GLOBAL FORECAST 2011

INTERNATIONAL SECURITY IN A TIME OF UNCERTAINTY

Edited by
Craig Cohen
and Josiane Gabel

FINMECCANICA

CSIS | CENTER FOR STRATEGIC & INTERNATIONAL STUDIES

ABOUT CSIS

In an era of ever-changing global opportunities and challenges, the Center for Strategic and International Studies (CSIS) provides strategic insights and practical policy solutions to decisionmakers. CSIS conducts research and analysis and develops policy initiatives that look into the future and anticipate change.

Founded by David M. Abshire and Admiral Arleigh Burke at the height of the Cold War, CSIS was dedicated to the simple but urgent goal of finding ways for America to survive as a nation and prosper as a people. Since 1962, CSIS has grown to become one of the world's preeminent public policy institutions.

Today, CSIS is a bipartisan, nonprofit organization headquartered in Washington, DC. More than 220 full-time staff and a large network of affiliated scholars focus their expertise on defense and security; on the world's regions and the unique challenges inherent to them; and on the issues that know no boundary in an increasingly connected world.

Former U.S. senator Sam Nunn became chairman of the CSIS Board of Trustees in 1999, and John J. Hamre has led CSIS as its president and chief executive officer since 2000.

GLOBAL FORECAST 2011

INTERNATIONAL SECURITY IN A TIME OF UNCERTAINTY

Edited by
Craig Cohen
and Josiane Gabel

CSIS | CENTER FOR STRATEGIC & INTERNATIONAL STUDIES

Special thanks to Finmeccanica for their generous support to make this publication possible. Finmeccanica is not responsible for any of the views expressed in this report. CSIS does not take specific policy positions; accordingly, all views expressed herein should be understood to be solely those of the author(s).

© 2011 by the Center for Strategic and International Studies. All rights reserved.
Printed in the United States of America

ISBN 978-0-89206-633-9

Photos:
Page 1: DoD photo by Chief Master Sgt. Richard Simonsen, U.S. Air Force
Page 3: ISAF photo by British Royal Army Sergeant James Elmer
Page 7: DoD photo by Seaman Paul Kelly, U.S. Navy
Page 8: CIA photo
Page 11: REUTERS/Icon/Panagiotis Tzamaros/Flickr user: Piazza del Popolo
Page 14: DoD photo by Staff Sgt. Kyle Brasier, U.S. Air Force.
Page 17: DoD photo by Cherie Cullen.
Page 20: U.S. Marine Corps photo by Lance Cpl. Jeremy J. Harper
Page 23: Raytheon Sarcos
Page 27: http://good-wallpapers.com/places/2004
Page 28: http://www.flickr.com/photos/hiddenninjaskills/4147441082/in/photostream/
(Flickr user: hiddenjaskills)
Page 33: http://www.flickr.com/photos/jaxport/2572915065/sizes/z/in/photostream/
(Flickr user: JAXPORT)
Page 36: Corbis Images
Page 43: http://www.flickr.com/photos/mrpbps/3946560127/
(Flickr user: mrpbps)
Page 46: http://www.flickr.com/photos/rpeschetz/468847030/
(Flickr user: rpeschetz)
Page 50: Chevron Corporation
Page 57: http://www.flickr.com/photos/drumzo/5428975119/
(Flickr user: Jonathan Rashad)
Page 58: http://www.flickr.com/photos/drumzo/5438613311/
(Flickr user: Jonathan Rashad)
Page 61: NATO photo
Page 65: NATO photo
Page 67: http://www.flickr.com/photos/exfordy/2205889821/
(Flickr user: exfordy)
Page 69: Photo by Miguel Valle de Figueiredo
Page 72: U.S. Army, 75th Ranger Regiment
Page 75: http://www.flickr.com/photos/markstroud/5597839192/in/faves-japancrisis/
(Flickr user: stroud4341)
Page 76: http://www.greenpeace.org/africa/en/News/Blog/another-rough-day-in-japan/
blog/33741 © Digital Globe (some rights reserved)
Page 79: Petr Pavlicek/IAEA
Page 82: U. S. Navy photo by Lt. K. Madison Carter

Special thanks to Donna Spitler, Roberta Fauriol, and Alison Bours
for copyediting and design.

Center for Strategic and International Studies
1800 K Street, N.W., Washington, D.C. 20006
Tel: (202) 887-0200 Fax: (202) 775-3199
E-mail: books@CSIS.org Web: www.csis.org

Contents

INTRODUCTION

INTERNATIONAL SECURITY IN A TIME OF UNCERTAINTY

Craig Cohen
and Josiane Gabel

We have witnessed a number of significant challenges to international security in recent years. Some crises have arisen so quickly and with so little warning that national security professionals have had difficulty responding in ways that maintain strategic balance. Other challenges have emerged so slowly and over such a vast scale that near-term options appear limited. How to determine in real time what is a tectonic shift and what is merely a low-magnitude tremor? How to anticipate events and set clear policy goals at a time of such dynamism?

