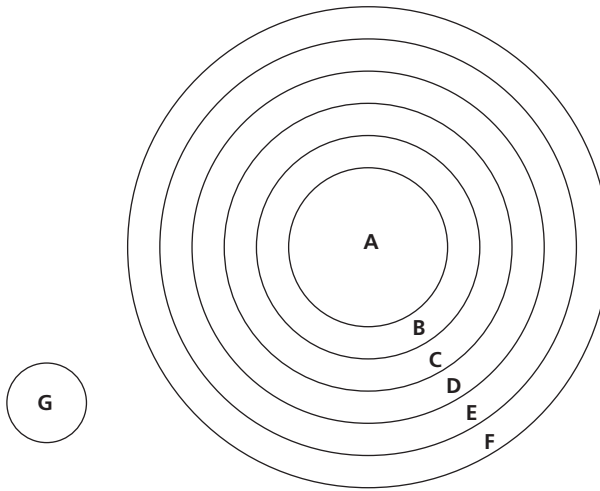
Strictly for purposes of illustration, the full direct and attributable annual costs (in billions of dollars) associated with a given COCOM might be as follows:⁶

- A: 1–2
- B: 10–15
- C: 15–20
- D: 15–20
- E: 5–10
- F: 5–10
- G: (not allocated).

⁵ Even this accounting is not complete. DoD cannot readily calculate direct costs for even the COCOM headquarters; these costs are entangled in the budgets of the services.

⁶ Costs include the annual cost of carrying and operating forces or support as well as investment for either recapitalization or modernization.

Figure 3.1
Elements of Cost Structure



- A:** COCOM headquarters—staff, buildings, and other assets, as seen in defense budgets.
- B:** Regularly assigned forces—their operations and maintenance (O&M), structure, and investment in new capabilities, from service budgets attributed to operating-unit components (land, air, naval, and other).
- C:** Other forces available to operating units for contingencies—O&M, structure, and investment by component. These could be derived from contingency operational plans (“war plans”), although they are secret. Forces designated for multiple contingencies should be allocated accordingly.
- D:** Infrastructure, enabling capabilities, and support services directly associated with assigned and contingency forces—e.g., common basing and logistics, mobility assets, backbone communications.
- E:** Common support structure not associated with assigned or available forces or attributable to operating units—costs allocated to units by formula based on A to E.
- F:** Forces that are not assigned or available for COCOM contingencies—equivalent to remaining forces after assigned and contingency forces are spoken for (e.g., withheld global-response forces and reserves)—the costs of which can but need not be allocated. The allocation of costs not associated with an operating unit could be a useful but not essential exercise to account for all defense costs as a function of global strategy.
- G:** Activities and assets not driven by current strategy (e.g., research)—not allocated.

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The fully allocated cost of this imaginary operating unit would be as much as 15 percent of the defense budget. This implies, on the one hand, an operating unit that is quite important to national security and

to global strategy and, accordingly, that places correspondingly heavy demands on capabilities. A less-important unit, strategically speaking, would be expected to have more-modest demands and therefore to cost less. In today's conditions, for instance, we would expect the full cost of, say, CENTCOM to be far greater than the full cost of SOUTHCOM. Of course, if an operating unit seems to cost more than strategy justifies, it is crucial to ask why. Moreover, if the costs of an operating unit appear to be less than what strategy implies, chances are it is not being furnished with sufficient forces and support to meet its objectives—something worth knowing sooner rather than later.

We do not mean to imply that such cost-structuring is as easy in DoD as it is in business. Global security conditions, at least these days, tend to be more unstable than most markets. Therefore, DoD faces greater uncertainty than most corporations about what capabilities will be needed where and when. Although peacetime demands for capabilities are reasonably predictable, at least within a given year, sudden international crises that demand massive concentrations of capabilities have no parallel in the mainstream corporate world. In addition, the Secretary of Defense has far more leeway to shift capabilities among operating units than does the average chief executive officer. Nevertheless, the cost-structure view can help not only in associating actual costs to operating units but also in estimating the resource implications of their objectives and thus the strategy from which those objectives flow.

This way of structuring defense costs, alongside existing input-centric methods, would not exceed the analytic, accounting, and information-management capabilities of DoD. It is complicated by the fact that the effects of strategy and operating objectives are different from one circle to the next, not simply proportional. For example, changes in "assigned" forces and other resources might be not only more clear but also more significant than changes in, say, indirect support. But today's information systems permit costs to be parsed and collated many ways.

It is easier to attribute the costs of operations and of forces and support needed for operations than it is to attribute investment (development and procurement) to operating demands. Yet, companies

must do this as a way to forecast return on investment. Except for core research, and perhaps speculative corporate-sponsored development, a firm must know which of its operating units demands such investment to satisfy its objectives and, therefore, which one(s) can be expected to generate enough revenue to repay the investment. Otherwise, there would be no way to judge whether an investment's yield can be expected to exceed the cost of capital. Determining return on investment for national defense is, obviously, not the same, or as easy, as doing so in the corporate world, where performance is ultimately measurable in profitability. However, it could only help in the analysis of defense strategy, as well as in public debate over strategy and spending, if timely estimates could be made of the investment needs of strategy and the operating objectives they serve. Alignment of such needs with operating units, not just with the services, would be enlightening if not crucial in strategic analysis.

Moreover, endeavoring to associate investments with operating-unit objectives would be a good discipline and would take no wizardry. The services are already expected to assess global and long-term needs as a basis for investments. Current defense planning and programming processes should allow them to collect and analyze COCOM needs for synthesis with service assessments. Navy investment in new anti-submarine warfare systems, for example, would be attributable largely to PACOM (responding to China's growing submarine force); Army investment in fast vehicles impervious to roadside bombs would respond mainly to the needs of CENTCOM; "brown-water" vessels might be called for by the need to cooperate with local partners in SOUTHCOM and AFRICOM and perhaps might be useful to SOCOM. Such linkage between investment and operating-unit objectives would not only help account for the resource requirements of strategy but also add rigor to investment decisionmaking and accountability.

