Cultural Oasis
For Arab Children, Collected Works Offer Roads to Tolerance, Critical Thinking
Roadmaps for Rough Terrains

ALL OF THE FEATURE STORIES in this issue plot paths toward resolving nettlesome policy problems that have been matters of intense debate in recent months. There are no quick solutions to these problems, but the authors chart courses toward eventual resolutions.

Our cover story on the promotion of tolerance and critical thinking among Arab children comes in the wake of violent anti-American protests that swept the Arab and Muslim worlds in 2012 in response to one irresponsible individual’s posting of an offensive YouTube video mocking the founder of Islam. The offense taken was understandable. But the failure of protesters to differentiate between the individual and his country of residence was not. Events such as these underscore the importance of the work being done by RAND’s Gail Zellman and Jeffrey Martini and the University of Toronto’s Michal Perlman to identify and disseminate indigenous Arabic-language materials that promote respect for the “other” within the Arab world and beyond.

Our trio of articles on defense in an age of austerity outlines the strategic and financial alternatives that NATO and U.S. military forces should weigh as they strive to uphold high levels of security while cutting hundreds of billions of dollars from defense budgets over the next decade. Trade-offs must be made. Risks must be taken. Stephen Larrabee, Lynn Davis, Stuart Johnson, and Irv Blickstein keep the discussion focused on the strategic priorities while recognizing the budgetary realities.

School districts across America have been experimenting, not always amicably, with new statistical techniques to measure teacher effectiveness. Jennifer Steele, Laura Hamilton, and Brian Stecher acknowledge that no single measure of effectiveness is impervious to error but emphasize the potential of using multiple measurements in concert, as when districts have incorporated the new techniques into comprehensive evaluation systems that can be fairer for teachers and students alike.

The complexity of these problems defies pat answers. But the suggested approaches for overcoming them, as outlined in this RAND Review, offer deliberate, purposeful, and adaptable roadmaps for policymakers in the United States, Europe, and the Middle East.

—John Godges

On the Cover: Lebanese schoolgirls behold the books at an Arabic-language festival in Beirut. As part of the festival, entitled “We Are Our Language,” the girls wear letters of the Arabic alphabet on their clothes. AP IMAGES/GRACE KASSAB
**On the Syrian Opposition**

“My expectation is that Syria’s civil war will result in the regime’s collapse, not a negotiated settlement, that the victors will not want foreign troops on the ground, and that there will therefore be no serious consideration of a large-scale, foreign-manned stabilization force. One can envisage circumstances where very limited external military assistance might be needed, for instance to secure chemical weapons sites, but a far better outcome will be for the regime’s armed forces to remain largely intact, albeit under new command, and thus still responsible for the security (and eventual disposal) of these weapons. Contrary to Iraq, where the American military dropped leaflets informing Iraqi troops that they would be killed if they remained in uniform and under arms, the Syrian opposition should be encouraged to assure rank-and-file Syrian soldiers that they will be safe, and indeed paid and protected, as soon as they cease fighting.”

*James Dobbins,*
director of RAND’s International Security and Defense Policy Center, in testimony presented before the U.S. Senate Committee on Foreign Relations, August 1, 2012

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**On Embassy Security**

“Technology can help. Cameras with pattern-recognition software positioned around the embassy to monitor the streets can ascertain what those streets look like on a normal day and what they look like on a day when there will be protests or an attack. On the day of an incident, protesters need to mobilize or attackers need to preposition themselves before the assault. This preparation can be identified by the cameras and software. Similarly, predictive analytics can be applied to social media collected from Facebook, Twitter, and other accounts to determine ahead of time when crowds might form or when an attack is being planned. Although social media might not be able to uncover the actual identities of the attackers, it could bring to light certain disparate pieces of information, which, when analyzed and linked, could provide early warning of a threat.”

*William Young,*
RAND senior policy analyst, in testimony presented before the U.S. House Committee on Foreign Affairs, November 15, 2012

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**Katrina and Sandy**

“New York City and communities across the mid-Atlantic coast have a much larger population, vast amounts of economic assets at risk, and a more complex regional transportation system than Louisiana. Still, the fundamental choices for the region’s leaders are the same: Protect vital assets with engineered solutions when necessary, take advantage of rather than fight natural processes, and concede the most vulnerable lands to the rising sea. Thanks to [Hurricane] Sandy, the region has the opportunity to embark on its own master plan and chart a course that will ensure its sustainability for the long haul.”

*Debra Knopman,* vice president and director of RAND Justice, Infrastructure, and Environment; *Jordan Fischbach,* RAND associate policy researcher; and *David Groves,* RAND senior policy researcher, on CNN.com, November 8, 2012

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**Labor Movement in China**

“Given the demise of the danwei cradle-to-grave welfare system and the state’s failure to implement an adequate nationwide system of social security and health care coverage, factory workers risk being left to pay for the treatment of illnesses on their own in their old age. Labour rights NGOs on the mainland are doing effective work on collective bargaining issues, and their legality should be recognized. They should now be stimulated to foster working environments in which employers contribute to private pension plans, in part by reaching out to activists in Hong Kong.”

*Karla W. Simon,* law professor at the Catholic University of America, and *David D. Yang,* RAND associate political scientist, in South China Morning Post, December 1, 2012
Religion, Resources, and Rohingyaas

“Religious conflicts are often about resources rather than faith. Despite the headlines about clashes between Buddhists and Muslims in Myanmar, religious practice has virtually nothing to do with the strife. The Rohingyas happen to be Muslim, but the conflict stems from the fact that they are seen as outsiders competing for very scarce resources. Neither the Buddhist nor the Muslim community is fighting over theology, religious practices, or other matters of faith: The conflict is rooted in disputes over land, jobs, and water—and would likely unfold in much the same manner regardless of the parties’ religions.”

Jonah Blank, RAND senior political scientist, in The Christian Science Monitor, November 19, 2012

FORWARD-LOOKING MEMOIR

The Timeless Wisdom of Harold Brown

RAND Trustee Emeritus and former U.S. Secretary of Defense Harold Brown served during the hottest part of the Cold War, when the Soviet Union presented an existential threat to America. In Star Spangled Security: Applying Lessons Learned over Six Decades Safeguarding America (Brookings Institution Press, 2012), Brown shares an insider’s view of U.S. national security strategy during the Carter administration, relates lessons learned, and bridges them to current challenges facing America.

Brown describes his part in the SALT negotiations, the normalization of relations with China, the Camp David Accords, the development of a new generation of ballistic missiles, and more. Drawing on his earlier years as director of the Lawrence Livermore National Laboratory, as director of U.S. Defense Research and Engineering, as secretary of the U.S. Air Force, and as president of the California Institute of Technology, Brown uses his hard-won wisdom, especially that gained during the painful Iran hostage crisis, to offer specific recommendations as America copes with challenges in a turbulent world.


DANGER in the AISLES?

SAFELY NAVIGATING THE GROCERY STORE CAN BE HARDER THAN IT SOUNDS

Have you ever come home with a grocery bag full of food that you didn’t mean to buy? That’s because you might have less control over your food choices than you think. How and where items are placed in grocery stores can influence your purchases and, therefore, your eating habits. Some argue that food design and placement are hidden risk factors for food-related chronic diseases and, as such, should be regulated for consumer protection. For now, though, shoppers are on their own. Here are six things to ask yourself as you navigate the aisles:

Long day at work?
Shopping while tired—or stressed—can make you more likely to choose foods high in sugar and fat.

Feeling a bit distracted?
Being distracted can reduce your ability to resist buying foods—like sweets, soda, and chips—that you might later regret.

Reached the end of the aisle?
Items placed in prominent end-of-aisle spots account for about 30 percent of all grocery store sales.

Armed with good intentions?
Many food choices are made without full conscious awareness or deliberation. It’s easy to pick up items you know you should be trying to avoid.

Think you’re in control?
People lack the capacity to fully control their eye gaze. Marketers use this to their advantage when crafting their displays.

Ready to check out?
Brace yourself for impulse marketing. That checkout-lane candy bar “calling your name” has been artfully placed.
BLOG POST

Americans Dying Twice as Fast as French from Treatable Conditions

The United States spends an average of nearly $8,000 a year per person on health care—roughly double the average in Western European countries. Yet despite high per-capita expenditures in the United States, Americans under the age of 65 are less likely than their peers in France, Germany, or the United Kingdom to receive timely and appropriate health care.

The United States has a higher rate of “amenable mortality” than these three European countries—that is, a higher rate of deaths from conditions such as diabetes or acute infection that could potentially have been treated with timely and effective care. In 2007, for example, U.S. rates of such deaths were almost twice those seen in France, which had the lowest rates of the countries studied.

The United States not only has a higher rate of amenable mortality than the other three countries studied, but also a slower rate of improvement in preventing deaths that could have been avoided by timely and effective care. The lag in improvement [is] most notable among American men and women under age 65. These individuals are more likely to be uninsured than are Americans over age 65, who are eligible for Medicare.