A factor often overlooked in efforts to forecast what is happening "over there" is the effect of what is happening here. CSIS carried out a study for the National Intelligence Council in 2010 looking at foreign assessments of U.S. power. The study demonstrated that while countries see the U.S. position declining relative to rising powers like China, most see the current international order as durable so long as the United States continues to play its traditional leadership role. In fact, foreign expectations of U.S. power remain great and are increasing despite our economic troubles. The

How to determine in real time what is a tectonic shift and what is merely a low-magnitude tremor?

long-term worry in Europe, Asia, and the Gulf is not over U.S. capacity, but U.S. resolve.

In this context, the most important effect of killing Osama bin Laden may be the signal it sends to allies and enemies alike about the continuing ability of the United States to achieve its stated national security objectives. The lasting misfortune of the past decade of conflict in Iraq and Afghanistan has been the impression overseas—rightly or wrongly—that the United States has failed to bend the environment to our stated vision. Washington needs to signal strength, particularly in a time of uncertainty.

This small volume is an effort to capture CSIS's collective wisdom of the changing international security picture at this moment of great fluctuation. Authors were asked to write short essays on topics of their choosing that could speak to the newly emerging security landscape from a national, economic, regional, and global perspective.

Part I, "National Security in an Era of Contested Primacy," begins with John Hamre's vision of how to preserve U.S. power, and transitions to perhaps the biggest challenge facing our national security establishment today: David Berteau's analysis of how to reduce U.S. defense budgets without jeopardizing security. This challenge is only heightened by deep cuts under way by traditional allies in Europe, a troubling picture illustrated by Heather Conley and Tim Adams. Maren Leed and Nate Freier question the assumption that defense cuts ought to fall disproportionately on U.S. ground forces, despite the conventional wisdom that the United States will not engage in anything like the wars in Iraq and Afghanistan again anytime soon.

Victor Cha reminds us that the possibility of a North Korea collapse may be the most likely large-scale crisis President Obama faces in the years ahead. Avoiding conflict in the event of such a collapse depends first and foremost on cooperation with Beijing. Bonnie Glaser gives us the state of play on U.S.-Chinese military relations. Over the long term, military competition between the United States and China may depend ultimately on technological advancement. As Jim Lewis writes in his concluding essay on advances in U.S. military technology, "power is now determined by the ability to innovate and grow more than it is by the size of a nation's military force. Technology offers harsh choices—our choice now is advance or decline."

Part II, "Economic Security Three Years after the Financial Crisis," picks up on this theme of strategic competition with China, a unique occurrence in world affairs given the deep level of economic integration between our two nations. Ernie Bower begins by explaining that a fierce economic competition is under way in Asia, and the United States loses ground every day we are preoccupied elsewhere. Meredith Broadbent deepens the sense that the United

States has been largely absent in the competition for global trade. Charles Freeman, Karl Inderfurth, Steve Johnson, and Stephen Flanagan turn to our main competitors with a discussion of how China, India, Brazil, and Turkey have used the financial crisis as an opportunity not only to develop internally but to assert themselves geopolitically. Richard Jackson explains how demographics are likely to accelerate these trends.

Frank Verrastro then takes us through the newly emerging energy landscape. As population grows in Asia, energy demand patterns shift dramatically, creating new alignments and rules of the road. Sarah Ladislaw provides a look at one peice of this: how emerging economies are driving private sector growth in clean energy technologies. Dan Runde and Johanna Nesseth conclude this section with essays on the growing private sector role in development given the reality of decreasing foreign assistance budgets, as well as what we can do about global food supplies to prevent political instability.

Part III, "Regional Security after the Arab Spring," looks at how the Arab uprisings are likely to shape international security in the years ahead. Jon Alterman makes the case that Egypt must remain at the center of Washington's focus lest a dangerous void materialize in the region. Clark Murdock, Becca Smith, and Mark Quarterman look at the NATO intervention in Libya from two different perspectives—Murdock and Smith on what it means for U.S. grand strategy, and Quarterman on what Libya tells us about the future of multilateralism.

Haim Malka and Jennifer Cooke look separately at the second-order effects of Libya and the surrounding uprisings elsewhere in North Africa and Sub-Saharan Africa, both in terms of political stability and the risk of terrorism. Richard Nelson and Tom Sanderson conclude the section with an essay on what bin Laden's death means for al Qaeda in the region and more broadly at a time when al Qaeda's idealogy has been overshadowed by Arab citizens on the streets.