Again, reallocation resulting from adjusting strategy may be more significant than changes in total spending. If a strategy calls for more emphasis on the security challenges in one region than another, or more emphasis on one region than prior strategy does, or a shift in emphasis from one region to another, this should be evident in a view of defense cost structure centered on operating units. The time

to begin assessing this is not while strategy is being implemented but as it is being considered. It is far better to anticipate shifts in resource demands than to respond as they occur. For instance, if defense costs were attributed to operating units, as suggested here, one would see sharp growth in costs for CENTCOM and its objectives, relative to the past and to other COCOMs. However, this has occurred more or less willy-nilly, with implications for that operating unit as well as others that would be better understood in advance than in retrospect. By estimating resource shifts up front, a strategy can be shaped to manage the effects, and plans can be made to deliver resources.

Attributing direct and indirect defense costs—for forces, support, and investment—to operating units and their objectives is bound to create controversy. This is not a reason not to do it, given the benefits; but it is important to understand where it could lead. Attributing costs to operating units does not mean that they would actually control these costs or the funds to cover them. There are different models in business, ranging from substantial to little operating-unit control over costs.⁷ Under current conditions—bureaucratic and statutory—giving operating units actual control over the costs associated with meeting their objectives is at least one bridge too far, and seemingly unnecessary. As an analytic-planning-accounting technique, however, relating cost structure to operating units would make more visible the link between inputs and outputs, and thus the resource implications of strategy, of alternative strategies, and of changing strategy.

Portfolio Analysis of Strategy

Although this report's impetus was the problem of estimating the resource implications of national defense strategy, its inspiration is the need to improve strategic analysis generally. Again, this means applying reasoning comprehensively and carefully yet efficiently to the expected

⁷ In the corporate model, this can be facilitated by establishing internal “transfer prices,” which essentially fix the costs that operating units must cover for the products and services they receive from other parts of the business.

results and the risks of strategy, as well as to the costs. The perspective of operating units is useful for considering not only resource needs but also expected results and risks. Expected results are embedded in operating-unit objectives—what the agents of strategy aim to make happen within their areas of responsibility. Of course, objectives are not always fully achievable, so analysis is required to calibrate expectations. Similarly, risks present themselves mainly in operational terms—risks of provoking an adversary, of causing an unfriendly alignment, of being caught without adequate capabilities if a threat is underestimated, of overlooking another threat.

Analysis of all expectations of strategy must recognize that the complexity of the global security environment demands strategies comprising portfolios of U.S. goals, based on diverse interests and responsibilities. In addition to basic structural similarities, corporations and national defense also have in common the fact that they both rely on portfolio strategies, as already noted. The main reason for this is that neither type of enterprise can afford to be single-minded in the way it operates, in the capabilities it produces, or in the way it allocates resources. Both enterprises pursue strategies that encompass disparate goals and therefore require priorities among these goals, capabilities in line with those priorities, and resources allocated accordingly.

Perhaps the most striking and famous illustration of the portfolio nature of U.S. defense strategy is World War II, when Roosevelt, Marshall, and Co. had to fight two formidable enemies in two competing theaters. Under pressure from Churchill, and to keep Stalin's Red Army from succumbing to the Wehrmacht, the United States treated the defeat of Germany as a more important goal than that of defeating Japan, although without neglecting the latter.⁸ Even during the Cold War, when containing the Soviet threat was America's overarching purpose, strategic goals included deterring Warsaw Pact aggression in Europe, maintaining a stable nuclear balance, countering communism in the Third World, constraining Soviet capabilities through nego-

⁸ The challenge of managing the Japan-Germany portfolio was personified in the commanders and leading advocates of the two "operating units"—Generals Douglas MacArthur and Dwight Eisenhower.

tiation, and eventually establishing a relationship with China. Each such goal presented different requirements, the balance among which reflected the balance in the strategy.

In the 1990s, U.S. defense strategy was a much more diversified portfolio: “mopping up” in Europe following the collapse of the communism, “boxing up” Saddam Hussein following the Gulf War, countering China’s increasingly assertive stance toward Taiwan, and sundry other goals. To balance this portfolio, the U.S. military maintained a distributed force posture, and it stressed current operations and readiness, with investment in modernized forces largely deferred. In these examples, the expected results, resource requirements, and risks of strategy could be understood only in terms of the elements of the portfolio.

Portfolio strategy is a way to give weights to strategic goals and thus to the capabilities required to achieve those goals. Such weighting permits strategy as a whole to take risks in regard to some challenges to assure that others are met. In addition, “fine-structuring” of portfolio strategy helps ensure that the activities and resources throughout the enterprise are aligned with the weights given the various strategic goals.⁹

Given the complexity of the global security environment, of U.S. interests and responsibilities, of the challenges facing those interests and responsibilities, and of the U.S. defense establishment, a portfolio strategy is essential today. Thus, although each of the three alternative notional strategies mentioned above has a central theme—countering Islamist insurgency, building up allies and partners to meet local challenges, and responding to rising China—none could be preoccupied with that theme to the point of neglecting other problems. Islamist violence could not be ignored just because Chinese expansionism must be countered. Strengthening local partners would not negate the unique importance of U.S. forces in deterring China. Still other problems—protecting U.S. interests in Latin America, for instance—might require attention in all strategies, even though not the main goal in any.

⁹ Observation from Paul Bracken.

If national defense strategy is a portfolio, it follows that *strategic analysis* requires *portfolio analysis*. It is not good enough to assess expected results, risks, and costs of strategy as a whole, for this would ignore that the strategy of a complex enterprise is, in large part, a matter of emphasis among its operating units. Therefore, in DoD, the expected results, risks, and costs associated with the objectives of each COCOM, under the global strategy, must be assessed. In business-speak, COCOMs represent the national defense portfolio.