The observed differences are not inevitable. Other work has shown, for example, that the state of Minnesota has achieved outcomes on a par with those found in many European countries and an amenable mortality rate that is less than half that of Mississippi or the District of Columbia. Available evidence further suggests that these outcomes were achieved with patients receiving care that meets best-practice guidelines and receiving preventive care to reduce unneeded hospitalization.

—Ellen Nolte, director, health and healthcare research team at RAND Europe, on The RAND Blog, October 1, 2012

DARKNESS IN NORTH KOREA

“The regime has actively purged the leadership this year, including many of the senior military and other government personnel. And the purges are ongoing, undoubtedly making many senior elites worry that they could be next. Among those purged, many of the living—enduring the hell of North Korean gulags—may envy the dead.”

BRUCE BENNETT, RAND SENIOR INTERNATIONAL POLICY ANALYST, IN U.S. NEWS & WORLD REPORT ONLINE, DECEMBER 12, 2012

Gray Power

“Often older workers are seen as being in the way of younger workers who need them to step aside to free up jobs. Yet there is hardly any evidence to back up such an argument. The number of workers entering retirement may exceed the number of workers entering the workforce in coming years. As a result, employers need older workers. Without older workers, we may, in the long run, face significant labor shortages. This would ultimately strain Social Security and Medicare and slow economic growth.”

Nicole Maestas, director of RAND’s Economics, Sociology, and Statistics Department, in The Orange County Register, December 11, 2012
A teen who starts working for pay while still in school may be more than 8 times as likely to report tobacco use as peers who don’t start working while in school.

Among teenagers, there is a strong link between working for pay and using tobacco. In one study of almost 800 tenth-graders, researchers found that working teens are considerably more likely to report tobacco use. Compared with a nonworking peer, a teen who works for pay while still in school is . . .

1.38 times as likely to report tobacco use if he or she works 1 to 10 hours a week in grade 10.

2.93 times as likely to report tobacco use if he or she works more than 10 hours a week in grade 10.

8.00 times as likely to report tobacco use if he or she starts working between grades 10 and 11.

8.67 times as likely to report tobacco use if he or she works in both grade 10 and grade 11.

Researchers recommend that policymakers “monitor the conditions under which young people work to help minimize young workers’ tobacco use and potential for initiating use.”


24/7 in South Dakota

Driving under the influence of alcohol (DUI) and alcohol-related domestic violence are two very costly consequences of problem drinking in communities across the United States. Although millions of problem drinkers pass through the criminal justice system each year, America does not do a good job of getting them to reduce their alcohol consumption. Even when a judge or probation officer orders alcohol abstinence, many believe it is just too hard to enforce such an order, given how quickly alcohol passes through the body.

South Dakota’s 24/7 Sobriety Project can require individuals arrested for or convicted of DUI to undergo twice-a-day breathalyzer tests—typically once in the morning and once in the evening—or wear continuous alcohol monitoring bracelets. Individuals who fail or skip their tests are immediately subject to a short jail term, typically a day or two. The approach is based on the idea that the certainty and rapidity, rather than the severity, of the punishment more effectively deters problem drinking.

Results from RAND research confirmed that the program has had some success:

• The project reduced repeat DUI arrests at the county level by 12 percent.
• The project reduced arrests for domestic violence at the county level by 9 percent.
• With respect to traffic crashes, the evidence was less conclusive. The 24/7 Sobriety Project did not reduce overall traffic crashes, but there is suggestive evidence that crashes among males age 18–40 fell as a result of the program.

“The program works because people believe there will be consequences if they don’t show up. Up until now there was no peer-reviewed research showing that the program worked.”

—Beau Kilmer, codirector, RAND Drug Policy Research Center

View the video
In Wake of U.S. Presidential Election, RAND Helps Set Politics Aside

IN NOVEMBER 2012, RAND hosted its third Politics Aside event, which invites participants to take an informed and even-handed look at the serious issues facing society in the aftermath of hard-fought political campaigns. Sponsored in cooperation with Thomson Reuters, the gathering drew policymakers, business leaders, researchers, producers, and philanthropists into nonpartisan discourse on topics ranging from fiscal austerity and financial regulation to health care and Hollywood. Here is a collection of insights and images from the three-day event.

PHOTOS BY DIANE BALDIN EXCEPT AS NOTED

“The customers in our health care system are insurers, Medicare, and state Medicaid agencies, and the system is perfectly designed to serve them. The difficulty we have with these issues is that we’re trying to fix the system without trying to change the customers.”

—David Goldhill, author, Catastrophic Care: How American Health Care Killed My Father—and How We Can Fix It

“On the timing, it reminds me of St. Augustine: ‘Make me pure, O Lord, but not yet.’”

—Sir Harold Evans, Reuters editor-at-large, on deferring most fiscal austerity until later

“‘There’s no delete button on the Internet, and it’s easy to lose your privacy. I’d argue that you should probably have the online talk even before you have the sex talk with your kid.’”

—Eric Schmidt, executive chairman, Google

“When you understand how connected these diseases are, what scares me the most about traumatic brain injury in soldiers is not necessarily the traumatic brain injury and the cognitive issues. It’s the number who will have early onset Alzheimer’s, the number who will have Parkinson’s disease. All the research is pointing to the fact that those who have had traumatic head injury, if they’re genetically inclined to go there, are more likely to have Parkinson’s disease and early onset Alzheimer’s.”

—General Peter Chiarelli, former U.S. Army vice chief of staff and current CEO of One Mind for Research, a nonprofit organization dedicated to reducing the social and economic effects of mental illness and brain injury
“Particularly in the United States, you have reached a level of information distribution and gathering that basically confuses rather than clarifies, with so many sources being quoted from various places, so getting a clear picture for the layman rather than the officials is always a problem here.”

—Prince Turki Al Faisal bin Abdul Aziz Al Saud, former Saudi intelligence chief, regarding U.S. reactions to the September 11, 2012, assault on the U.S. consulate in Benghazi, Libya

“Politics demonizes, and culture humanizes.”

—Howard Gordon, co-creator and executive producer of the television series Homeland

“If you helped get an institution in trouble and you’re still insisting on being paid outsized salaries and bonuses to help fix problems you created, I say, ‘Get rid of them.’ Tell me you can’t find somebody else to help. Why in the world do you want people like that in your institution? I just don’t get that.”

—Sheila Bair, former chair, Federal Deposit Insurance Corporation, and author of Bull by the Horns: Fighting to Save Main Street from Wall Street and Wall Street from Itself, shown with RAND trustee James Loy, former U.S. Coast Guard admiral
For generations, the United States has been out front in fostering the basic research that has driven innovation at home and around the world. But that leadership role is now threatened by competition from abroad and by domestic budget constraints.

So warned Subra Suresh, the director of the National Science Foundation (NSF), the $7 billion independent U.S. federal agency created in 1950 and charged with advancing all fields of fundamental science and engineering (S&E) research and related education. Speaking at RAND’s annual Haskins Lecture on Science Policy, Suresh described the value of NSF, the challenges it faces, and what it is doing to help the nation retain its S&E edge.

**Jump-Starting the Future**

Invoking the thesis of engineer and presidential adviser Vannevar Bush, who was instrumental in establishing NSF, Suresh argued that “innovation, driven by basic research in S&E, is essential for the prosperity of the country” and that “such basic research is best done in universities, where young minds put their creative juices to work along with faculty. Such basic research develops the human capital that, in turn, goes into industry and government.” For example, today, according to Suresh, NSF funds 82 percent of the basic research in computer science and 22 percent of the overall basic S&E research that is conducted at U.S. universities.

“Since 1950,” Suresh said, “NSF has been at ‘ground zero’ of the U.S. scientific and S&E education enterprise.” He cited NSF support in the 1960s for basic research on the Global Positioning System (GPS), first used in military defense applications and satellites, and, ultimately, in today’s portable communication devices.

“In the 1970s, when American industry thought mathematical and process modeling were more academically than industrially relevant, NSF supported it, which led to rapid prototyping. Rapid prototyping played a huge role in our national manufacturing competitiveness in the 1980s, when Japan was seen as a major competitor.”

NSF also created the first federal Small Business Innovation Research program in the 1970s, providing, as Suresh noted, “$25,000 in funding to Qualcomm and Symantec, which today employ 21,000 and 18,000 people, respectively.” And in the 1990s, NSF supported Stanford University student Sergey Brin, who worked with fellow student Larry Page doing purely theoretical mathematical (page ranking) research that had no known practical application at the time but later became the kernel of Google.

**Losing Momentum**

But there has recently been a dynamic shift in the global balance of expenditures on scientific research toward Asia. “Last year, for the first time, the top ten Asian countries invested $400 billion in research and development—the same amount as the United States.” The number of engineers graduating from U.S. colleges continues to decline and is currently at about one-fifth of what it is in Asia. In the past, the United States overcame its lack of domestic engineers by attracting talent from abroad, but that is changing because of growing opportunities in Asia.