Finally, Part IV, "Global Security after the Japanese Disaster," looks at the triple catastrophe that took more than 14,000 lives and cost somewhere between $250 billion to $600 billion. Sharon Squassoni lays out the implications of the Fukushima disaster for nuclear safety and governance worldwide, while David Pumphrey and Jane Nakano argue that Fukushima is unlikely to deter the massive buildup of nuclear power given the rising demand. Mike Green and Nick Szechenyi finish the volume with an introduction to CSIS's latest initiative: a high-level task force aimed at supporting recovery efforts in Japan. Even in an era of newly evolving security challenges, the United States will have to depend on long-standing allies like Japan, particularly in times of great distress.

In sum, readers will find here recurring tensions between short- and long-term challenges, Asian opportunities and Middle Eastern exigencies, and how governments and the private sector can benefit from technological change without leaving citizens at risk. In this time of uncertainty, the United States must be prepared to balance these tensions skillfully if it wants to maintain its leadership on the world stage. ■

PART I

National Security in an Era of Contested Primacy

PRESERVING AMERICAN POWER

John J. Hamre

Is the "American Century" over? I am asked this question in nearly every meeting and interview. The context will vary. One group will cite America's perilous fiscal situation where we borrow funds to unsustainable levels and refuse to come together politically to solve the problem. Others cite a soaring Chinese economy that may overtake us by the end of the decade. Is America now a diminishing power?

Through history, there have been only three true international systems. The first started in 1648 with the rise of the modern nation-state. This international system was centered in Europe, with European powers competing locally and extending their reach to globe-spanning empires. This international system was violent, breaking down frequently into terrible wars. It also was persistent, lasting some 300 years. World War II broke the back of the European empires and ended this first epoch.

The second international system emerged following World War II as the United States, leading a struggling band of European allies, stood opposite the Soviet Union and its captive colonies. This international system was about ideas more than money and resources. The nuclear arsenals of the two superpowers forced moderation in their standoff, though there were numerous skirmishes in proxy states where surrogates battled, drawing in support from the two camps. This international era ended with the collapse of the Soviet Union.

Starting in 1990 we have seen the emergence of a third international system. This system is

characterized by a single global superpower—the United States—and a series of regional powers that exert influence beyond their region: Brazil in South America, India in South Asia, the European Union in Europe, Japan and China in East Asia. In the early days of this epoch, America's power was towering, leading some to talk alarmingly about the "hyper-power," arguing that America was too powerful and that other states needed to counterbalance the United States.

Now the prevailing arguments assert America's diminishment. Surely the recession has had an enormous impact. Not only do the soaring deficits constrain our policy options, but the origins of the great recession and our difficult national recovery efforts have diminished our moral standing. But is America's day over?

No. The fundamentals of national power rest with several objective factors. America's population is large and growing, thanks largely to immigration. Despite the rancorous partisan debates in Washington, there is a profound public consensus on the foundations of American civil and political society. Change is pursued within the system. There are no calls for changing the system. Our economy is struggling with excess housing stock and government deficits. But American businesses have weathered the recession well.

Research and development spending—the foundation of future ideas and products—is soaring. Our universities—still ranking among the best in the world—are getting better every day. Our military is resilient after almost ten years of war, with the most battle-tested officer and noncommissioned officer corps in history. And while defense spending is high, it commands only 3 percent of our gross national product. From the standpoint of fundamentals of national power, America remains a titan.

Yet there is one major problem, and that is our continuing military actions in Afghanistan. As a realpolitik pragmatist, I survey the situation we find ourselves in with some detachment. A global superpower, if it is to retain this status, must be careful to use its considerable military resources wisely. We should use military force only where vital national interests are at stake, and only where the application of force can alter the geopolitical forces in a region to our advantage.

Objectively, this is not the case in Afghanistan. We have more than 100,000 military personnel in Afghanistan and are spending more than $100 billion a year fighting this insurgency. Yet the regional powers—Pakistan, Iran, Russia, and India—have as much or more political influence in Afghanistan than we do. There is no political solution to Afghanistan that they cannot affect and veto. They have vital interests in Afghanistan where we do not. In short, Afghanistan is an operation that erodes our status as the global superpower by consuming our military power and national treasure in pursuit of a political solution that will be determined by others.

Afghanistan is an operation that erodes our status as the global superpower.

We need to extricate ourselves from Afghanistan. How we get out does matter. But getting out of Afghanistan needs to be a priority. ■

DEFENSE SPENDING AND DEFICIT REDUCTIONS: FUNDING THE FUTURE

David Berteau

It is common wisdom that the federal budget deficit is the biggest challenge facing the U.S. government today, but the debate rages over how to reduce that deficit and bring under control the growing debt burden. Two powerful commissions provided their views late last year, with both the Simpson-Bowles Commission and the Rivlin-Domenici Commission proposing ways to reduce the overall debt to 60 percent of GDP. While neither commission's approach will be adopted, they do show that such an outcome is possible, and they are shaping the consideration of options.