We can thus think of strategic analysis—for DoD and other complex enterprises—as *the integration of operating-unit analysis and portfolio analysis*. Recall that the requirement to improve strategic analysis stems from the unsettled nature of the global security environment and the need for agile, unified performance in this environment. Operating units respond to the need for agility and unity, but complexity demands portfolio strategy. Together, these perspectives can provide an efficient assessment of the implications of strategy as it is being considered, not after the fact, which is crucial because of fluid conditions.

Consider first the distinction between objectives and *expected results*. No one knows with certainty whether objectives can be achieved—if they are sure to be achieved, objectives probably should be set higher. Some strategies may prove to have been conceptually wrong-headed, even counterproductive. In business, some famous examples relate to failed flagship products, such as Ford's Edsel and New Coke. In the national security domain, U.S. strategy after World War II included a drastic drawdown of military forces and expressions of disinterest in the Korean Peninsula. The Korean War followed shortly. The U.S. strategy of fighting directly against perceived Soviet proxies in Indochina led to a protracted and ultimately unsuccessful attempt to defeat Vietnamese anticolonial and unification forces. In contrast, the post-Vietnam strategy of countering Soviet military power directly, especially in Europe and in strategic nuclear forces, proved to be successful beyond expectations, as the Soviets' effort to keep up opened cracks in their economic and political systems that eventually resulted in collapse.

Uncertainty—another salient feature of the global security environment—not only implies doubt about results but also the pres-

ence of *risk*. Risks are not mere footnotes but fundamental considerations in characterizing alternative strategies. In business or defense, understood risks may argue against a strategy. The use of nuclear weapons in the Korean and Vietnam Wars was excluded not on grounds of efficacy or economics but because the risks were disproportionate to the perceived advantages.

The third aspect of strategic analysis, *costs*, has already been discussed at length. The additional point to make here is that resources must be seen not in a vacuum but in the context of expected results and risks. The integrated analysis and management of expected results (e.g., returns), risk, and resources applied (e.g., investment) is standard fare in business. Want better results?—invest more. Want less risk?—invest more. Want to save money?—accept more risk. At the same time, in national defense, for many reasons, the relationship between resources on the one hand and expected results and risks on the other cannot be reduced to the sorts of dollar-denominated equations that businesses use. The risk that a strategy of responding to a rising China would destabilize East Asia is not precisely calculable; nor is it readily manageable by adjusting resources. But this is no reason not to analyze such relationships as part of assessing defense strategy. It is because these key aspects of strategy affect one another that they must be considered together.

In sum, strategic analysis should address the expected results, costs, and risks of strategy by operating unit. For this, it is useful to have analytical tools that allow exploration of uncertainties and to display any and all important considerations—and they must be interactive tools to help in a journey. As described in the companion report, RAND has developed a *portfolio-analysis tool* to allow comparisons of strategies in terms of likely results, risks, and costs and to allow interactive exploration of assumptions and the effects of altering judgments or priorities. In essence, the framework has three dimensions:

- operating units that constitute the portfolio of national defense
- alternative strategies that spread weight, and capabilities, differently across the portfolio

- assessment and comparison of implications (expected effectiveness, risks, and costs) of each portfolio strategy.

In the companion report, we characterize each of the three alternative strategies mentioned above, as well as a base case (named the Analytic Baseline, essentially current strategy), by its implications for all of the operating units (COCOMs), as well as overall. These results are summarized in Figure 3.2. The colored boxes in the first nine columns provide a top-level notional assessment of the expected effectiveness of each alternative strategy in accomplishing COCOM objectives implied by that strategy. Dark green is most effective, followed by light green, yellow, orange, and red. The Cost column presents the estimated cost above the Analytic Baseline to execute the strategy (expressed in net present value [NPV]). We want to stress that the evaluations shown are illustrative. Our purpose is to show how the tools of strategic analysis can work, not to deliver definitive results with them.

Note that two of the most important operating units—PACOM and CENTCOM—fare quite differently among the alternative strategies and also that a strategy designed to stress one of them may come

Figure 3.2
Summary-Level Portfolio Analysis

Measure	Assessment											Costs (NPV)
	PACOM	CENTCOM	NORTHCOM	EUCOM	SOUTHCOM	AFRICOM	STRATCOM	SOCOM	National Command	Simultaneous war risk	Overall risk	
Investment options	Detail	Detail	Detail	Detail	Detail	Detail	Detail	Detail	Detail	Detail	Detail	
Analytic Baseline	O	Y	LG	LG	LG	O	O	Y	Y	O	O	0
Direct GWOT/COIN	O	LG	LG	LG	LG	Y	O	LG	Y	R	R	\$484B
Build Local, Defend Global	Y	Y	LG	LG	LG	LG	O	LG	LG	O	Y	\$473B
Respond to Rising China	G	O	LG	LG	LG	Y	G	Y	Y	Y	O	\$237B

NOTE: The costs do not include the extraordinary costs of war or other intensive operations, such as are typically covered by congressional supplementals.

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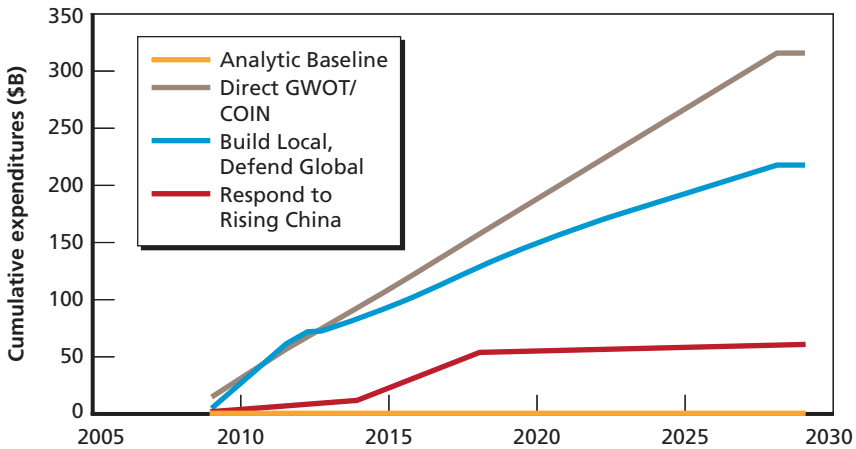
at the expense of the other, which signifies the sort of tradeoff one would expect in today's global security environment. Naturally, a strategy in which responding to China is the chief goal is expected to be more effective in meeting PACOM's objectives, whereas one geared to counter Islamist insurgency is expected to be more responsive to CENTCOM's needs. Note also that a strategy of countering Islamist insurgency directly with U.S. forces entails high risks that it might stimulate rather than quell insurgency. Not all of the costs would fall to the DoD budget. In particular, the relatively high costs of the Build Local, Defend Global strategy result from major requirements for development and security assistance.

