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Developing Resource-Informed Strategic Assessments and Recommendations

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Summary

Background

The United States will soon be conducting another major review of national-security strategy. It will be the responsibility of the Chairman of the Joint Chiefs of Staff (JCS) to provide resource-informed assessments and recommendations to the Secretary of Defense (SecDef) and the President. This monograph illustrates newly developed methods and tools to support the chairman’s efforts. We sought a way to compare strategies that would integrate expectations about effectiveness, risks, and resource implications. Such an approach would tie into the Department of Defense’s themes of capabilities-based planning, risk management, and portfolio analysis. To permit timely responses to senior-leader guidance, questions, and feedback, we put a premium on relatively simple methods.

Approach

In developing a strategic planning approach, we drew on the past history of defense planning and strategic planning in large business organizations. A central concept is viewing issues through what the business world calls an operating-unit perspective. We consider DoD’s operating units to be the combatant commands (COCOMs) plus a
virtual “National Command” associated with the Secretary of Defense and supported by the chairman.

Figure S.1 sketches the approach. Given a set of alternative national strategies, the approach does the following for each strategy in turn: characterizes its premise, goals, and approach; characterizes the operating-units’ objectives; characterizes capability needs and implications for forces and force capabilities; and estimates costs and other resource implications. The last of these includes ascribing costs to the capabilities added to (or taken from) each COCOM, even though those costs are budgeted through the services. This is analogous to the use of “transfer costs” in business (i.e., billing operating units for what their suppliers provide, even though the suppliers are actually tasked and paid directly). The intent is to enable senior decisionmakers to clearly see the link between strategic changes and resource implications and to enable operating units to lobby effectively for changes when they are troubled by disconnects among responsibilities, authorities, and resources.

At a more subtle level, we sought both to further progress in global thinking and military jointness and to honor what we see as the natural partnership between joint and service planners. U.S. military services are budgeted separately by Congress to recruit, train, and equip. However, they are not mere “suppliers” akin to those of a commercial marketplace. They are deeply involved in strategic planning, research, innovation, and experimentation. It is the services that actually develop the capabilities that joint commanders employ. They do this with future joint contexts strongly in mind. Our approach does not contemplate changes in the way programming and budgeting are accomplished technically—with nearly all funds flowing through the services and defense agencies.

The next part of the approach (Figure S.1, bottom) is an integrated assessment using a portfolio-analysis structure assessing strategies for likely effectiveness, risks, and costs. The assessments are for each COCOM separately and then from a national perspective. As suggested by Figure S.1, the process is iterative, because national leaders must reconcile what they desire with what can reasonably be obtained. Strategic planning is neither top-down nor bottom-up; rather, it has elements of both.
Comparison of Illustrative Strategies

It was not our project’s purpose to conceive alternative strategies, but we needed concrete options to develop and illustrate the approach. Thus, we developed three alternative strategies that are intended to be topical, provocative, and illustrative—starting points for subsequent work. All are defined relative to an Analytical Baseline comparable to the substantial current U.S. force structure and program, but without the current program’s increase in ground forces or heavy involvement in Afghanistan and Iraq. The alternatives, then, are
1. **Direct GWOT/COIN.** This strategy focuses on the global war on terrorism (GWOT) and counterinsurgency (COIN) against violent Islamists acting against U.S. interests. Intended to reflect aspects of actual U.S. strategy earlier in the decade, it depends on substantial direct involvement of U.S. forces for COIN efforts, primarily in the Greater Middle East. The strategy is motivated most strongly by near- and mid-term considerations, although it anticipates a “long war.” It gives lesser priority to the Far East.

2. **Build Local, Defend Global.** This strategy also focuses on the Greater Middle East and violent Islamism but is philosophically different. It envisions extensive assistance to locals, building up their COIN capabilities and establishing good partnerships. This strategy would emphasize special operations forces (SOF), maritime operations, and training teams but avoid use of regular ground forces. It would include much more foreign assistance, which would be managed largely by the State Department.