There is another key issue that lies within the debate over deficit reductions, and that is the role of defense spending in deficit reductions. Both Simpson-Bowles and Rivlin-Domenici argue that cuts in defense are part of the solution. Defense secretary Robert Gates argues that defense spending did not cause the deficit and should not be part of solving the debt problem. Let's look at the reality and the options.

Defense spending is 22 percent of overall federal spending and 60 percent of overall federal discretionary spending. It is nearly impossible to reduce spending significantly without defense cuts as part of that overall reduction—the arithmetic does not support exempting defense. The larger philosophical point, though, is that the nation cannot be secure unless the economy is sound, and deficit reductions are central to that economic stability. Ultimately, the nation has no choice but to include defense spending in an overall deficit reduction program.

Both commissions proposed their own specific cuts, which show that defense can be reduced, but those ideas are largely illustrative. They demonstrate the feasibility of defense spending reductions but provide no guidance. The question then is not whether but how to cut defense spending. History is very clear on this: there are only three possible paths. Let's look at each in turn.

One path is to make budget cuts one year at a time. This is the path most commonly taken, and it was used for much of the defense drawdown in the 1990s, but it causes DoD (the Department of Defense) to suffer the mismatches that inevitably result when resource decisions are disconnected from overall military needs. There have been no cases in which year-by-year budget cuts have led to an improvement of funding for core requirements.

The second path is to cut force structure, which can lead to reductions for years to come. This is the path taken at the end of the Cold War, when General Colin Powell, chairman of the Joint Chiefs of Staff, successfully proposed what he called the Base Force, reducing overall force structure by roughly 40 percent. This path was also used under Presidents Eisenhower and Ford. It has one advantage over the year-by-year cuts, because by tying budget cuts to force cuts, it helps maintain the balance between requirements and resources. The disadvantage of this approach is that it is largely backward looking and does not automatically reshape future forces, technologies, or investments.

There have been no cases in which year-by-year budget cuts have led to an improvement of funding for core requirements.

The third path is the hardest one. It calls for redefining what the military needs and for supporting investments to meet those needs, while focusing cuts elsewhere. This path has been attempted several times but has never been fully followed. It makes the most sense, and the most recent QDR (the Quadrennial Defense Review) made an attempt to begin this approach, but it falls far short. If this is the best approach, why has it been so difficult? There are four key reasons this approach has not worked in the past, and these reasons need to be addressed if defense capability is to be sustained while deep cuts are made.

First, we do not know today what we get for the defense money that we spend. Nearly $200 billion is spent annually on contracts that provide services for DoD, from workers sitting at government desks to overhauling weapons, from cloud computing to filling potholes. Each contract may be worthwhile and defensible, but DoD in the aggregate cannot say what the overall benefits are or what would be the impact of reductions.

Second, the future threat is hard to define. DoD promotes the idea that defense funding provides *capabilities* rather than specific threat responses, but no one has figured out how to validate the requirement for a specific capability except by comparing it to a specific threat. We know that the future has many threats, and we suspect that for many of those threats, the military is not the first solution, but we do not have a good answer to the questions of what kind of military will we need and what will we need it to be able to do. This makes it hard to prioritize defense spending.

Third, civilian control of the military has weakened. No one questions the authority of the secretary of defense or the president, but the institutions that extend their authority across DoD have not been adequately sustained. The military defines requirements, with little civilian ability to make adjustments, and the military defines acceptable risk, when

this is clearly a question for civilian leadership. The military sets budget priorities and determines which can be changed during execution.

Fourth, and most important, the past is always trying to kill the future, because that is the only way the past can stay alive. Even after the third approach is undertaken and future military needs are defined, the transition period may cost more in the short run, because until that future arrives, DoD needs to fund current capability (which represents the past investments in people and training and equipment).

How then do we define the future and fund it? The solutions to the problems of deficits and debt will be agreed to over the next two years, and that time period is the one shot we have to get DoD requirements and funding right. Leon Panetta has been named as the incoming secretary of defense. Here is what he has to do.

First, he has to resolve the near-term budgets: Fiscal Year 2012, which is being debated in Congress this year, and Fiscal Year 2013, to be submitted next February. There is not enough time for those budgets to be the result of redefined requirements, but their specifics need to be resolved in ways that do not foreclose the best future options. This probably means using year-by-year reductions for FY12 and FY13.

Second, he has to assemble the next defense long-term program, called the FYDP, or Future Years Defense Program. That program will cover fiscal years 2014–2019, called the "out years," and here is where the new defense secretary can make a huge difference. He can issue guidance for a review that will lay out future defense requirements, and then he can ensure adequate funding is aligned to meet those requirements. He can set targets for funding cuts in those out years, and he can make sure those cuts are planned in ways that protect the future rather than sustain the past. He can aim to implement those reductions after the 2012 elections and when substantial forces begin to return from Afghanistan, thereby sustaining full support for the men and women in combat today.