Such top-level displays are useful summaries only if it is readily possible to understand the basis of evaluations, to interrogate assumptions, and to use the tool to consider variants of strategy. Our portfolio-analysis tool allows both "drilling down" for explanation and a variety of mechanisms for exploration under uncertainty. As one example, Figure 3.2 has only one column for overall risk, but underlying information can be brought up to examine the specific risks that are considered in this evaluation and how they are assessed. In many cases, the assessments are themselves subjective and it is possible for them to change readily as part of a dialog between analysts and decisionmakers.

Portfolio analysis also explores the resource implications of strategy, drawing on the operating-unit perspective. To illustrate, Figure 3.3 shows the yearly costs of the various strategies over time (in constant dollars). Table 3.1 summarizes such information and includes a column for the net present value of all future obligations implied by the strategies. The ability to estimate these costs depends on the chain of analysis—strategy, to operating objectives, to capabilities, to resources—described above.¹⁰

¹⁰ The estimated costs of the Direct GWOT/COIN strategy do not include the costs of protracted ground-force operations that are implied as highly possible if not probable. From 2002 through 2007, such costs have been covered by supplemental budgets of \$100 billion or so annually.

Figure 3.3
Illustrative Cost Comparison



RAND MG718-3.3

Table 3.1
Different Cost Comparisons

	Future Year Defense Plan	20-Year	NPV
Base case	0	0	0
GWOT	110	315	206
Build Local, Defend Global	95	216	151
Compete	24	60	43

Estimated costs can vary dramatically depending on critical judgments. For example, we stipulated that China would *not* elect to engage the United States in an all-out arms race, the way the Soviet Union did. The principal aim of the Respond to Rising China strategy is to induce the Chinese to be moderate and cooperative by dissuading China with superior capabilities. We assumed that the expected results would conform to this aim. If the strategy fails to have that result, its costs could skyrocket as the United States would have to increase its military

investments and modernize systems based on China's responses instead of on systems' normal life expectancy. Similarly, if a strategy aimed at combating Islamist extremism produces not less but more such extremism, the strategy's costs—unless or until it is abandoned—could soar. The phenomenon of burgeoning costs resulting from failed strategy is a general concern. (Another layer of strategic analysis would look at the cost of failure, which would, of course, tie into the assessment of risk.)

If methods along these lines are applied in national defense, it should be possible for the Joint Staff to help the Chairman advise the Secretary of Defense of the estimated costs, likely effects, and risks of strategy based on timely, reliable, and feasible analysis. This approach is both comprehensive and efficient; it responds to dynamic conditions; it copes with complexity; and it uses the agents of strategy as its perspective.

Nonmonetary Resource Implications

Recall that not all resource demands can be met by money, at least not in the short run, and that insofar as such nonmonetary demands cannot be fully satisfied, they must be considered constraints on strategy—well worth knowing before strategy is set, obviously. The analytic framework described thus far has not mentioned these, but it cannot ignore them. To do so will take a good understanding of the nature and potential significance of these implications, drawing on both defense and corporate examples.

With enough time and enough money, many constraints will give way—think of the growth of U.S. military production during World War II. Moreover, as we will see in Chapter Four, the ability to mobilize is a core strength of the United States, owing to a combination of energy of democracy and the efficiency of markets. Although the United States did not mobilize in any meaningful sense after 9/11, its capacity to do so remains, which implies a national ability to meet even the most rapacious resource appetites of defense strategy. Still, it could matter whether a strategy is constrained by nonmonetary resource considerations or, alternatively, requires extraordinary measures (e.g., the

draft or nationalization of industry). Therefore, it is as essential to estimate such implications as it is the dollar costs at the time strategy is under consideration.

As suggested above, such demands may include scarce human resources, innovative organizational structures, technological-industrial base capacity, and allied capabilities. Part of strategic analysis should be to identify such implications and make informed judgments about whether to treat them as resource requirements to be met or, alternatively, as constraints. If the former, the costs of satisfying the requirements must of course be added to the direct dollar costs. If the latter, a key question becomes how much and what sort of difference they make in regard to the attractiveness and feasibility of the strategy under consideration. Resource demands that amount to constraints on strategy, at least for some time, must be accounted for in either lowered expectations of results or increased risk (a subject to be taken up below). The following vignettes—one from business and one from national defense—illustrate the importance of understanding these implications.

The growth in European and Asian economies in the 1960s–1970s convinced many American firms to “internationalize.” Access to foreign markets justified sizable overseas investment. Although some companies assumed that these economies would become markets for exports from large-scale U.S. operations, others found that a higher return on investment could be achieved by expanding production abroad, both to serve local markets and to lower labor costs to compete in yet other markets. In some cases, the primary export market for overseas production became the United States itself—thus began “outsourcing.” A serious constraint on strategy was the inability to manage multinational operations in an integrated fashion, which affects economies of scale.

The unmet resource demand in this case was for global data communications. Understanding this constraint, some companies adapted their strategy to include investing in the promising technology of broadband networking, which would permit global communications sufficient to integrate operations. After significant investment, time, and some risk (e.g., of technological failure), these companies global-

ized (to their great advantage). The point is that the absence of global broadband communications constituted a nonmonetary resource demand that constrained the scope and effectiveness of strategy, but wise investment *eventually* allowed the demand to be met and a more ambitious strategy to be adopted. The communications problem was beyond the near-term but not long-term control of the companies that understood its significance.