3. **Respond to Rising China.** This strategy proceeds from the premise that, despite Middle Eastern problems, the rise of China is the most important reality around which to design strategy. It seeks to avoid a vacuum in the Western Pacific and East Asia—i.e., to compete effectively with China so as to deter or dissuade actions contrary to long-term U.S. interests, but without provocation or the expectation of an arms race. It puts relatively more emphasis on the long term than do the other strategies. Its approach to the threat of violent Islamism is philosophically similar to that of the Build Local, Defend Global strategy, but with drastically less funding and commitment.

All strategies were forced to adhere to some principles. All should recognize worldwide U.S. interests and concerns, including uncertainties that are both broad and deep. A strategy focused on the Middle East would need to maintain capabilities in the U.S. Pacific Command (PACOM) and elsewhere; also, each strategy had to include various hedges—i.e., had to plan for strategic and operational adaptiveness. This was in contrast to allowing strategies that would “bet the farm”
on a particular view of the future. This said, each strategy takes risks differently.

Characterizing the Strategies

Figures S.2–S.5 summarize the strategies’ implications for force shifts and programs relative to an Analytic Baseline (Figure S.2), which projects DoD spending of $10.2 trillion dollars over 20 years (not counting supplementals). This Analytic Baseline is similar to today’s posture and program, but without the scheduled increase in conventional ground forces or the intense ongoing counterinsurgency activities. That is, it assumes substantially fewer U.S. forces in Iraq and Afghanistan than is the case today but assumes that the Middle East is a top priority. The Analytic Baseline, then, is not the current reality, but rather something against which to compare, arguably comparable to what was implied by strategy at the beginning of the decade (described in Rumsfeld, 2001).

Our characterization focuses only on major units and—in a departure from common practice—associates force units with their “usual” COCOM, even though this is somewhat artificial, since the vast majority of the units are potentially available for deployment to any COCOM. This association was necessary as part of the operating-unit orientation.

These major units account for about $3.2 trillion in DoD expenses over 20 years, leaving $7 trillion unrepresented in the Analytic Baseline. This $7 trillion, which accounts for everything from base infrastructure to support units, is constant across the strategies. Further, only a comparatively small portion of the $3.2 trillion accounted for in the stated baseline is altered in any way. Some cuts and reallocations are made, but all strategies are founded on an already substantial body of resources.

The Direct GWOT/COIN strategy makes changes relative to the Analytic Baseline as summarized in Figure S.3. It adds numerous regular ground forces and special training units; it also includes some security and foreign assistance. Central Command (CENTCOM) gains
the great majority of the new resources. The total resource implications of the strategy are to increase expenditures by $248B for the DoD and by $302B for the U.S. government overall over 20 years.

The Build Local, Defend Global strategy deemphasizes ground forces relative to the baseline. It reduces ground forces earmarked for CENTCOM and PACOM by two and three brigade combat teams
(BCTs), respectively, moving three of these to the National Command as an uncommitted and unoriented strategic reserve of active forces. The Army converts a BCT-equivalent of its remaining CENTCOM forces into military trainers and advisors, with most remaining in CENTCOM and the rest available for global deployments. The strategy also adds capabilities for training and units for intelligence, surveillance, and reconnaissance (ISR). So-called “green water squadrons”—units with small but capable ships—are added to AFRICOM, CENTCOM, SOUTHCOM, and PACOM to foster maritime security partnerships and improve littoral capabilities. The strategy also adds to the National Command additional SOF and ISR units and begins procurement of long-range reconnaissance and strike aircraft.