Defense spending needs to be cut as part of overall deficit reductions, and there will be just one shot at getting it right. The right approach calls for redefining future defense needs and directing future funding toward those needs. The person to do it has been nominated. The time to start is now. ■

DEBT OR DEFENSE?

DIFFICULT CHOICES OF A FINANCIALLY CONSTRAINED NATO

Heather A. Conley
and Tim Adams

Imagine if the International Security Assistance Force (ISAF) in Afghanistan only consisted of 11 contributing nations as opposed to the 48 that contribute today. Imagine if ISAF had only 90,000 American soldiers at its disposal rather than the 132,000 troops and 37 European countries currently engaged. Would the United States continue to shoulder the burden in Afghanistan if it had to make up for the loss of 25 percent of overall forces?

Imagine if there were not 13 European allies contributing to Libyan Operation Unified Protector but just 5 non-European countries—the United States, Canada, Jordan, Qatar, and the United Arab Emirates. Imagine if air bases and ports in European countries were not

available. Would there still be a military operation, or would Washington have to live with Muammar el-Qaddafi's unfettered rule?

These are not fanciful hypotheticals, but real possibilities of what a future world could look like if European allies sharply decrease their robust contribution to NATO and UN operations on account of their high levels of sovereign debt. Although it is a false choice, Europeans may be forced to choose the S&P (Standard and Poor's) over PGMs (precision-guided munitions).

European leaders are facing a bleak economic picture with ballooning public debt as a percentage of GDP and anemic economic growth by historical standards over the next five years. The figures are staggering, as of April 2011:

- Greece, which spends the highest percentage of GDP of any European NATO member on defense (second only to the United States), is projected to have its public debt reach 150 percent of its GDP by 2014. For the past two years, the Greek economy has had negative growth –2 percent (2009) and –4.8 percent (2010).

- Italy had a public debt worth an estimated 118 percent of its GDP in 2010.

- France, which had the highest outlay of defense in 2008, held 84 percent of its public debt as GDP in 2010.

Europe may have already made its decision. As discussed in a new CSIS report led by Dr. Stephen Flanagan, *A Diminishing Transatlantic Partnership? The Impact of the Financial Crisis on European Defense and Foreign Assistance Capabilities*, the three most capable European NATO allies—the United Kingdom, France, and Germany—that represent 65 percent of all defense expenditures in European NATO and 88 percent of all research and technology investment have already significantly reduced their defense budgets.

The UK's Strategic Defense and Security Review (SDSR) initiated an 8 percent cut in defense spending over the next four years with funding for a number of programs not assured and further cuts after 2014 likely.

Since 2008, the French have called for sharp reductions in the number of their forces from 270,000 to 225,000 with corresponding budget cuts over the subsequent six to seven years. The 2011 French budget plan seeks a cut of €5 billion over the next three years in defense spending.

In Germany, a major reform effort to abolish conscription and reduce the budget could cut troop levels from 250,000 to 158,000 and is now considering defense cuts of €8.3 billion through 2015.

The constrained capabilities of European military forces in Libya are an ominous indicator of the unintended strategic consequences of the past decade of underinvestment in European defense.

A recent report by the British House of Commons revealed that a British budget decision not to train Typhoon (Eurofighter) pilots for ground attack missions had important consequences for the Libya mission.

Three weeks into the air campaign, only 4 out of 82 Typhoons had been made available due to shortages of equipment and pilots trained for ground strikes. Moreover, the decision to take the Ark Royal air carrier and its Harrier jump jets out of service has constrained the UK's overall operational flexibility in Libya.

The impact of austerity and strained defense resources are clearly fraying NATO solidarity. NATO secretary general Anders Fogh Rasmussen recently noted that a decade ago the United States accounted for just under 50 percent of total Alliance defense spending. Today, the U.S. share is closer to 75 percent, and this transatlantic imbalance of defense effort and capabilities is projected to grow. An Alliance that is so reliant on the power and capabilities of one will cease to function.

The impact of austerity and strained defense resources are clearly fraying NATO solidarity.

To compound the problem, there is no effective effort to coordinate these defense reductions across the Alliance. What is occurring is a bilateral "cannibalization" of European defense capabilities to salvage a semblance of European power projection capability. The most visible example is the 2010 Anglo-French Defense Cooperation Treaty, where both countries are in the process of identifying joint training opportunities and combined operations.

Although NATO secretary general Rasmussen has called for a "Smart Defense" Initiative to prioritize, coordinate, and share resources led by NATO's Allied Command Transformation, it is unclear whether a NATO appeal will alter the future decisions of European finance ministers. It is also unclear whether the United States plans to coordinate its proposed $400 billion in defense cuts with NATO.