Suresh used his own engineering class at the Indian Institute of Technology as an example. “When I graduated in 1977, approximately 82 percent of the graduates came to the United States for graduate education and essentially all of them stayed afterwards, "Last year, for the first time, the top ten Asian countries invested $400 billion in research and development—the same amount as the United States."

—Subra Suresh, director, National Science Foundation
starting companies in Silicon Valley and launching successful careers in academia, business, and government,” he said. By contrast, “in 2009, some 80 percent of the graduates would have had a chance to come to the United States, but only 16 percent came—and they were not necessarily the top 16 percent.”

**Priming the Engine**

In the face of these trends—and growing budget pressures—NSF continues to focus on funding basic research to drive innovation, which means taking a long-term perspective and emphasizing human capital development. “No matter what happens to the NSF budget, we will not cut the number of graduate research fellowships,” said Suresh. “They represent the future scientific workforce.” That long-term view also explains why NSF invests in research into S&E education as well as S&E research, in programs that run, Suresh noted, from “K [kindergarten] through grade.”

While most of NSF’s funding goes into basic research to drive the innovation engine, NSF uses a small amount of funding to “nudge basic research closer to having economic value” through its Innovation Corps (or I-Corps) program. I-Corps is a public-private partnership that identifies nascent concepts originated by NSF-funded scientists and “strategically connects them to the national innovation ecosystem” to help them generate returns on investment more quickly.

I-Corps now supports up to 100 projects annually, at $50,000 each for up to six months, to expedite the production of useful technologies, products, and processes. “So far, a good number of funded projects have moved much further along than they would have otherwise,” Suresh said. It is one way to sustain a long-term view in a world hungry for immediate profits.

**Listen to the podcast**

“Ladies and gentlemen, I do not promise you paradise. I do not promise perfection by week’s end. But I do offer this final closing thought: Never in the history of the human race, since Ug and Thug first agreed 40,000 years ago to share a cave and establish some sort of community, has a criminal enterprise been able to succeed against the consensus, will, and desire of a society and a community determined not to let them succeed.”

—**Ambassador William Brownfield**, assistant secretary for the Bureau of International Narcotics and Law Enforcement Affairs, U.S. Department of State, on the war on drugs
Chicago teachers go on strike, in part due to concerns about “value-added” teacher evaluation systems. Education experts publish newspaper columns decrying new teacher evaluation schemes that allegedly overemphasize standardized tests, ignore other aspects of students’ learning, undermine principals’ judgment, and risk driving good teachers out of the profession.

Other experts and scholars, however, point out that relying solely on school administrators’ subjective teacher evaluations, as has traditionally been done, has resulted in almost all teachers being rated as satisfactory, leading many to doubt the results. These critics assert that the time has come to rethink how teachers are evaluated and supported.

Such disagreements over teacher evaluation systems have been fueling heated debates about public education in the United States. Many states and districts are indeed retooling their teacher evaluation systems to incorporate student test scores—a goal encouraged by federal Race to the Top incentives and made possible by improved data systems and innovative statistical techniques known as value-added models. At the same time, using these models poses at least three major challenges: ensuring the reliability and validity of the estimates, accounting for teachers of subjects and grades that are not tested annually, and accounting for students who lack prior test scores or are enrolled only part of a school year.

Several states and districts are tackling these challenges head-on as they begin incorporating student test scores into their teacher evaluation systems. Using insights from the research literature and preliminary snapshots of some of these systems, in 2010 we distilled a set of considerations and suggestions for education policymakers striving to design systems that incorporate student performance data in a way that is accurate and fair.

**Reliability and Validity**

One appeal of value-added models is that they account for the prior test scores of a teacher’s students. A typical value-added method works like this: Mr. Jones teaches 6th-grade math. To estimate his contributions to students’ test score performance, statisticians collect the 5th-grade test scores of all his students (and possibly their 3rd- and 4th-grade scores as well), along with information about their backgrounds (such as gender, socioeconomic status, and whether they were in special education or English language learner programs). On the basis of these data, the statisticians predict the 6th-grade math scores of each individual student. Maria and Kwan are students in Mr. Jones’s class. Maria’s score is seven points higher than predicted on the 6th-grade test; Kwan’s is two points lower. The estimate of Mr. Jones’s added value is the average of all differences between the actual and predicted scores of Maria, Kwan, and the rest of the class.

When using such measures to inform teacher evaluations, policymakers and principals need to maximize both the reliability of the student test scores and the validity of how they are used. **Reliability** refers to the consistency or precision of these measures in representing student achievement over time. **Validity** refers to the appropriateness of the inferences drawn from such measures—and of the purposes toward which those measures are applied.

An important threat to reliability is measurement error. It is nearly impossible for any single test to present a complete picture of students’
knowledge about a particular domain, which is to say that all test scores are subject to measurement error. However, scores on tests that are poorly constructed, administered inconsistently across classrooms, or scored subjectively (as in the case of essays and open-response items) often have more measurement error and are therefore less reliable than those from well-constructed, consistently administered, and objectively scored assessments. As for validity, one possible threat is an undue focus on test preparation in lieu of teaching the underlying content. Other threats to validity come with shifts in the content on which students are tested as they progress from one year to the next.

Additional challenges arise when students lack prior test scores or are enrolled in a teacher’s class for only part of a school year. It may be prudent to estimate a teacher’s value added using only the students enrolled in class most or all of the year and who have prior test scores on record.

State and District Experiments
In 2010, we culled public data about five teacher evaluation systems that were incorporating or working toward incorporating student performance data. These systems represented some of the best-documented programs in development at that time. Two of them were state-level programs in Tennessee and Delaware. The other three were district-level programs in Denver, Colorado; Hillsborough County, Florida; and Washington, D.C. Because these programs were—and are—still undergoing refinement, it is too soon to declare them successes or failures; meanwhile, a variety of similar systems are now being developed across the country.

Nonetheless, the early approaches of the five programs we studied remain interesting because of the distinctive ways that they responded to the inherent challenges. Certain aspects of these programs could serve as illustrative models for others. At the very least, they suggest an array of possibilities for other states and districts to consider.

The Denver program combined teacher evaluations and incentives in four categories: knowledge and skills (including completion of professional development units), comprehensive professional evaluation (based on principal observations), market incentives (for teaching in hard-to-staff schools and subject areas), and student growth (including value-added and other approaches). The students were tested in math, reading, and writing in grades 3–10 and science in grades 5, 8, and 10. The value-added component was excluded for teachers in nontested subjects and grades.

The Hillsborough County initiative based 60 percent of a teacher’s evaluation on classroom observations, with half of that based on a principal’s observations and the other half based on observations by a trained mentor or peer evaluator. The other 40 percent was based on student achievement growth as measured by standardized state tests. In addition to administering statewide math, reading, writing, and science tests in grades 3–11, the county had developed more than 500 end-of-course exams available for a broad array of subjects—including foreign languages, art, music, career/technical education, and even physical education—that were not tested by state exams.

In the statewide Tennessee system, 50 percent of a teacher’s evaluation was based on principal observations, 35 percent on the teacher’s value-added estimates from standardized state tests and end-of-course exams, and 15 percent on other tests of student performance.

The early approaches of the five programs we studied remain interesting because of the distinctive ways that they responded to the inherent challenges.
performance, such as college entrance tests, advanced-placement tests, and end-of-year subject tests. The standardized state tests covered math, reading, science, and social studies in grades 3–8, while the end-of-course exams encompassed algebra, biology, chemistry, English, geometry, physics, and U.S. history.

In nearly a mirror image of the Tennessee system, the one in Washington, D.C., based 50 percent of a teacher’s evaluation on his or her estimated value added to student achievement gains, 35 percent on five classroom observations per year, 10 percent on demonstrated commitment to the school community (including outreach to parents and collaboration with colleagues), and 5 percent on schoolwide student achievement growth. The city administered standardized tests for math and reading in grades 3–8, for science in grades 5 and 8, and for biology.

The Delaware program was in flux in 2010 but was nevertheless intriguing. The teacher evaluation formula assigned equal weights to planning and preparation, classroom environment, instruction, professional responsibilities, and student improvement. Rather than incorporating value-added estimates, the system that was in existence at the time focused on a teacher’s ability to use assessment and accountability data to set annual goals for student performance and to measure student progress toward those goals. However, the state was working to incorporate teachers’ value-added estimates into their evaluations for tested subjects, which were math, reading, writing, science, and social studies.

Lessons for Education Policymakers

For policymakers working to develop new teacher evaluation systems, we offer the following recommendations, which are gleaned from the research literature and informed by the challenges facing the state and local systems we profiled.

Create comprehensive evaluation systems that incorporate multiple measures of teacher effectiveness.

The systems highlighted above attest to the importance of evaluating teachers along multiple dimensions. These include not only value-added estimates of student achievement growth but also observational evidence of teacher effectiveness in the classroom and evidence of their professional contributions to their schools. Moreover, the examples remind us that evidence of classroom effectiveness includes the ability to plan appropriate lessons, set goals for student learning, and demonstrate that students have met those goals. The core lesson here is that teacher effectiveness is multifaceted, and no single measure of that effectiveness—whether observational or based on student test scores—is impervious to error. A comprehensive system will therefore take multiple sources of evidence into account.