The total resource implications for the Build Local, Defend Global strategy are to decrease DoD expenditures by $28B (FY 2009$) over
Figure S.4
Force Shifts and Program Initiatives in the Build Local, Defend Global Strategy

Total (DoD only): 
– $28B

Total with other USG: 
+ $219B

STRATCOM: 
+ $20B
+ 1 long-range surveillance and strike squadron

EUCOM: 
− $42B
− 2 Army BCTs
+ 1 C-17 squadron

National Command: 
+ $88B
+ 3 Army BCTs
+ TEAA initiative
+ 1 SOF battalion
+ 4 MALE UAV squadrons
+ 1 HALE UAV detachment

CENTCOM: 
− $69B
− 3 Army BCTs
− 6 SOF groups
+ TEAA initiative
+ 1 SOF training company
+ 2 GWS C-17 squadrons
+ 2 MALE UAV squadrons
+ 1 HALE UAV detachment

AFRICOM: 
+ $21B
+ 4 SOF groups
+ 1 SOF training company
+ 2 GWS squadrons
+ 2 MALE UAV squadrons
+ 1 HALE UAV detachment

PACOM: 
− $42B
− 3 Army BCTs
+ 1 SOF training company
+ 2 GWSs
+ 2 MALE UAV squadrons
+ 1 HALE UAV

Other USG: 
+ $148B
+ Foreign assistance
+ Security assistance

SOUTHCOM: 
+ $49B
+ 2 SOF groups
+ 1 SOF training company
+ 2 GWSs

Other USG: 
+ $49B
+ Foreign assistance
+ Security assistance

NOTE: Numbers may not add to totals because of rounding.

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20 years, but increase overall U.S. government (USG) expenditures by $219B (FY 2009$) over the same period.

Figure S.5 depicts highlights of the Respond to Rising China strategy. Over the course of the 20 years, this strategy adds significant naval forces and some ISR units to PACOM. In addition, the assets associated with STRATCOM are increased with long-range bombers and missiles, ISR, and improvements in theater and national
Figure S.5
Force Shifts and Program Initiatives for the Respond to Rising China Strategy

NOTE: Numbers may not add to totals because of rounding.

The total resource implications for the Respond to Rising China strategy are to increase DoD expenditures by $191B (FY 2009$) over
20 years and overall USG expenditures by $258B (FY 2009$) over the same period.

Although each reader might define programs for the several strategies somewhat differently, the choices we made illustrate differing emphases. All are global strategies, and all make only marginal changes to the fulsome baseline. Thus, most programmed capabilities are not highlighted explicitly (e.g., procurement of F-22s and F-35s, the current version of the program for ballistic-missile defense, or continuation of the Army’s Future Combat System program).

The Economics of Strategy in Different “Currencies”

The Different Currencies

Figure S.5 summarizes 20-year costs in constant dollars, but our costing includes nominal Future Year Defense Plan (FYDP) and constant-dollar calculations, 20-year figures based on life-cycle considerations, expenses to the U.S. government as a whole rather than just to the DoD, and the net present value (NPV) of future obligations being made under the strategies. Further, we concluded—in a break from past practice—that responsible costing must consider the extraordinary expense of war or other intensive military operations, which are not typically included in defense planning. These include funds for deployments, combat pay, and recapitalization of equipment worn out by operations, for example. Specialized reports are also needed to show, for example, the implications of a given strategy for each of the military services. None of these different expressions of cost is uniquely right, and all are necessary. Appendix C describes a simple tool that we used to generate reports quickly on demand.

It is especially important to consider all costs to the U.S. government when providing resource-informed assessments and recommendations to the Secretary of Defense and the President because the strategies are, ultimately, “national.” The Build Local, Defend Global strategy would actually cost the DoD less than the baseline (Figure S.4), but it posits a large increase in foreign and security assistance (mostly through the State Department and its Agency for International
Development, USAID), without which the strategy would be undercut to a degree that is hard to estimate.

**Uncertainties in Costing**

The various cost calculations are not cut-and-dried. Strategic planning is arguably best done in net present value terms, which makes the point in Figure S.6. This shows that the relative cost in NPV terms of the three strategies is quite different depending on whether one uses a 3 percent or a 7 percent real discount rate (the set of values suggested by the Office of Management and Budget) and on whether one considers all future obligations in such calculations (right side, shown as “indefinite horizon”) or only those for the next 20 years. Strategies can be made to seem more or less expensive, even on a relative basis, depending on how their costs are calculated.