When U.S. defense secretary Robert Gates spoke of our European allies last year, he voiced concern that the demilitarization of Europe—a blessing in the twentieth century—could become an impediment to security and peace in the twenty-first century. With large swaths of the European public and political class averse to military force and the risks that go with it, imagine if this demilitarization has already occurred. ■

THE ROLE OF LAND FORCES IN FUTURE CONFLICT

Maren Leed
and Nathan Freier

The coming year promises to be decisive in national defense policy. The Defense Department is gearing up for another round of cuts, new leadership (both civilian and military) will be settling in, and preparations for the 2012 elections will begin in earnest. These circumstances do not bode well for U.S. ground forces.

Still engaged in an Afghan war that is far from the public mind and growing more so, and apparently on the way out of an Iraq war that is not yet fully resolved, U.S. ground forces remain focused but justifiably tired. Whether ground force leaders can shift gears and clearly articulate a new direction and purpose that aligns with projected future challenges and can win public support remains a critical unanswered question.

For the Army and Marine Corps in particular, the last decade has come at significant human, emotional, and fiscal cost. The country is increasingly weary of war and concerned about the national debt. Indications are that the public and its political representatives are unenthusiastic about devoting dwindling national treasure to large ground forces designed to prevail in military engagements that resemble those of the last decade.

Beyond our borders, America's enemies have learned from our struggles. They are well aware that our moral code, democratic principles, and bureaucratic structures are vulnerable to exploitation. Our future opponents are thus likely to recreate the most nettlesome problems encountered by U.S. forces in Iraq and Afghanistan.

Ground force leaders, therefore, are caught in a paradox: the missions that are most likely to arise are also politically and fiscally least palatable. Building and training ground forces for large-scale stabilization and reconstruction, counterinsurgency, and training and advisory missions, for example, could make those forces ripe for cuts.

Some senior civilian leaders, nevertheless, seem to support this approach. Outgoing Secretary of Defense Robert Gates argued in February that future high-end engagements would principally be the purview of naval and air forces, implying that the Army and Marine Corps would be bit players at best in tomorrow's wars. The secretary's argument is that ground forces should focus on building international partnerships while simultaneously preparing for large-scale advisory missions in case we need to build yet another security force from scratch.

But there are at least three problems with this view. First, history shows that even presidents who come into office vowing to avoid foreign interventions tend to have their hand forced by unforeseen events. Second, despite the political rhetoric in support of building partnerships, the track record for partners acting as we would hope is mixed at best.

Finally and most important, there are multiple plausible scenarios that would require a large ground force. Many would be instances in which the United States would have little latitude to opt out. If the past two decades are any indication, there are likely to be numerous instances over the next two in which the United States would be hard pressed to abstain from deploying large numbers of ground troops yet again.

The Arab Spring serves as a clear illustration of how disorder can ignite suddenly and in ways that directly overwhelm one or more core U.S. strategic interests. These include the physical security of the United States and its people, access to key strategic regions and critical lines of communication, or survival of certain partner governments. These cases will not always rise to the level of military necessity, but sometimes they will. Neither freshly minted concepts of combined air and sea operations nor an army of counterinsurgency advisers will suffice as a response.

Had Egypt's relatively peaceful uprising turned Libya-esque and threatened to disrupt the Suez Canal and key oil networks, only U.S. land forces

Ground force leaders are caught in a paradox: the missions that are most likely to arise are also politically and fiscally least palatable.

would have been capable of seizing 300-plus miles of critical infrastructure and securing it against further damage. Similarly, piracy of the type around the Horn of Africa or criminal violence like that in Mexico could possibly mushroom into more direct threats against the United States and its interests. Here too, only American land forces could intervene with sufficient speed and scale to systematically destroy adversary infrastructure and address rampant lawlessness.

A crisis in Pakistan, a Syrian civil war, a Saudi failure, a North Korean collapse, or a Mexican gang war that spills over our border are wholly plausible cases that may be more representative of future U.S. land operations than recent wars in Iraq and Afghanistan. And going forward, despite wishful rhetoric to the contrary, budget reductions here and abroad mean that future operations are even less likely to involve effective partners than they have in the past. This holds true for other U.S. government agencies and traditional allies alike.

Despite continuing ground force sacrifices, Army and Marine Corps leaders must provide a compelling vision for the future. These leaders should be wary of placing too much primacy on "partnership" and "advisory" missions, both because they may not be persuasive on Capitol Hill and, more important, because they pose significant and unwarranted risks to our security.

Of course, those leaders must also be cautious of making veiled arguments for either bigger or heavier forces, which are unrealistic in the current context. Instead, they must paint a more complete and tangible picture of future land-based challenges and of the force that can best manage them. Past or present operational reality is not as comprehensively instructive as many appear to believe. Whether we like it or not, those who threaten U.S. interests still have a vote, and it may well be for a war that cannot be won decisively without combat-ready ground forces. ■

THE NEW COLD WAR IN ASIA?