Attend to the technical properties of reliability and validity in student assessments, especially in the context of how the assessments are used in high-stakes contexts.

The reliability of scores and the validity of inferences drawn from those scores depend on how the assessments are being used. For example, teachers would not ideally be responsible for grading their own students on measures that carry high stakes. Moreover, policymakers should train and evaluate the raters of open-ended assessments to promote high levels of agreement across raters. Policymakers should also promote the consistent use and administration of student assessments across classrooms, particularly in the case of nonstandard assessments, such as student writing prompts or portfolio assessments.

Promote consistency in whatever student performance measures teachers are allowed to choose. If teachers are permitted to choose the assessment for which they are

*Teacher Bev Campbell displays letters of the alphabet in her special education class at Amelia Earhart Elementary School in Hialeah, Florida, on April 3, 2012. Measuring the improvement of special education students is complicated.*
held accountable, they should be given clear parameters about the choices available. Where possible, teachers should be guided toward standardized assessments for which there is documented evidence of usefulness. This is an instance where limiting the choices of measures will promote consistency across classrooms, resulting in measures of effectiveness that are comparable among teachers in the same subjects and grades.

Use multiple prior years of student achievement data when estimating the value added by a teacher; where possible, average the annual estimates across multiple years of teaching. In Tennessee, for example, the system has historically included up to five years of students’ prior test scores in establishing a solid baseline to estimate the value added by each teacher. The system also estimates a teacher’s single-year and three-year value added in each subject taught, as long as there are at least three years of data on record for that teacher. Using multiple years of student achievement data when estimating a teacher’s value added increases the accuracy of those estimates. In addition, averaging the estimates across multiple years reduces the instability of the estimates.

Find ways to hold teachers accountable for students who are excluded from their value-added estimates. Students who have spent only part of the year in a teacher’s classroom or who lack prior test scores cannot easily be included in the teacher’s value-added estimates. In these cases, teachers should be encouraged to demonstrate student progress in other ways, such as on class tests or completed assignments. Having to show evidence of student progress on such measures may encourage teachers to attend to the needs of those whose test scores might otherwise be ignored.

Given the risks of incorporating student performance measures into teacher evaluation systems, experimentation is critical, and it is important for states and districts to learn from one another about what does and does not work. In the long term, it will also be important to examine how these kinds of evaluation systems that incorporate various rewards or sanctions affect the composition of the teacher workforce and disadvantaged students’ access to good teachers. The hope is that by bringing teacher assessments into better alignment with teacher behavior and effectiveness, schools will have richer information with which to make personnel decisions, and teachers will have more-accurate information about how well their students are learning.

**Measuring Teacher Effectiveness**
_A Resource for Teachers, Administrators, Policymakers, and Parents_

RAND Education has launched a web page on measuring teacher effectiveness. The page features a short video and five summaries of technical issues. Multimedia content will be added regularly. The effort is funded by a grant from Charles J. Zwick to assist RAND researchers’ efforts to extend the impact of their policy work.

Visit the web page

![QR Code](image-url)

**Related Reading**


It is important for states and districts to learn from one another about what does and does not work.
NATO Forces Approach Financial Day of Reckoning

By F. Stephen Larrabee

Stephen Larrabee holds RAND’s distinguished chair in European Security.

Governments on both sides of the Atlantic have entered an era of austerity in defense spending. In Europe, nearly all of the major NATO allies have started cutting their defense budgets. In the United States, the looming threat of a budgetary sequester has portended steep across-the-board cuts in U.S. military expenditures. Financial and economic constraints on both continents have begun to impede NATO’s ability to provide security in the coming decade. Alliance members will have to find ways to provide security with fewer resources.

The cuts thus far have been made with little coordination among allies. If this trend persists, NATO risks losing critical capabilities, while U.S. and European forces will find it increasingly difficult to operate together. As the United States focuses greater attention on Asia and the Pacific in its defense policy, pressure is likely to grow on the European allies to take greater responsibility for security in areas, such as the Maghreb (northwest Africa), where they have strong interests. Several additional steps need to be taken in the short run to sustain the alliance over the long run.

The increased focus in U.S. defense strategy on the Asia-Pacific region does not mean that the United States is about to abandon Europe. As U.S. Secretary of State Hillary Clinton has stressed, “Europe is and remains America’s partner of first resort.” But in the coming decade, the United States will expect its European allies to shoulder more of the burden for managing crises within Europe and along its periphery. The United States will still be engaged politically and militarily in managing these crises, but it may play more of a backup role, as was the case in the 2011 military intervention in Libya.

Accounting for European Forces

As a result of the European defense cuts under way and those anticipated in the next several years, the armies, navies, and air forces of America’s major NATO European allies are being reduced. Importantly, these are not simply “salami slice” reductions whereby a certain percentage of existing force structure or planned equipment purchases are being cut. In contrast to the post–Cold War defense reductions that took place in the NATO European militaries in the 1990s, today several nations are eliminating important capabilities entirely.

The armed forces of America’s European NATO allies are rapidly reaching the point at which their remaining air, land, and naval elements are so small that they would experience significant difficulty if a future mission required either a large initial commitment of force or a large rotation base of units and personnel to sustain a protracted operation, as in Iraq or Afghanistan. In all cases, the defense cuts have been driven by the need to reduce large budget deficits—not by a change in the nature of external threats.

Seven NATO allies—Britain, France, Germany, Italy, Spain, the Netherlands, and Poland—together represent more than 80 percent of NATO Europe’s defense spending. In Britain, the government is undertaking a draconian downsizing of its armed forces, including the 2011 decommissioning of the Royal Navy’s flagship aircraft carrier, the HMS Ark Royal. The British Army, the Royal Navy, and the Royal Air Force all face substantial reductions. In an attempt to bridge the emerging capability gaps, Britain joined France in signing a defense cooperation treaty in November 2010.

France is more militarily engaged in NATO now than at any time since the 1960s, fielding sizable ground and air forces in Afghanistan and its aircraft carrier in NATO operations in Libya. As it has done in the past when facing budgetary austerity, Paris will seek to protect its major weapon programs by stretching out...
procurement even at the price of inefficiencies and higher unit costs. Given the budget pressure facing the new French government, further defense cuts are likely. Therefore, though France may be a willing partner, its capabilities will be limited.

Germany plans to reduce defense spending by a quarter over the next four years and by $10 billion (or €7.8 billion) in 2013 alone. If these cuts are implemented as planned, the entire German armed forces will number 180,000 personnel; by contrast, 20 years ago Germany had twice that many active-duty soldiers in the army alone, not including the air force and the navy.

Italy, like other NATO Europe nations, underestimated the cost of converting to an all-volunteer forces. The Italian armed forces have had to slash their operations and maintenance budgets to ensure the readiness of those forces deploying to Afghanistan. As in the case of the French and German armies, the Italian Army will maintain several heavy brigades but at reduced readiness.

The Spanish armed forces are attempting to respond in similar ways. All three Spanish services will preserve their major procurement programs by stretching out their 15-year plans to 20 years. Similar to Italy, Spain has cut its operations and maintenance budgets to protect procurement programs and force structure, albeit downsized. As in Italy, though, this attempt is held hostage to the ongoing euro crisis, the outcome of which may further limit Spanish defense spending.

In the Netherlands, the Dutch government has imposed cuts on its armed forces that constrain their capacity to conduct expeditionary operations. Overall, the Dutch armed forces are being reduced to the point where they will have only a marginal capacity to project military power. Their traditional contributions of maritime forces, which are well suited to operating in coastal waters and are in high demand in the alliance, are targeted for reduction as well.

Poland stands out as the only European ally that has managed to increase its defense budget, by 7 percent in 2011 and 2012—an impressive rise at a time of austerity measures across Europe. In 2009, Warsaw adopted an ambitious ten-year modernization plan to replace equipment and to enhance interoperability, deployability, and sustainability. In 2010, Poland joined Germany and France, the three of which compose the Weimar Triangle, in pledging to strengthen their intermilitary coordination and cooperation. While Poland has the smallest defense budget of the seven key NATO Europe allies, it consistently spends close to the 2 percent level desired by NATO. If Poland is able to sustain this trajectory, its significance as a key NATO ally will grow.

**Doing More with Less**

The following measures could help NATO members provide security with fewer resources:

*Pooling and Sharing.* European governments have begun to pay greater attention to the idea of pooling and sharing resources. But pooling and sharing is no panacea. It can help to rationalize defense expenditures and reduce costs, but it cannot make up for sustained drops in spending. Furthermore, some states fear that if they merge part of their armed forces with those of another state, they will be pressured to participate in a mission because their pooling partner wants to take part. Others have the opposite fear: that when they want to use a joint unit, their partner may prevent them from doing so. Many states are also concerned about “free riding”—that poorer states will enjoy the benefits of pooling and sharing without contributing much themselves.