In national defense, an analogous nonmonetary problem is that of relying on allies and local partners to share the burdens of common defense. A national defense strategy that depends heavily on the fortitude and capabilities of other sovereign states implies a hugely consequential nonmonetary resource demand. Because it lies largely out of the control of the United States, assessing this demand, as well as the effects of not meeting it, may be a critical consideration, certainly worth weighing before strategy is adopted.

At the same time, there *is* something the U.S. government can do about this problem. By increasing and targeting foreign security cooperation and economic assistance, the ability and willingness of partners to bear greater burdens can be enhanced. But it takes time, both for the absorption of the assistance and for the change in strategic and political outlook among allies. Important questions in strategic analysis, then, would be whether, at what dollar-cost, to what extent, and when other countries would “partner up” to higher expectations of security capability and collaboration. Although this is the stuff of foreign policy, it may also be a decisive factor in national defense strategy-making.

Comparable illustrations can be imagined in regard to major human-resource, structural, and technological-industrial implications of strategy—matters lying largely but not entirely outside the control of DoD, depending on the time horizon. Such balancing of likely effectiveness, risk, and cost can be analytically complex, with large bands of uncertainty. However, being explicit about and attempting to estimate such (largely) nonmonetary resource implications when strategy is being considered may be as crucial as estimating the amounts and shifts in U.S. defense spending. To the extent that such resources—in this illustration, allied defense capabilities—can be provided, the costs

(in foreign assistance) could be the equivalent of brigades, air wings, and battle groups.

How, then, should the framework for strategic analysis take non-monetary resource constraints into account? Of course, to the extent that such constraints can be overcome within the assumed time frame of the strategy in question, the costs of doing so must be included. To the extent that they cannot be overcome, this should figure in the assessment of expected results. As noted, expected results flow from operating objectives—if not, the strategy is fundamentally unsound—but they are not necessarily the same as the objectives. The reason, of course, is that objectives are often not entirely met, even in a sound strategy. Expected results take into account all the factors that may limit success, even if sufficient resources are applied. Prominent among such factors is the behavior of external actors—adversaries, for example. But expected results can also fall short of objectives because of resource demands that cannot be met by spending more money (i.e., increasing dollar costs). It follows that the assessment of strategy must recognize realistically and reflect objectively any constraints that will degrade results.

Using the strategies sketched above to illustrate:

- It is now understood that the United States is seriously deficient in the civilian capabilities needed to counter the sorts of insurgencies it has faced in Iraq and Afghanistan.¹¹ Yet to remedy these deficiencies will require not simply hiring more civil servants but reorganizing and reorienting major parts of the U.S. Executive Branch, with the cooperation of Congress—a process that could take years, if not decades. Therefore, apart from estimating the costs of the military capabilities needed for the Direct GWOT/COIN strategy, it is only responsible to lower expectations of results and thus effectiveness—e.g., in CENTOM.
- Similarly, the ability of local partners to absorb and use the development and security assistance associated with the Build Local,

¹¹ It is also generally agreed, including by the U.S. military, that soldiers are not adequate substitutes for many of the civilian capabilities.

Defend Global strategy is sure to fall short of what is desired. Experience shows that increasing assistance (and cost) in hopes of improving local performance may only add to the gap between objectives and expected results. The assessment of this strategy, for several COCOMs, should be adjusted accordingly.

- A different sort of constraint may apply in the case of the Respond to Rising China strategy. After many years of concentrating U.S. strategy and capabilities on threats in the greater Middle East, re-allocating forces and investments from CENTCOM to PACOM would not be as easily or swiftly put into practice as it is on paper. Think of how long it has taken the United States to adjust and reduce its capabilities in Europe following the disappearance of the Soviet threat. All sorts of institutional and political (domestic and foreign) rigidities would result in unmet resource demands and thus should affect expected results of strategy.

Such considerations were taken into account in assessment of the effectiveness of strategies summarized in Figure 3.2. This discussion of constraints on capabilities that limit the achievement of objectives leads naturally to the question of how to form defense strategy not solely in response to external demands but also on the basis of enduring national strengths.

Basing Strategy on Core Strengths

From Strength to Strategy

The discussion to this point has been about analyzing strategy “outside-in,” via the objectives of the units that operate in the external world. The premise of outside-in strategy, prevalent in today’s turbulent and uncertain security (and business) environment, is that responding to external demands and opportunities is essential not only operationally but also strategically. Some companies, including extinct dot-coms, have claimed that their only strategy is to respond to market signals. Amazon—far from extinct, it has prospered—had the idea of responding to customer retail needs via the Internet, first for books and then for whatever customers wanted (within reason). Its strategy was to acquire a fine and dynamic feel for what was demanded and, if profitable, to adjust its service accordingly. In national defense, U.S. strategy from the fall of the Berlin Wall to the fall of the World Trade Center was largely outside-in, as is GWOT.

However, as explained early in this report, strategy predicated on U.S. interests and goals in the external security environment is only one important perspective. The other is what we call “inside-out” strategy.¹

¹ Inside-out strategy can also be thought of as “core strategy.” Outside-in strategy is often referred to as “market strategy” in business and might be called “global strategy” in national defense. Thus, another way to express the two perspectives for defense strategy is “global” and “core.”

It begins with a different question: What are the qualities that give the United States deep and enduring advantages, and how can they be exploited in national defense?² Even in the most unsettled external conditions—one might argue especially in such conditions—it is crucial to know and draw on core strengths. As outside-in strategy begins with goals, inside-out strategy begins with means. As outside-in strategy is informed by world-awareness, inside-out strategy is informed by self-awareness. Both approaches have their devotees; both are important; neither is sufficient—integrating them is the name of the game.