Victor D. Cha

The most likely crisis that the next presidents of the United States, China, and South Korea will encounter at some point after they each take office in 2012 will be North Korean instability. This could occur as a result of the death of the ailing leader Kim Jong-il and a failed succession attempt by his not yet 30-year-old son. Or, instability could result from continued North Korean belligerence that escalates out of control.

The key to averting such a crisis is better cooperation among the key players on the peninsula—Washington, Seoul, and Beijing. This cooperation may not be forthcoming, however, if one considers the pattern of China's performance in response to the North Korean provocations in 2009 and

2010—including a second nuclear test, the torpedoing of the South Korean naval vessel *Cheonan*, the artillery shelling of a South Korean island, and revelations regarding a second uranium-based nuclear program.

Why? Since normalization of relations with South Korea in 1992, Beijing has tried to maintain an equidistant policy between the two Koreas. What happens in one bilateral relationship is completely separate, in Beijing's eyes, from what happens in the other. Beijing keeps its time-honored communist alliance with a struggling North Korean regime, while it also signs contracts with Pyongyang that extract raw materials, including rare earth minerals, out of the North for consumption by China's poor northeastern provinces. South of the 38th parallel, Beijing engages in a burgeoning economic relationship with Seoul, now the 11th largest economy in the world. Annual business with the South is 100 times that with the North (US$180 billion vs. US$1.8 billion).

Beijing has basically acted like North Korea's defense lawyer in the court of public opinion.

This equidistant policy worked so long as Seoul could countenance it and as long as Pyongyang did nothing egregious enough to force China's hand. Even when the North carried out a nuclear test in 2006, China escaped pressure because half of the blame lay with a then-recalcitrant Bush administration that refused dialogue with the North. The North Korean provocations of 2009–2010, however, have forced China to choose. And thus far, Beijing has made all the wrong choices, creating conditions for a new Cold War in Asia.

China remains mired in anachronistic thinking. In the name of communist brotherhood, Beijing has basically acted like North Korea's defense lawyer in the court of public opinion. It still has not condemned the most blatant acts of North Korean military aggression since the Korean War. And it refuses to work with the United States and United Nations to condemn North Korea's uranium-based nuclear program. This communist allegiance is ironic because it was once the Chinese who accused the United States and its allies South Korea and Japan of hanging on to "dinosaur-era" Cold War era alliances.

China has allowed its domestic needs to impede its grand strategy. For the past 15 years, China has pursued a somewhat successful charm offensive in Asia, but its protective treatment of North Korea has only added to the chorus of concerns among the South Koreans, Japanese, and Southeast Asians that a rising China may not be a benevolent hegemon in Asia. China supports Kim Jong-il's attempt to transfer power to his

young son, Kim Jong-eun, because it sees a unified Korea, allied with the United States and Japan, as inimical to Chinese interests. Moreover, maintaining near-term stability is important for Beijing such that it can continue its predatory economic policies of draining the North of resources to feed the revitalization of the landlocked northeastern provinces Liaoning and Jilin.

Chinese in the know whisper that they understand the gravity of North Korean bellicosity, but admit that the paramount goal is to maintain stability on the peninsula. A weak Chinese response, however, only encourages a desperate North Korean leader to rattle the peace in order to extort benefits from others, to credential the young son with military accomplishments, and to develop further nuclear weapons capabilities. This sort of short-sighted behavior raises real questions about China's purported role as a rising new leader in Asia. Leaders contribute to the public good of peace and stability. They do not detract from it by sitting on the sidelines.

Beijing could register its displeasure with Pyongyang through dialing down significantly the assistance that passes through unseen by vibrant party and military channels. Working through these channels can inflict real pain on Pyongyang such that Kim will not contemplate more acts of aggression, but can also save the Chinese some face by not looking as though Beijing has been strong-armed by the Americans and South Koreans.

Most important, the United States, South Korea, and China would be well-served by quiet discussions about how to respond to instability in North Korea. It is a contingency that Asia is least prepared for, yet it is the most likely contingency especially when stroke-stricken Kim Jong-il, now 68 years old, passes away. No one can predict when this will happen, but there is a better than 50-percent chance that Kim could depart from the scene before the next American president leaves office.

Washington and Seoul understand the situation and have engaged in bilateral preparations, but Beijing remains reluctant. It would seem to make good sense to start working with the United States and ROK today if China wants to ensure its place on the peninsula tomorrow. ■

U.S.-CHINA MILITARY RELATIONS: THE WEAKEST LINK

Bonnie S. Glaser

A sustained and dependable military-to-military relationship brings mutual benefits that serve both U.S. and Chinese interests. When contacts and dialogue between the two militaries are suspended, both sides incur costs. The absence of communications increases the risks and dangers of an incident or accident that could derail the overall bilateral relationship and makes it more difficult to defuse tensions and deescalate in a crisis.