*Leapfrogging.* The strategy of “leapfrogging”—cutting defense expenditures heavily today while investing in new types of capabilities—may prove to be an effective way of coping with technological changes, emerging threats, and declining budgets. The question is whether NATO Europe is prepared to sustain even a minimum investment in new capabilities to ensure that a leapfrogging strategy is not just a leap-down strategy of more complete long-term disarmament.

*Informal Ad Hoc Coalitions.* The Libyan intervention showed that internal differences within the alliance may make it difficult for NATO to obtain a consensus to engage in some missions beyond Europe’s borders. As a result, we are likely to see coalitions of allies operating outside a NATO context, as Britain, France, the United Arab Emirates, and Qatar did in Libya on the ground, even as they participated in the NATO-led efforts in the air. This high-

**U.S. soldiers stand next to a Patriot surface-to-air missile battery at an army base in Morag, Poland. On November 21, 2012, Turkey’s government requested the deployment of NATO’s Patriot missiles to bolster its defenses along its border with Syria and to prevent a spillover of the civil war in that nation.**
lights the importance of sustaining interoperability among U.S. forces and those of individual NATO allies.

**British-French Defense Cooperation.** The United States should encourage Britain and France to intensify the defense cooperation they initiated with their November 2010 treaty. This treaty is important for the effort by Britain and France to maintain an aircraft carrier fleet that could assist the United States during any future battle to contain an Iranian assertion of regional hegemony. Britain's firm engagement with Europe is critical to maintaining NATO's political and military vitality. Without strong British participation, it will be difficult to build a strong European defense identity within NATO.

**Crisis Management in the Maghreb.** Washington should encourage NATO Europe to take lead responsibility for managing crises in the Maghreb—a region in which the southern alliance members have strong historical interests. As part of this new division of labor, the United States should encourage France, Britain, and Italy, together with Spain, to assume primary responsibility for ensuring peace and stability in the region and to maintain forces capable of carrying out this task; the United States would play a supporting role. In particular, the United States should encourage the French and British to widen the scope of their military cooperation to include closer integration of their military forces with those of Italy and Spain.

**The Weimar Triangle and Baltic Region.** Germany should be encouraged to assume greater responsibility for security and stability in Eastern Europe. The United States should urge Germany to maintain a robust ground force for this purpose. Germany should also be encouraged to intensify defense cooperation with Poland within the framework of the Weimar Triangle and to work closely with Denmark and Sweden to ensure the security of the Baltic region. In addition, defense cooperation should be strengthened among NATO, Sweden, and Finland.

**Sustaining the Alliance**

As the United States focuses more on Asia in the coming decade, Europe and NATO may become less central in U.S. strategy than they have been in the past. However, U.S. officials should be careful not to throw the baby out with the bathwater. The Cold War may be over, but NATO continues to serve a number of important security functions.

NATO is the primary framework for coordinating transatlantic security cooperation. This task is very important at a time when the European Union is facing a major political and financial crisis that has slowed—and could possibly derail—the process of European integration and cooperation. NATO Europe plays a critical role in maintaining the infrastructure and lines of communication that would sustain a U.S.-led strategy to contain Iran. NATO helps to reduce defense duplication and prevent the renationalization of defense. Without NATO, the individual alliance members would be forced to spend considerably more money on defense than they currently do.

NATO provides a crucial mechanism for managing the nuclear issue and coordinating Western nuclear policy. This function is likely to become more important in the future, given the uncertainties surrounding Iran's nuclear policy.

NATO also provides an insurance policy against the emergence of a resurgent Russia. This is particularly important for the new members from Central and Eastern Europe, who remain concerned that Russia, once it has recovered from the weakness and turmoil evident after the collapse of the Soviet Union, could once again pose a threat to its smaller, less-powerful neighbors.

Thus, there remain strong reasons for maintaining a vital NATO alliance. It is important for the United States and the European members of NATO to candidly recognize that the nature and magnitude of the upcoming defense cuts in NATO Europe are very worrisome. Arguing for smart defense or for pooling and sharing is fine, but it does not change the fact that America's NATO allies will, by the mid-2010s, have much less military capability than they do in 2013.

The ability of NATO's European members to guarantee their own security in the immediate vicinity of Europe, much less in areas farther afield where their interests might be threatened, such as in the Greater Middle East, is rapidly eroding. To protect their own interests, as well as to avoid becoming dependent on the United States to a dangerous extent, the European members of the alliance will have to arrest the sharp downward spiral of their defense capabilities.

NATO has been a major force of stability in the world for nearly seven decades. For NATO to retain its political and military relevance, the pending austerity cuts among the European allies will need to be closely coordinated in the short run and arrested in the long run, lest the alliance jeopardize important capabilities it is likely to need in the coming decades.

**Related Reading**

U.S. Forces Face Strategic Trade-Offs

By Lynn E. Davis

Lynn Davis, a senior political scientist, is director of RAND’s Washington office.

Since World War II, the United States has relied on a network of global military bases and forces to provide forward, collective defense against the Soviet Union, to counter the proliferation of weapons of mass destruction, and to fight terrorism. Today, the international environment has changed, with China asserting itself across East Asia, Iran pursuing an ambitious nuclear program, and al Qaeda affiliates still posing threats to Western interests. Domestically, too, the environment is changing, as the United States confronts serious economic uncertainties and growing pressures to reduce defense spending.

It is not surprising, therefore, that a debate is under way as to the future role of America in the world, specifically regarding the size and characteristics of the U.S. overseas military presence. Whereas the Obama administration has called for a global presence that emphasizes the Asia-Pacific region and the Middle East while maintaining defense commitments to Europe, other voices have called for bringing most U.S. military forces home.

For the U.S. military, the first challenge is to decide whether U.S. allies in Europe and Northeast Asia are willing to assume primary responsibility for their own security; if so, this would allow the United States to reduce its overseas presence. If relying more on the allies seems too risky, one option would be to rely primarily on U.S.-based forces to respond to global crises. If that option also seems untenable, then the United States will have to choose whether to focus its overseas presence more on Asia or on the Middle East. America cannot do it all. But if U.S. defense leaders can agree on their highest global priorities, then the tough budgetary decisions will be easier to make, and the highest priorities will more likely be served.

Assessing U.S. Options

It is useful to review U.S. global security interests. Recent U.S. strategy and defense documents have identified seven discrete and enduring interests:

- protecting U.S. allies and partners from state adversaries
- promoting U.S. influence in key regions
- dissuading military competition and arms races
- protecting Americans from terrorist attacks
- restricting the flow of illegal trade and the proliferation of dangerous materials
- ensuring the flow of commerce and key resources
- responding to humanitarian emergencies and regional conflicts.

A RAND team focused its attention on the first three interests above because they involve major threats to the United States and will likely be the main drivers in determining the future U.S. overseas presence. Because U.S. officials differ on what type of overseas presence is needed to serve these interests, the team compared five global postures in terms of their ability to do so.

The five alternative postures were, in brief, a shared U.S. and allied global presence, a shift to a U.S.-based long-range posture, an expanded U.S. global forward presence, an expanded U.S. forward presence only in Asia, and an expanded U.S. forward presence only in the Middle East. What emerged from comparing these postures and their likely consequences are the critical choices that U.S. officials need to make and that the U.S. public needs to debate.
Making Strategic Choices

The first strategic choice for the United States is to decide whether its overseas military presence can be reduced and diversified because its allies in Europe and Northeast Asia have the ability, economically and militarily, to assume primary responsibility for their own security. Such a choice could involve the United States reducing bases and combat forces in Britain, Germany, Japan, and South Korea. The remaining permanent U.S. overseas presence would provide the bases and forces for immediate responses to future threats and to reassure U.S. allies and partners. The United States would then have the flexibility to expand its presence across Southeast and Southwest Asia if threats in those areas were to increase or if partners were to request assistance.

If relying more on U.S. allies seems risky, given their reliance on nonmilitary responses to potential military threats and their political and economic constraints, the United States would face other strategic choices. One is whether it is time for the United States to rely primarily on U.S.-based forces to respond to global crises and conflicts, keeping only a small global forward presence to reassure allies and partners. Such a choice would be based on the perspective that deterring and responding to China, North Korea, and Iran will depend not on a permanent U.S. overseas presence but rather on the ability of U.S. military forces at home to surge into those regions in the event of crises or conflicts. Relocating U.S. military forces to the United States would have the advantage of reducing their vulnerability to expanding missile threats.

Choosing to reduce the U.S. overseas military presence would not make sense, however, if leaders decide that such a presence plays an important role in deterring and responding to one or more of the threats from China, North Korea, or Iran and in reassuring U.S. allies and partners. The strategic choice that then arises is whether the United States should maintain its global posture essentially as today and prepare to increase its overseas presence in Southeast and Southwest Asia if threats expand there. Retaining existing bases would have the advantage of reducing the risks associated with not being able to return to those bases after giving them up.

Such a robust global posture, though, could become too expensive or politically problematic. Therefore, the final strategic choice would be whether the United States should focus its overseas presence more on Asia (because of China’s expanding military activities) or more on the Middle East (because of threats to stability and the flow of oil from a potentially nuclear-armed Iran).