Different corporations, depending on culture and situation, tend to stress one or the other sort of strategy. Some are essentially *market actors*, which define and pursue their strategic goals by aligning resources, organization, and action with their awareness of the external environment (e.g., customers and competitors). Other companies are essentially *technology actors*, which define and pursue their goals by knowing, nurturing, and employing their core strengths in ways that favor these strengths. The former develop capabilities in response to their core markets; the latter seek markets that play to their core capabilities. Over its lifetime, IBM is the classic example of a market star; the old AT&T, with its Bell Labs, was the technology titan. IBM's engine was in the front (marketing); AT&T's was in the back (research). In their primes, both were leaders.

Whether in markets or global security, it is easier for a dominant actor, such as Microsoft or the United States, to exploit core strengths, not to react to every external bounce and turn. Even then, however, inside-out strategy may not adequately respond to external information and change. It is less adaptive than outside-in strategy. For these reasons, it is somewhat out of fashion in business and academic circles at present, eclipsed by growing support for the idea of strategy as adaptation to external information.³ At the same time, outside-in strategy is inadequate in that it specifies required capabilities and aligns

² In business argot, these are sometimes called “core competencies” or “towering strengths.”

³ There is growing interest in a family of theories, including “complex-adaptive systems” and “robust-adaptive planning,” based on this idea.

resources with objectives without regard for whether these capabilities and resources play to defining strengths. Even Amazon, famed for its strategy of market (Internet) responsiveness, never loses sight of its core ability to get, stock, and move product physically.

This suggests that a hybrid is best. Post-Napoleonic Britain, for example, decided it had to be able to prevent Continental hegemony—an outside-in goal. But it did not raise a huge standing army, which would not have tapped a core strength. Rather, it formed a small, crack expeditionary army, built a navy stronger than any other two combined, and drew on its colonial empire for resources. Thus equipped, it pursued a balance-of-power strategy that enabled it to correct any serious European imbalance by throwing its weight to the otherwise weaker side. Britain combined astute awareness of its security environment—a far-flung empire and a precarious Europe—with capabilities that derived from its defining advantages, especially global sea power. Simultaneously, it pursued policies and invested to enhance its core strengths and preserve its advantages, given their utility vis-à-vis its challenges. The result: *Pax Britannia*.

Once again, corporate analogs are instructive. Companies that know how to fuse market strategy and technology strategy tend to succeed. Apple and Google do this. So does Toyota: Its strategic goal is to achieve leading market share globally (without sacrificing its profitability model). It knows that it must achieve this at the expense of GM and Ford and therefore must be strongly competitive in the U.S. market. Of course, it aligns its marketing plans, its investments, and its organization with that strategy. Yet, Toyota also understands that its core strength is its production capability. It works incessantly to improve its ability to produce reliable cars with consistency on large scales. Just *why* this is a Toyota core strength gets us into the character of Japanese organizations, collective identity, and orientation toward process perfection, just as understanding U.S. core strengths for national defense gets us into understanding abiding American national characteristics (taken up below).

Toyota does not subordinate its market strategy to its core strategy or vice versa; rather, they are two sides of the same coin. Its goal of leading world market share, and thus the need to challenge GM

and Ford in the U.S. market, reflects its awareness of its core strength in production scale, consistency, and reliability. It knows that the way to challenge GM and Ford in their home market, and thus to be number one in the world, is to produce large numbers of reliable cars for the U.S. market—and it aligns its plans, investments, and operations accordingly. Conversely, it knows that having top market share is the best way to perpetuate its core strength in large-scale, high-quality production.

What does this have to do with “resource-informed” U.S. defense strategy? A great deal. The United States can be at its best when it integrates outside-in strategy and inside-out strategy—when its leaders ask: How can we use enduring national strengths to achieve our goals, and how should our goals reflect, exploit, and enhance those strengths? There are precedents for this in modern American history. U.S. grand strategy in World War II was to draw on national advantages—industrial scale, democratic energy, geography—to overpower Japan and Germany. In the latter stages of the Cold War, America’s strategic shift from brute mechanized to smart information-based power confronted the Soviet Union with challenges that it was ill-equipped to handle. So it is today that optimal strategy requires utilizing defining national qualities to meet the demands posed by the global security environment. Although responsibility for this rests with the nation’s leaders, statesmen, and strategists, it takes analysts to do it well.

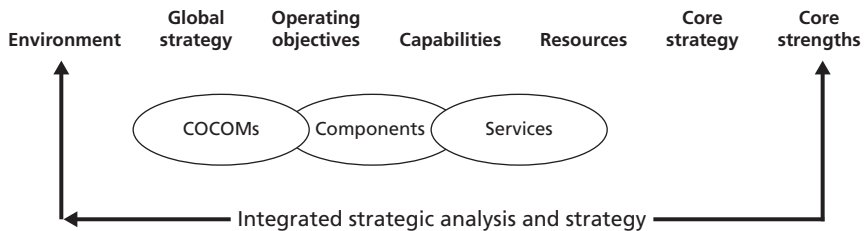
How would such analysis work? Assume that we have identified the forces and support it takes to provide the capabilities needed to achieve operating-unit objectives that flow from a given global strategy under consideration. This reveals the resource (and other) implications of that strategy. But it also begs some questions: Does the strategy play to U.S. core strengths? Do the capabilities identified as needed to meet the objectives of the strategy constitute effective use of core strengths? If not, should we reconsider the strategy, or at least the capabilities? Can the operating objectives of the strategy be modified so that they connect better with core strengths? Should alternative strategies be considered on the theory that, all else being equal, one that employs core strengths is more likely to be successful and sustainable than one that does not?

The ultimate objective of strategic analysis should be to enable the United States to integrate the effective pursuit of its global strategic goals with the resourceful employment of its core strengths. In national defense, military capabilities are the fulcrum of such integrated strategy and strategic analysis. Capabilities that are both responsive to operating objectives and rooted in core strengths should enable successful strategies at supportable costs, offering not only resource-informed defense strategy but also strategy-informed defense economics.