**Cost of Extraordinary Operations**

We have left the most important cost issue until last. The foregoing discussion—consistent with long-standing tradition in U.S. force

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**Figure S.6**

Comparison of Core Costs of Strategy as Function of Discount Rate and Horizon

![Comparison of Core Costs of Strategy as Function of Discount Rate and Horizon](image-url)
planning—has been about “core expenses” related to force posture, training, and routine operations. That costing does not include the expense of wars or other intensive operations such as occurred in the first Gulf war, the conflicts in the Balkans, or the ongoing campaigns in Afghanistan and Iraq. In the traditional view, such extraordinary expenses could come about under any strategy and would be paid for as a separate matter (i.e., with budget supplementals). When considering its grand strategy for the years ahead, however, the United States must recognize that some strategies are more likely to involve such operations than others. The Direct GWOT/COIN strategy (which is more like today’s operations than the other strategies) virtually implies that such operations will occur: Proactive direct involvement is a tenet of the strategy. Therefore, it is legitimate to include those costs in the estimates of the cost of strategy. Figure S.7 does so, using a range of estimates that are 50 to 100 percent of what might be estimated based on activities of the last half-dozen years. The primary observation is this:

**Figure S.7**
Cost Comparisons Including “Extraordinary” Costs of Operations

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**RAND MG703-S.7**
• The relative costs of strategy are dominated by the “extraordinary” costs of actual operations with ground forces.

The issue is debatable, of course. Proponents of the Direct GWOT/COIN strategy might argue that only with such a strategy could the United States expect to avoid an even larger and more costly hot war. Proponents of the other strategies would disagree.

**An Integrated Assessment Using Portfolio Analysis**

In evaluating strategies, the real issue is whether the *combination* of a strategy’s expected effectiveness, risks, and costs makes it attractive. This is the kind of issue for which portfolio-management methods can be useful—i.e., methods for investing in *mixes* of capabilities to deal with multiple and somewhat contradictory objectives while working within a budget. For the current study, we extended and adapted RAND’s portfolio analysis tool (PAT), which can be quite helpful in structuring analysis, whether of alternative high-level strategies or of alternative strategies to accomplish something more pointed, such as ballistic-missile defense or global-strike capability. The principal aim is to provide an integrated view of the whole, but one that allows delving into details as necessary to question assumptions, identify alternatives, and otherwise reason about the choices.

**Effectiveness**

Figure S.8 shows our high-level summary display of effectiveness results, with costs added in the last column. As usual in scorecards, the colors red, orange, yellow, light green, and green correspond to results that are very bad, bad, marginal, good, and very good, respectively. We see, for example, that the expected consequences for PACOM in the Direct GWOT/COIN strategy base case are said to be poor. The assessments in this figure are merely our subjective determinations for this illustrative study but could be based on results of in-depth analysis and senior-leader judgments. The costs given in the right column are all in NPV terms, assuming a 3 percent real discount rate and an infinite
### Figure S.8
**Top-Level Comparison of Strategies’ Effectivenesses**

<table>
<thead>
<tr>
<th>Options</th>
<th>Measures of Option Goodness, by COCOM and Risk</th>
<th>USG Costs (NPV, 3%, $B)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PACOM</td>
<td>COCOM</td>
</tr>
<tr>
<td>Investment Options</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analytic Baseline</td>
<td>O</td>
<td>Y</td>
</tr>
<tr>
<td>Direct GWOT/COIN</td>
<td>O</td>
<td>LG</td>
</tr>
<tr>
<td>Build Local, Defend Global</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Respond to Rising China</td>
<td>G</td>
<td>O</td>
</tr>
</tbody>
</table>

**NOTES:** The costs for Direct GWOT/COIN do not include “extraordinary expenses” associated with intensive operations. These dominate, if included. Letters are abbreviations: R, O, Y, LG, and G for red, orange, yellow, light green, and green.