Focusing on Asia would mean keeping U.S. bases and military forces in Japan and South Korea, then expanding deployments and exercises to the extent that they become politically feasible with countries in Southeast Asia. Focusing on the Middle East would mean keeping U.S. bases in the Gulf Cooperation Council states and in Africa to quickly blunt any attacks on U.S. partners in the region while relying on surging military forces from the United States for contingencies in Asia. In either case, the choice would require the reorientation of U.S. military forces in Europe to assist any surge of forces from the United States in response to crises and conflicts in whichever region (the Middle East or Asia) where the U.S. presence would be reduced.

Those debating the future U.S. global posture need to make explicit their perspectives on what role U.S. military forces should play overseas and then decide from the menu of strategic choices outlined above. While there are no right or wrong choices, focusing first on U.S. global security interests makes it more likely that the selected overseas presence will best serve the highest interests and not be based on unrelated considerations, such as the political pressures of allies and congressional leaders.

Related Reading

U.S. Defense Department Needs to Set Priorities, Weigh Risks

By Stuart E. Johnson and Irv Blickstein

Stuart Johnson is a RAND senior policy analyst who focuses on national security strategy and the forces and resources needed to implement that strategy. Irv Blickstein is a RAND senior engineer with expertise in military budgets and defense spending.

Unless the U.S. Congress and the Obama administration avert the mandated sequestration of $1.2 trillion from the discretionary accounts of the federal budget, then severe cuts of nearly equal amounts will be imposed on U.S. defense and domestic programs beginning in March 2013. In other words, if and when this sequestration occurs, the U.S. defense budget will be reduced by some $500 billion beyond the $487 billion in cuts already programmed over the next decade by the U.S. Department of Defense.

Where might the department find these savings? Some could and should be found by introducing further efficiencies, reforming acquisition practices, and adjusting personnel compensation packages. But these steps alone would not yield savings of the magnitude that might be required.

Reductions of the magnitude implied by sequestration should not be made without a reexamination of the current U.S. defense strategy. The department would no longer be able to afford the suite of capabilities envisioned by U.S. Secretary of Defense Leon Panetta in his strategic guidance issued in January 2012. Although making across-the-board cuts or eliminating programs that offer prompt savings would be tempting options, they would yield an unbalanced force in the short term and potentially higher program costs in future years.

The prudent approach would be to decide first on a strategic direction, clarifying which forces and equipment the United States should preserve as priorities and which could be cut back or eliminated. Establishing a strategic direction prior to such reductions would limit the risk they might impose or, at the very least, make that risk explicit to U.S. leaders. This effort would entail prioritization of the defense challenges and of what risks to accept, with program and budget decisions following.

While not advocating further defense cuts, we offer three alternative ways to cut roughly $400–$500 billion more from U.S. defense programs over the next decade without crippling the force. At the upper end, this amount reaches the level of cuts suggested by the sequestration mandate. Each alternative strategic direction is summarized below, outlining the force reductions and other programmatic cuts that would be necessary to achieve the targeted savings. To further illuminate the dialogue that can and should take place, we make explicit the risks that would be incurred by following one or another of the alternative strategic directions. These alternatives are not mutually exclusive, and combinations of features of each are possible.

**Alternative I Prepare for Persistent Land-Based Conflict**

*Projected Savings, Fiscal Years 2014–2023: $488–$523 billion*

This option assumes that violent extremism and related insurgencies will outlast efforts in Iraq and Afghanistan and remain a serious threat to the United States and its interests—first and foremost, the protection of its citizenry. Therefore, readiness to respond to that threat must remain a top U.S. defense priority. This alternative retains the capability to commit sizable U.S. land forces for counterinsurgency and stabilization operations. Ground forces would not be scaled back beyond the reductions outlined by Panetta in January 2012. However, aviation and maritime forces would be drawn down further than currently planned.

Reductions of the magnitude implied by sequestration should not be made without a reexamination of the current U.S. defense strategy.
The principal risks of this option are that U.S. local partners will remain dependent on the U.S. military to provide for their security and that the technologies critical for future defense challenges will receive inadequate investment.

**Alternative II**

**Cede More Responsibility to Allies and Partners**

**Projected Savings, Fiscal Years 2014–2023: $496–$504 billion**

The United States would notify its allies that they have the lead in defending shared interests in their regions, particularly when their interests are greater than those of the United States. This option would include ceding to NATO allies the lead responsibility for security around the Mediterranean perimeter, for counterpiracy operations in the Red Sea and the Gulf of Aden, and for the bulk of ground and tactical air forces to deter Russia from coercing or invading NATO countries in Central Europe. The United States would still serve as the focal point around which America’s Asian allies would coordinate their resistance to Chinese assertiveness. While the United States would continue to be the key counterweight to China, capable Asian allies would be urged to strengthen their efforts to defend themselves and the critical sea-lanes in their region.

In parallel, the United States would redouble its efforts to build up the capacity of local forces in countries at risk of insurgency or aggression; the aim would be to reduce the likelihood that U.S. forces would have to deploy in large numbers to counter an insurgency and establish stability. The United States would still be a strong partner that provides high-end enabling capabilities, including intelligence, surveillance, reconnaissance, and long-range precision strike.

The principal risk of this option is that the allies would not assume leadership in defense of common interests, leaving those interests more exposed. There is also the risk that building the capacity of partner security forces will not succeed due to ineffective or illegitimate governments. In the latter case, the United States might need once more to intervene to stabilize a critical situation; but, with reduced ground forces, the United States would have less capacity to do so.

**Alternative III**

**Focus on Asia and the Western Pacific**

**Projected Savings, Fiscal Years 2014–2023: $383–$408 billion**

In line with the 2012 strategic guidance, this option posits that the center of gravity of U.S. defense challenges is shifting, and will continue to shift, from Europe and the Middle East toward Asia and the Western Pacific. Accordingly, this option calls for focusing on the Asia-Pacific region while accepting even deeper cuts in forces earmarked for the Euro-Atlantic region and the Greater Middle East than called for in the 2012 strategic guidance. This option would reduce demands for U.S. ground forces and short-range tactical aircraft, which have proven more critical to operations in the Greater Middle East than to those in the Western Pacific.

The principal risk of this option is that if the extremist threat to U.S. interests in the Greater Middle East does not recede, then the United States would need to regenerate a capability to respond. The second and third alternatives include a common feature: If the United States enters a conflict, it will focus on defeating the aggressor and inflicting severe damage on its military forces to neutralize its ability to repeat the aggression. The ensuing operations would include minimal stabilization efforts but not an extended, sizable presence of U.S. forces in the region.

Any cuts of the magnitude being examined will carry risk. The advantage of beginning with a strategic direction—and specifying priorities—is that choices can be made that mitigate risk in one area by accepting some risk in another, less critical area. Moreover, by tying budget decisions to a strategic direction, the risks are made explicit both to policymakers, so they can adjust their decisions accordingly, and to the body politic, to create realistic national expectations.

**Editor’s note regarding projected savings:** Dollar totals include both strategic savings (in personnel and weapon systems) and nonstrategic savings (in health, compensation, and retirement packages).

**Related Reading**

Violent reactions to provocative films and cartoons about Islam have left many people around the world more appalled by the reactions than by the provocations. In 2004, Dutch director Theodoor van Gogh was assassinated because of his film about the treatment of women in Islam. Since 2005, Danish cartoonist Kurt Westergaard has been the target of several murder attempts because of his depictions of the prophet Mohammed. In 2012, deadly anti-American protests swept the Arab world because of an amateurish anti-Islamic video posted on YouTube. This violent intolerance of opposing views has caused many observers to wonder how tolerance and critical thinking could be nurtured in the Arab world.
This is not just a Western concern. There is widespread awareness within the Arab world itself that this region, for the sake of its own human development, needs to cultivate a well-educated citizenry open to new ideas and capable of challenging the intolerant ideas of others. One way to cultivate such a citizenry in the Arab world is to capitalize on the rich cultural resources already being produced in Arabic that reinforce tolerance, promote new ideas, and support the development of critical thinking.

Our research on this topic stems from the idea that focusing on Arabic-language materials targeted to children could be especially effective. By the time people reach adulthood, it can be much more difficult for them to entertain new ideas that challenge long-held beliefs. But we were not sure whether good materials were being produced for Arab children, and there was no reliable way to identify the materials. For these reasons, we developed criteria for children’s works that promote tolerance and critical thinking. We then conducted a wide search, across a range of media, for Arabic-language children’s works that showed promise of meeting the criteria. Of the 104 works that we collected, 68 did meet them. Most of these works are short stories, reflecting the scarcity of original Arabic-language materials available in other media, such as cartoons.

Civil society groups and educators in the Arab world could work with libraries, bookstores, schools, and cultural centers to bring these materials to a wider audience. It would also be useful, given the low literacy levels in much of the Arab world, to adapt these printed works for other media, notably television. Airing such programs during Ramadan would be particularly attractive given the cultural norm of families watching television after breaking the fast.