The military services are in the best position to translate core strengths into capabilities. But they ensure that such capabilities are responsive to the operating objectives of COCOMs, via the component commands. Thus, the term “force providers” does not mean that the services simply furnish whatever the operating units demand based on the requirements of the global security environment. Rather, they are active participants in strategic analysis and choice, determining how to meet external needs in ways that best draw on those national strengths that are relevant to defense.

The value of integrating core strategy and external strategy suggests an expanded version of the logic train depicted earlier—one providing for the iteration of strategic analysis, whereby the demands of global security environment and the knowledge of enduring strengths both affect capabilities. This is shown in Figure 4.1. The overlap between COCOMs and services represents not merely the component commands but, in a deeper sense, partnership in strategy.

Figure 4.1
Integrated Strategic Analysis and Strategy



Considerations Bearing on Core Strategy for National Defense

Again, the starting point for developing core strategy is awareness of enduring national advantages. These are not military strengths, as such, but deep and transcendent qualities, e.g., natural endowments, political philosophy, intellectual tradition, and societal fiber. From these, it should be possible to identify more concrete strengths of potential value to defense, e.g., maritime access, technological innovation, and high-performance personnel. In turn, it should be possible to assess actual defense capabilities in terms of their relationship to national strengths.

To illustrate, we begin by noting very basic qualities of America and Americans:

- individualism
- political and economic freedom
- natural abundance
- continental size
- advantageous geographic location.

Simply stated, the United States is uniquely blessed with a combination of human talent, physical gifts, and a political philosophy that makes the most of both.

From these basic qualities, one can list more-specific core strengths that are potentially relevant to national defense.⁴ It is difficult to separate one's own experience and bias from the compilation of such a list. There is probably no better way objectively to identify national core strengths relevant to national defense than to query a large group of independent individuals with diverse perspectives, including some with and some without experience in national defense (which itself can create bias). The following list is meant only to be indicative of the

⁴ The authors are grateful to Randy Glickman of Denmark, Maine, a management consultant with broad experience in both the commercial and national-security market, for his independent ideas, which were melded with ours.

general idea. For our purposes, specific strengths are clustered by basic qualities, but they may connect to more than one

- pioneering spirit
- personal initiative and accountability
- risk-taking, risk-tolerance, and opportunity-seeking individualism
- scientific innovation
- technology formation
- analytical and decisionmaking objectivity
- learning by testing performance limits
- openness with information, ideas, and collaboration
- enviable political-economic system
- market dynamism and mobility of production-factors resources
- ability to generate efficiencies
- institutional and management adaptability
- industrial and market scale size
- ability to mobilize and focus when there is unity of purpose
- communications and transportation prowess (because of distance)
- geographic depth and reach
- access to all domains: sea, air, space, cyberspace
- global relationships.

These strengths may in turn be tied to certain broad themes of national defense relevant to the challenges and opportunities of the global security environment, such as:

- competing technologically
- superiority at breakthroughs
- staying ahead in the measures-countermeasures cycle
- utilizing the civil-commercial-academic base
- adapting operations to seize technological opportunity
- exploiting geographic advantage
- increasing military range while minimizing vulnerability
- using high seas for flexibility, reach, and depth

- unimpeded access to and use of commons
- fostering and relying on high-performance personnel
- elite forces
- small-unit initiative
- ability to execute complex operations
- distributed and flexible decisionmaking
- engaging, motivating, strengthening, leading, and collaborating with others
- capable and interoperable global partners
- capable and interoperable local partners
- opportunity to focus on what the United States can best/only do
- attractive model for economic and political transformation.

At this point, it is possible and important to ask how such inside-out themes relate to alternative global (outside-in) strategies. Taking those global strategies mentioned in Chapter Two, it is possible to construct a matrix (Table 4.1) that suggest what would seem to be promising alignments of outside-in and inside-out strategies. In this illustration, it seems, broadly speaking, that strategies of relying on strengthened allies and responding to a rising China take greater advantage of core strengths than does countering Islamic insurgency with U.S. forces directly. Although this observation is not based on deep research or analysis, it at least suggests the potential value of considering global strategy in the light of core strengths.

Table 4.1
Promising Alignments of Outside-In and Inside-Out Strategies

Inside-Out	Outside-In		
	Counter Islamist Insurgency (Direct GWOT/COIN)	Build Local, Defend Global	Respond to Rising China
1. Technological		+	+
2. Geographic		+	+
3. Human talent		+	+
4. Partnering	+	+	

The next and most consequential step in this line of reasoning is to seek convergence between the capabilities implied by the operating objectives of global strategy and the capabilities implied by core strengths. Here is a simple example:

Respond to Rising China may imply an objective for PACOM to deter Chinese expansionism. The United States could deter Chinese expansionism by fielding capabilities to strike such key Chinese forces as submarines, ballistic-missile launchers, and long-range sensors.

At the same time, the United States possesses core strengths in its ability to make scientific breakthroughs and to outpace adversaries in technological competition, as well as in its access to all domains of operations.

Integrating these two perspectives—outside-in and inside-out—would indicate that the United States should develop and deploy new air-, space-, and sea-based sensors to observe China's forces; capabilities to frustrate Chinese attempts to interfere with such sensors; countermeasures to frustrate Chinese sensors and other systems; and networks to communicate tracking and targeting information for long-range precision-strike weapons.

Arriving at such capabilities can be accomplished by iterative analysis between the perspectives of COCOMs and of military services—building the proverbial bridge from both ends. Further iteration permits refining capabilities and reassessing resource and other implications—fine-tuning strategy. But it may also involve rethinking operating objectives, and even strategy itself, to take greater advantage of core strengths.

Taking this way of reasoning a step further, global defense strategy can be crafted not only to exploit core strengths but also to enhance and extend them. Britain's core strengths included maritime access and experience, which indicated a sea-power strategy. This allowed Britain to acquire and hold the choicest colonies with bountiful resources and in prime locations. This empire in turn enabled a small island-nation with limited resources to maintain and operate its seafaring superiority to become the world's leading power, to the betterment of the British people. Now that was an integrated strategy!