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We see that—despite the intent that all of the strategies be sensible—all of them have significant shortcomings as indicated by red or orange cells. Strategic planning is iterative, however. Each strategy’s shortcomings could be mitigated with some additional features (albeit at some expense).

As discussed in Chapter Five, our analysis was structured so that staff conducting a study, or senior leaders reviewing it, can zoom (drill-down) into detail, as shown schematically in Figure S.9.

At the lowest level of Figure S.9, for example, the assessments relate to the expected results of future wars used as test cases. The example is for PACOM and assumes that using two test cases for Taiwan and two for Korea would prove adequate; the A and B test cases might correspond to a relatively nominal scenario and a particularly difficult one. J-8 and OSD’s Program Analysis and Evaluation (PA&E) are heavily involved in simulation-based campaign analysis as part of the Department’s Analytic Agenda. The groups involved could readily identify appropriate summary test cases to be used to feed the portfolio analysis. Analysis could also characterize the operational risks (e.g., risks of
### Figure S.9
Zoom (Drill-Down) Schematic for Visual Explanation of Scorecard Results

#### Level 1 (Summary)

<table>
<thead>
<tr>
<th>Measure</th>
<th>PACOM</th>
<th>Oceania</th>
<th>North/Com</th>
<th>Europe</th>
<th>South/Com</th>
<th>Africa</th>
<th>SCA/Com</th>
<th>National Command</th>
<th>Simulations and Capabilities</th>
<th>Over-all Risk</th>
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<td>LG</td>
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<td>LG</td>
<td>O</td>
<td>O</td>
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<td>LG</td>
<td>Y</td>
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<td>O</td>
<td>LG</td>
<td>LG</td>
<td>O</td>
<td>Y</td>
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<tr>
<td>Respond to Rising China</td>
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<td>LG</td>
<td>LG</td>
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<td>Y</td>
<td>G</td>
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<td>O</td>
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#### Level 1 measure

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<th>Risks</th>
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<td>O</td>
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#### Level 2 measure

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<th>Level 3 measure</th>
<th>PACOM</th>
<th>Warfighting Capability</th>
<th>Taiwan-A</th>
<th>Taiwan-B</th>
<th>Korea-A</th>
<th>Korea-B</th>
<th>Warfighting capability score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warfighting Capability</td>
<td>Analytic Baseline</td>
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<td>O</td>
<td>G</td>
<td>Y</td>
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<td></td>
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<tr>
<td></td>
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<td>G</td>
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<td>Respond to Rising China</td>
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<td>LG</td>
<td>G</td>
<td>LG</td>
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<td></td>
</tr>
</tbody>
</table>
even worse actual scenarios or of underestimating adversary capabilities and deviousness).

Other measures are less amenable to simulation-based analysis, but other kinds of studies, perhaps conducted or sponsored by J-5 and OSD (Policy), could characterize the expected consequences of the strategies for long-term competition and environment shaping (key elements of the second-level assessment, as indicated in the middle of Figure S.9). However, it would be for an analytical group to assure that results were scaled in a way commensurate with the more quantitative measures used in the portfolio analysis.

An attractive feature of this analytic approach is that it lends itself well to either deliberate analysis over many months or rapid-paced analysis. Strategic analysis in an iterative environment could be done with senior analysts and officers making reasoned judgments at a high level of the portfolio structure (the middle level of Figure S.9). Assuming expertise (the result of prior analysis and experience), structure, ruthless objectivity, and candor, such work might be better, not merely faster, than would be possible in a deliberate process with committees, logrolling, and the potential for missing the point by sticking too exclusively to on-the-shelf detailed work.