Identifying and disseminating these materials is important in the Arab world because, with few exceptions, the educational environment does not foster tolerance or critical thinking. Traditional education systems in this part of the world generally rely on rote memorization and preach deference to authority. Qatar is a noteworthy exception because of its K–12 education reform, a key goal of which is to inculcate critical thinking skills.
In Search of Tolerance

Tolerance has been defined as a fair, objective, and permissive attitude toward those whose opinions, practices, race, religion, nationality, and other traits differ from one’s own; in short, freedom from bigotry. Critical thinking is generally viewed as the ability to decide, independent of reward and punishment, between right and wrong in the moral realm and between truth and falsehood in the intellectual realm. Such abilities should be a central goal of education.

To nurture these abilities, targeting youth has three advantages. First, children’s materials can offer constructive messages at a time when ideas about in-groups and out-groups are just forming; there is less need to counter intolerant beliefs. Second, messages of tolerance can be presented in a nonpolitical form that is less likely to upset parents or other authority figures. Third, the combination of the “youth bulge” in the Arab world and the fact that young people are far more likely than their parents to be literate translates into a much larger potential audience for children’s materials than for adult materials.

There are particularly large differences in literacy rates between adults in general (people over the age of 15) and young adults (those of ages 15–24) in the following Arab countries: Algeria (70 percent versus 90 percent), Egypt (71 percent versus 85 percent), Morocco (52 percent versus 71 percent), Sudan (61 percent versus 77 percent), and Tunisia (74 percent versus 94 percent). All data are from the 2009 Arab Human Development Report.

In identifying the desired content of children’s materials, we were influenced primarily by social learning theory, which highlights the extent to which people learn through observation and imitation. We screened for materials in which diverse characters either got along with each other or paid a price for not getting along. We also scored materials based on the accessibility of their messages to children of different ages and the degree to which their presentation elements made materials engaging and persuasive. Three Arabic-speaking project staff members identified and reviewed the materials that held promise for meeting our goals. The reviewers applied the screening criteria and coded the works in a formal, consistent way, resulting in the 68 materials in our final repository.

The Collection Takes Shape

We found a large body of children’s literature indigenous to the Arab region that promotes tolerance and critical thinking. A number of works even take on taboo or otherwise sensitive subjects, such as the tale of a young boy whose divorced parents share custody and cooperate in parenting him, or that of a teenage boy who is abused by his alcoholic father.

The rejected works generally paid insufficient attention to constructive themes. Particularly in materials for the youngest group (ages 4–6), the value of obedience often overshadowed messages about tolerance or support for critical thinking. We disqualified materials that promoted intergroup understanding at the expense of another group. One rejected book, for example, encouraged unity between Christian and Muslim Palestinians in order to unite against Israeli occupation. Another rejection criterion concerned the outcome of the critical thinking process portrayed. If the end result was greater support for intolerance or greater adherence to a traditional belief system, we did not accept the material. We rejected, for example, one story because its protagonist opposed rules that limited fasting during Ramadan to older children only. We judged this story to be antithetical to our goals because it promoted greater religious piety than the societal norm.

It should be noted that most of the rejected materials were not promoting intolerance or encouraging blind obedience to norms or rules. The materials simply did not explicitly promote tolerance or critical thinking (or ways to draw different conclusions than those supported by prevailing societal rules, authorities, or assumptions).

We sought balance in the collection at three different levels. We made sure it represented all subregions of the Arab world: North Africa, the Arab Gulf countries, and the Levant (eastern Mediterranean). We sought balance between materials that promoted tolerance and those that promoted critical thinking. And we sought equal representation of materials targeting each of three age groups (4–6 years, 7–10 years, and 11–14 years).

Despite our efforts, the catalog is still weighted toward materials from Levantine authors (those from Jordan, Lebanon, Palestine, or Syria), and more works focus on tolerance than on critical thinking. The least well-represented age group is 4–6-year-olds. We also excluded most cartoons shown in the Arab world, because they are generally dubbed versions of content created in the West and thus do not meet the criterion of being indigenously produced.

Many Signs of Promise

The process of collecting and then coding Arabic-language children’s media revealed a number of positive findings. Perhaps the most significant is that there exists a trove of children’s literature indigenous to the region that promotes tolerance, coexistence, and respect for the “other.” A second positive finding is the strong sense of mission among many of the creators of these works. To increase their audiences, the authors engage in a range of activities that go well beyond producing content. For example, some of the authors self-publish their works and make a number of their materials freely available online to increase their accessibility, and some conduct teacher training on how best to use the materials and team up with international organizations to spread their messages.
Another promising development is the emergence of Arabic-language novels aimed at “tweens,” children who are generally between the ages of 10 and 13. This age group has long had to cope with a paucity of materials that are sophisticated enough to be appealing but also accessible in light of often limited reading comprehension skills. In 2006, author Tāriq ‘Abd al-Bārī published The King of Things, the first full-length Egyptian novel for this age group. The novel is about a 12-year-old Egyptian boy who becomes the defender of objects (desks, chairs, and buildings) defaced by other students and who then overcomes the bullying directed at him through tolerance, forgiveness, and productive dialogue. Bearing similarities to the Harry Potter series, the novel became a phenomenon in Egypt—necessitating a second print run less than a year after it was released. This suggests a pent-up demand for compelling material written specifically for this age group.

Two exemplary books that take on taboo or sensitive subjects are I Live . . . by Hanādī Diyyah and A Street Kid by Fayrūz al-Bal’bakkī. I Live . . . is narrated by a boy who lives with both of his divorced parents. While divorce is not uncommon in the region, the arrangement portrayed in the book—shared custody and continued contact and cooperation between the parents for the sake of the child—describes a family situation that differs substantially from the social norm. A Street Kid describes the experience of a teenage boy who suffers from domestic abuse at the hands of his alcoholic father. Not only does the background of the story shed light on a little-discussed social problem, but the message of the book—that youth should not passively obey authority and should know their legal rights—challenges the prevailing norm of compliant behavior.

Not coincidentally, both authors are Lebanese, and the books were printed and distributed by Levantine publishing houses. The preponderance of literature from the Levant can be traced to the importance of Lebanon to Arab publishing, the religious diversity of the subregion, and a freer environment for the public discussion of sensitive topics.

Another important development was the creation in 2007 of the first three-dimensional movie cartoon from the region. Frīj (“Neighborhood” in the Gulf dialect) is set in Dubai and focuses on four female characters who try to reconcile traditional values with the social changes brought about by modernization. While we ultimately rejected this cartoon because its characters reconcile the conflict in favor of conservative values, other three-dimensional cartoons created since, such as the Egyptian show Karākīb (about a fictional planet), do encourage tolerance and critical thinking. The high production value of these cartoons and the heavy penetration of satellite television programming in the region make these shows a promising vehicle for reaching Arab children.

**Persistent Barriers**

While our search revealed a number of heartening trends, it also exposed some daunting weaknesses. The most obvious is the often-poor production quality of books published in the region. In one book, pages 37–48 were mistakenly printed in place of pages 73–84, creating a 12-page gap in the novel. Many books suffered from poor-quality paper and printing that made them difficult to read. Other books lacked illustrations; what illustrations did exist were unattractive and not likely to engage young readers. Online content was beset by its own problems: broken links, authors posting text without illustrations, and text abruptly cutting off before the end of the story.

Alongside weaknesses in production quality were deficiencies in content. Some stories contained overly formulaic plots or tired metaphors. The use of a rainbow to represent diversity was so commonplace that we stopped accepting these types of works to avoid redundancy. In other cases, the writing was not engaging; or, in the case of folk tales, it used a stilted form of classical Arabic unlikely to appeal to today’s generation of children.

There remains an acute shortage of indigenously produced children’s television programming with dynamic and modern production values. The Jordanian production Ben and Izzy and the Egyptian cartoon Karākīb are notable exceptions. But the high production costs associated with this type of media limit the opportunities for local writers, artists, and producers. Such programs and their messages could have powerful effects in this region, with its low literacy, little tradition of leisure reading, and low levels of Internet connectivity. However, efforts to encourage more of such programming may be fruitless because of severe, prevailing problems with copyrighting. Those who might invest in such programming understand that there are few profits to be made because pirating of material is so widespread in the region; virtually everyone buys pirated DVDs.
Considerable payoff could come from exploring the roles that parents might play.

A 2009 RAND study of Arabic-language adult materials with goals similar to ours found that there are few bookstores or public libraries in the region. Equally worrisome, more “liberal” books are often banned, while intolerant literature may be subsidized. RAND work on education reform in the Gulf region found that children’s books face yet another hurdle: Rigid, centrally controlled education curricula, whose content might not change for decades, may simply not accommodate pioneering new works. Parents in the Arab world, meanwhile, tend to view the schools and educators as the experts in imparting key cultural values; the parents neither seek nor readily accept this role for themselves.