In the present U.S. case, even as the country struggles with the predicament of its troop presence in Iraq, it is hardly clear that a general strategy of large-scale occupation of Muslim countries to counter Islamic insurgencies exploits U.S. core strengths. This begs the question of whether there is a way to counter such insurgencies that is more resourceful of natural national strengths—perhaps greater reliance on smaller high-end forces; reinvigorating U.S. ability to appeal to and transform other societies; or more ambitious use of information technology. The implication is that enabling local states to counter insurgency may be a better integrated strategy than occupying those same states.

One can imagine other possible integrated defense strategies for the United States:

- exploiting technological and global-geographic depth and reach while reducing reliance on large-scale land combat and presence in hostile regions
- mobilizing like-minded states to provide more defense capability by sharing ideas, information, and know-how, allowing the United States to concentrate on its technological and geographic advantages.

The reader may have noticed that not all the U.S. core strengths that *ought to be* helpful to national defense actually *are*. Indeed, it is striking how many core strengths of potential value are not being successfully exploited in national defense:

- U.S.-type political-economic models are not faring well against extremism.
- Organizing, training, and enabling indigenous forces is harder than it should be.
- Allied forces are not being empowered via inclusive information networks.
- Defense innovation and procurement are lagging commercial performance.

- The costs of complex defense systems are rising while those of comparable civil systems are falling.
- Organizational structures are inflexible and resist change.
- Initiative and risk-taking are not common enough.

Strategic analysis must include a sober assessment of gaps between defense-relevant national strengths and reality, with a view to discovering the impediments, e.g., poor strategic communications, inadequate attention to capabilities to build local forces, anachronistic innovation and procurement processes, constricted competition in the defense industry, organizational malaise, and the intellectual conservatism of general officers and of professional military education. This becomes an agenda for reform, which is critically important in addressing the implications of strategy. Indeed, if a strategy depends on major reforms, the time to comprehend this is before it is adopted.

To illustrate, the United States excelled at partnering with all sorts of countries during the Cold War—it became the Free World’s leader by virtue not only of its power and protection but also of its empathy and earnestness, embodied in its diplomats, its GIs, and vast numbers of young men and women who went abroad to help others. The country seems to have lost its touch for this, partly because of policy differences but also because of quantitative and qualitative deficiencies in speaking foreign languages and functioning in foreign societies. Insofar as national strategy rests on the ability to partner, e.g., enabling local partners to counter extremist insurgencies, these deficiencies have to be remedied. If not, the strategy itself may be unrealistic.

Finally, our portfolio-assessment tool holds promise for the sort of iterative analysis required to meld outside-in and inside-out strategies. In particular, its exploratory facility allows analyst and strategist alike to follow in either direction the path of reasoning that connects strategy and operating objectives to capabilities, resources, and core strengths—a worthy aim for future research on strategic analysis.

Conclusion

The question initially posed by the sponsor of this work was how to estimate the costs of national defense strategy. Our response, briefly stated, is that analysis of the capabilities required to meet the operating objectives of COCOMs will shed light on the costs of strategy. Moreover, using the operating-unit perspective can also provide a way to understand the cost structure of defense in terms that are relative to the global strategy. Such methods have proven effective in large complex corporations. In contrast to corporate practices that have failed to gain traction in DoD, these would extend naturally from recent progress in analyzing and planning defense based on joint operating requirements. Moreover, DoD has ample analytical capabilities available to make each link in the chain of reasoning we suggest. The biggest step will be to embrace a “new way of looking at things,” not instead of current analysis and accounting but in addition.

More than this, we conclude that timely and reliable assessment of all key aspects of national defense strategy—expected results, costs, and risks—could be performed by using *portfolio analysis at the operating-unit level*. National defense is, after all, a portfolio, especially in a complex and dynamic global security environment in which the United States has diverse interests and responsibilities. Moreover, because expected results, costs, and risks are interconnected—e.g., expected results can be improved and risks reduced by providing more resources—portfolio analysis can be used not simply to examine defense strategy but to shape it.

The operating-unit perspective and portfolio analysis, used together, provide a basis for analysis of *global*, or outside-in, defense strategy—the response to the challenges and opportunities of a complex and fluid external environment. But this is not enough. In defense, as in other realms, the essence of good strategy is the economic exploitation of core strengths to produce important results. Therefore, outside-in strategy should be combined with inside-out strategy into truly integrated national defense strategy. The experience of other complex enterprises—from *Pax Britannia* to Toyota—suggests that those who succeed in combining core strengths and external strategy can achieve great things economically, whether in business or in national defense.

Just as the burden of global strategy falls mainly on agents that are charged with external awareness and execution, the burden of exploiting core strengths falls on those that are responsible for providing capabilities. The former respond to global challenges and opportunities; the latter must be able to translate enduring strengths into defense capabilities. National defense will suffer if COCOMs are expected to employ whatever capabilities the military services choose to furnish them, without regard to needs; but it will also suffer if the military services are expected automatically to furnish whatever capabilities the COCOMs demand, without regard to core strengths. It follows that the key to integrated defense strategy—in analysis, formation, and ultimately implementation—will be partnership between COCOMs and military services.

The concepts advanced in this report, and applied in the companion report, may seem not just novel but downright foreign to many who labor in defense analysis. But they are neither novel nor foreign. For that matter, despite the nomenclature—operating units, portfolio analysis, and core strengths—they are not really “business” concepts, although they are widely used in business. They are ways to analyze and plan how to succeed in dynamic conditions while making best use of enduring strengths, with as much potential in defense as they have shown in other complex enterprises.

DoD is poised to improve its ability to analyze and form national defense strategy. It already grasps the imperative of performing with unity and agility—jointly—in today’s fluid and murky security envi-

ronment. It recognizes the need to understand the implications of strategic choice before, not after, strategy is chosen. The tools to do this are available. It is up to DoD to try them.

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