**Risk Management**

Risk management is a major goal of sensible strategic planning and a special concern of the chairman and secretary. In this study, we developed a fairly rich depiction of the various risks associated with the strategies. Some of these are “accepted” aspects of a strategy: If one has limited resources, giving priority to one demand means running some risks with regard to another. Other risks are less evident but crucial. These include the risk that “best estimates” of a strategy’s effectiveness in a particular COCOM’s area of responsibility will be completely wrong. For example, a strategy calling for intensive use of U.S. ground forces and special operations forces in the Muslim world might prove counterproductive. Such issues are discussed in Chapter Five and Appendix E.
Exploratory Analysis Under Uncertainty
A fundamental problem in assessing effectiveness and risk is massive uncertainty. Analysis results can differ substantially depending on whether the assessor is oriented more heavily toward one region or another or toward near-term or long-term problems. Results also change substantially depending on the assessor’s approach to global risk, as manifested by concern about the possibility of simultaneous conflicts. Such issues cannot be resolved by committee, by proclamation of standard planning scenarios, or by any other simple expedient. It is in the very nature of strategic decisionmaking to view the problem from these different perspectives, recognizing that balancing these perspectives will often drive choices.

Consider this illustration: Suppose that we wish to compute “cost effectiveness.” Usually, this means dividing a single composite measure of effectiveness by a single measure of cost. Alternatively, one can plot the composite effectiveness versus cost. It is easy to do such calculations using PAT, but it is also dangerous. Figure S.10 illustrates how the cost-effectiveness comparisons of strategies differ for what we refer to as CENTCOM-leaning, PACOM-leaning, JCS-conservative, and JCS-optimistic perspectives. These differ in how much relative weight is given to the individual COCOMs, how much credence is given to more stressful warfighting scenarios, and the assessment of the probable effectiveness of “direct intervention” in the Middle East (see Chapter Five for details). The figure also shows the effect of considering the extraordinary costs of operations (represented by a horizontal line for the cost of Direct GWOT/COIN). For the particular analysis we did, the Direct GWOT/COIN strategy has the highest composite effectiveness only in the CENTCOM-leaning perspective, and then only slightly. In all other perspectives, the Build Local, Defend Global strategy is superior. A core conclusion here is that

*Exploratory analysis under uncertainty is fundamental to the support of strategic planning: Results based on “best estimate” assumption sets and the “predominant” perspective will often be seriously misleading.*
Figure S.10
Effect of Perspectives on Cost-Benefit Calculations Using USG Costs

- **PACOM leaning**
- **CENTCOM leaning**
- **JCS conservative**
- **JCS optimistic**

Legend:
- ▼ Analytic Baseline
- □ Build Local, Defend Global
- ◇ Direct GWOT/COIN
- △ Respond to Rising China
Much progress has been made in learning how to conduct exploratory analysis in recent years, but doing so within portfolio analysis poses special challenges.

**Iterating Strategies to Better “Balance” the Portfolio**

Although none of our strategies were single-mindedly focused on a single region or objective, there were distinct differences among them. They would lead us to expect such natural questions from the chairman and secretary as “What would it take to amend the such-and-such strategy so that it would do better across the board?” Iteration would then occur. In the extreme, the United States could just “buy everything,” but, in practice, choices must be made. The meta strategy (i.e., the strategy of choosing a strategy) should be to achieve flexibility, adaptiveness, and robustness (FARness) of capabilities. This is in contrast to “overoptimizing” for the currently popular prediction of the future and future crises. Supporting analysis, then, should help leaders identify uncertainties and risks and find ways to at least mitigate them inexpensively while responding appropriately to national priorities.

Another type of iteration would involve asking “How much is enough?” More foreign aid and security assistance may well be needed, but would the large investments suggested in the Build Local, Defend Global strategy really pay their way? Could they be trimmed, at least until there was evidence that such investments were successful?

**Next Steps for Applications and Research**

Our project was a pilot effort intended to illustrate ideas concretely. A number of next steps are possible—both substantively (as in developing and assessing “real” strategies) and methodologically. Chapter Six includes suggestions on the matter and notes that such work would likely be cross-cutting—of interest, for example, to the Joint Staff’s J-5 and J-8 and to OSD’s PA&E and Acquisition, Technology, and Logistics (AT&L).