**Policy Prospects**

It would be worthwhile to assess the willingness of key cultural institutions, particularly schools and parents, to help distribute works that support tolerance and critical thinking. A first effort could examine the openness of schools and education ministries to including such materials in their curricula. For instance, the nation of Qatar and the emirate of Abu Dhabi have reformed their education ministries and revised their often rigid, highly prescriptive curricula. New materials might find a place if they were better known, if they were more accessible, and if teachers received training on how to integrate them into lessons and other activities.

Considerable payoff could come from exploring the roles that parents might play. Little is known about how parents throughout the Arab world perceive their roles. According to the United Nations Development Programme’s 2003 *Arab Human Development Report*, “The most common style of child rearing within the Arab family is the authoritarian accompanied by the overprotective.” Together, the report asserts, these practices reduce children’s independence and initiative, suppress children’s inquisitiveness, and discourage freedom of thought.

We need to know more about how parents in the Arab world view their own roles and responsibilities. A survey of parents from different parts of the region could help to clarify the roles that parents see for themselves in promoting open-mindedness, tolerance, and critical thinking. Using some items from a parent survey recently fielded in the West, we are now developing such a survey for Arab parents.

It would also be worthwhile to make the materials we selected widely accessible. Beyond working with libraries, bookstores, schools, and cultural centers, another approach would be to make our catalog available on the web, perhaps by publicizing it on a website such as Curriki, where teachers search for materials. Or by collaborating with libraries, such as the renowned Bibliotheca Alexandrina in Egypt, which makes many of its materials freely available on the web. Or by building on local initiatives, such as al-Hakawati (The Traditional Arab Storyteller) run by the Arab Cultural Trust, which already posts a number of tolerance-promoting children’s stories on its website. It would be especially worthwhile, as mentioned above, to convert or adapt the printed works for television.

Including such materials in public and school library collections could also promote tolerance and critical thinking in Arabic-speaking communities in the United States. There are substantial populations of Arabic speakers in the greater Detroit area, Northern Virginia, and other parts of the country. Placing these materials in public collections would reinforce the values of openness and tolerance on which America is based.

Testing the appropriateness of the materials and their short-term impact on children’s attitudes would also be beneficial. Tests of levels of children’s tolerance or critical thinking before and after their exposure to some of the materials would provide valuable information about the materials’ effectiveness and the utility of the methods used to identify them.

All these efforts could be employed by local policymakers and educators to promote tolerance and critical thinking among Arab children. Such efforts could help to cultivate a knowledge society characterized by openness to other cultures and to new ideas, thereby contributing profoundly to human development across the Arab world.

**Related Reading**

*Barriers to the Broad Dissemination of Creative Works in the Arab World*, Lovell H. Schwartz, Todd C. Helmus, Dalia Dassa Kaye, Nadia Oweidat, 2009, 58 pp., www.rand.org/t/MG879


**View the congressional briefing on the Arabic Children’s Literature Project**
Recommended Stories for Schools, Libraries, and Wider Distribution

Below is a sampling of Arabic-language titles that promote diversity, positive relationships, tolerant behavior, and/or critical thinking.

For Children Ages 4–6

Sheep Don’t Eat Cats, by Khalid Jum’ah, published by Tamer Institute for Community Education (Ramallah, Palestinian territories), 2005
This is the story of a family of cats frightened by their new neighbors, a family of sheep. Father cat forbids intermingling with the sheep. However, the curiosity of the youngest cat leads to an exchange with the sheep that confirms they mean no harm to the cats.

For Children Ages 7–10

Fayez receives poor grades in art class because he takes artistic license, displeasing the instructor. While learning stone masonry, Fayez carves stones into impressive shapes and ends up being recruited by an art institute, where he becomes a popular star pupil.

For Children Ages 11–14

And on That Night, by Samir Māltī, published by Asala Publishing House (Amman, Jordan), 2009
Two sons of warring tribes take it upon themselves to uncover the water source that has divided the people of their oasis. When the two boys, who are best friends, do this, the water gushes forth, awakening the tribe members and spurring the sheikhs to reconcile.

A 12-year-old Egyptian boy becomes the defender of objects defaced by other students and overcomes the bullying directed at him through tolerance, forgiveness, and productive dialogue.

For Children Facing Difficult Situations

I Live . . ., by Hanādī Dīyyah, published by Asala Publishing (Beirut, Lebanon), 2008 (cover image unavailable)
This is the story of a boy who lives with both of his divorced parents. The arrangement portrayed describes a family situation that differs substantially from the social norm.

A Street Kid, by Fayruz al-Ba’lbakkī, published by Dar al-Fikr (Damascus, Syria), 2007
A teenage boy suffers from domestic abuse at the hands of his alcoholic father. This story sheds light on a taboo social problem while challenging the norm of compliant behavior.
RAND Extends Global Reach of Innovation

By Michael D. Rich

Michael D. Rich is president and chief executive officer of the RAND Corporation.

STIMULATING INNOVATION is important to the economic growth of all countries, regardless of their stages of development. This is true of a rapidly developing country such as China. But the same holds true for the United Kingdom, a well-developed country, and for Qatar, a country whose research, science, and technology started from scratch recently. RAND is helping each country drive innovation in different ways.

In China, where double-digit economic growth has been the norm for three decades, the formula for growth is changing. As wages have risen, China can no longer rely on low-wage assembly operations to drive growth. Technological innovation needs to be added to China’s growth formula.

In 2011, officials in Guangdong invited RAND researchers to that southern province to help a government-backed development consortium create an ambitious plan to build an entirely new city from the ground up. The new development would be environmentally and technologically advanced and consist predominantly of innovative industries and their associated knowledge workers. This “Knowledge City”—a joint effort by the Guangzhou Development District and Singbridge, a subsidiary of a Singapore investment firm—is intended to become the centerpiece of a new cluster of innovation in Guangdong Province and will eventually house over 500,000 residents outside of the core city of Guangzhou.

How could Knowledge City attract the right mix of innovative companies and the world-class scientific, engineering, and entrepreneurial talent needed to power them? RAND experts in economics, finance, environmental engineering, and public policy looked to three successful technology clusters—Silicon Valley in California, the life sciences corridor in Maryland, and the technology hub between Tel Aviv and Haifa in Israel—for answers.

As evidenced by these clusters, fostering innovation in Knowledge City will first require wooing prominent high-technology companies, research institutes, or universities as anchor institutions, and it’ll take more than just cheap land and tax incentives. Local authorities will also need to strictly enforce intellectual property rights to be conducive to innovators. Knowledge City will require rapid transit links and good schools, along with shopping and entertainment venues, to create an attractive quality of life for prospective workers. Finally, the developers of Knowledge City will need to promote innovation-oriented investor networks and competitive commercial banks to ensure that financing is available to entrepreneurs and promising start-ups.

As plans for Knowledge City evolve, RAND is also working with others around the world seeking similar ends—namely, to spark innovation and “smart growth.” In the United Kingdom, RAND Europe has shown that government procurement programs can, if done in targeted ways, promote innovation in the private sector. Public procurement of goods and services amounts to 16 percent of the European Union’s gross domestic product, so public authorities, as major customers, are well positioned to stimulate innovation through private-sector “prizes” as well as public-sector investments.

Meanwhile, RAND has been helping the Qatar Foundation map out a strategy to develop that country’s nascent science and technology base. The foundation’s continuing efforts to develop the Qatar National Research Fund, the Qatar Science and Technology Park, and the park’s three national research institutes will necessitate new strategies, funding models, and organizational structures. RAND is poised to help Qatar weigh the alternatives and create plans.

The “if you build it, they will come” approach to innovation is intuitively appealing. What’s clear, though, is that success depends on a careful mix of policies and strategies spanning many domains, from education and transportation to regulation and justice. RAND’s tradition of multidisciplinary problem-solving has proven to be well suited to helping governments with that challenge.
Connecting Ideas to Create a Global Economy

How does RAND help a farmer in rural Asia increase productivity? By bringing together graduate fellows, researchers, and donors to produce research that supports international economic development. Researchers passionate about agricultural development and technological change teamed up to answer the question, “How can something as simple as a cell phone empower farmers in China and India to become part of the global economy?” Philanthropic contributions made this research possible, enabling the team of researchers and donors to have a positive impact on the world.

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“Donating to RAND and participating on the Institute for Civil Justice Board of Overseers has been rewarding to me both personally and professionally. I enjoy supporting RAND’s rigorous and objective research, and feel that I am making a difference in policy debates that matter. Moreover, the level of intellectual engagement and opportunities for networking among top legal and business minds has been invaluable to me and my firm.”

Mary-Christine (M.C.) Sungaila is a partner at the law firm of Snell & Wilmer and a member of the RAND Institute for Civil Justice Board of Overseers. She has received multiple awards and recognition for her work, including being honored as a “Notable Appellate Practitioner” by Chambers USA, being recognized as one of California’s Top Women Litigators by the Los Angeles and San Francisco Daily Journals, being named the Frances E. Willard Awardee by the Alpha Phi International Fraternity, and receiving the Distinguished Service Award from the Women Lawyers Association of Los Angeles.

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