The United States is not alone in worrying about the possibility that a collision between U.S. and Chinese warships or airplanes could trigger a political crisis and even escalate to a broader military conflict. In an interview with the Chinese media last December, Chinese defense minister Liang Guanglie said that a war "which involves the whole country" is impossible at the moment, but there is nevertheless a possibility that a mishap or accident might ignite regional conflicts. More generally, frequent suspension of the bilateral military relationship hampers shared U.S. and Chinese objectives of building mutual trust and confidence and impedes cooperation on important regional and global security issues.

The Joint Statement released during Chinese president Hu Jintao's January 2011 visit to the United States affirmed that "a healthy, stable, and reliable military-to-military relationship is an essential part of President Obama's and President Hu's shared vision for a positive, cooperative, and comprehensive U.S.-China relationship." Moreover, both sides agreed on "the need for enhanced and substantive dialogue and communication at all levels: to reduce misunderstanding, misperception, and miscalculation; to foster greater understanding and expand mutual interest; and to promote the healthy, stable, and reliable development of the military-to-military relationship."

At the December 2010 Defense Consultative Talks, Washington proposed a framework for the military-to-military relationship that is based on six guiding principles: mutual respect, mutual trust, reciprocity, mutual interest, continuous dialogue, and mutual risk reduction. The People's Liberation Army has agreed to discuss these principles with the goal of reaching an understanding on their meaning and how they can be achieved. This is a positive and important step forward, but it is not enough.

More must be done to promote a better relationship between the U.S. and Chinese militaries. In the maritime domain, the two navies should seek to build cooperative capacity to combat threats to sea lanes that are posed by terrorism, piracy, smuggling, pollution, and proliferation. Plans to conduct joint bilateral humanitarian assistance and disaster relief exercises, postponed due to China's anger over U.S. arms sales to Taiwan, should be resurrected.

Canceled junior and midlevel officer exchanges and general military cultural exchanges should also be rescheduled. Coordination on military activities in third countries such as peacekeeping should be established. Developing common views and approaches to regional and international security challenges, where possible, should also be on the agenda.

Being more forthcoming with each other about military capabilities, intentions, and doctrine is also essential to reduce misperception and build strategic trust. In that regard, Defense Secretary Robert Gates' proposal to launch a strategic security dialogue that covers nuclear, missile defense, space and cyber issues as part of the annual Strategic and Economic Dialogue (S&ED) is significant. In each of these areas, fears of the other side's intentions are contributing to instability and competition. For example, China worries that the United States is seeking to neutralize its deterrent through reliance on a combination of conventional long-range precision strike weapons and missile defense systems. Chinese steps to make its nuclear arsenal more effective and survivable are stirring U.S. fears that China has plans to dramatically increase the number of its nuclear warheads and may adopt a posture that is at variance with its no-first-use commitments.

The Obama administration's Nuclear Posture Review, released last year, emphasized the need for the United States to maintain strategic stability with both Russia and China. This suggests that Washington accepts mutual deterrence and vulnerability with China as it does with Russia. Against this background, it would be mutually beneficial for the two militaries to discuss their respective perspectives on U.S.-China strategic stability, which is defined roughly as a relationship in which neither side has the opportunity or incentive to destroy all of their opponent's nuclear forces.

Easing mutual strategic suspicions and building trust will undoubtedly be a long-term process, but these goals will be unattainable in the absence of candid discussions on critical security matters.

In exchange for greater Chinese transparency about its nuclear capabilities and doctrine and self-imposed caps on its nuclear arsenal, the United States could consider technological constraints on missile defense similar to those explored with Russia to address its concerns over now-defunct plans to deploy missile defense systems in Poland and the Czech Republic.

Discussions on space and cyber security are also needed and could be mutually beneficial. China is increasingly reliant on satellites for communication, navigation, and meteorology as well as intelligence collection, while at the same time continuing to develop and test antisatellite weapons. As the Obama administration's 2010 National Space Policy noted, "The now-ubiquitous and interconnected nature of space capabilities and the world's growing dependence on them mean that irresponsible acts in space can have damaging consequences for all of us."

Similarly, there is growing reliance globally on information networks for national and economic security and public safety. China and the United States share an interest in working together to combat Internet crime, protect e-banking, and counter cyber theft. In July 2010, Wu Bangguo, China's top legislator who formerly served as vice premier of the State Council charged with developing China's cyber infrastructure, told three members of the U.S. Congress who were visiting Beijing that China does not want a cyber war and proposed that cyber security should be included as part of the S&ED. This suggestion came to fruition in early May, when cyber security was included on the agenda of the newly launched joint civilian-military security talks under the S&ED.

Easing mutual strategic suspicions and building trust will undoubtedly be a long-term process, but these goals will be unattainable in the absence of candid discussions on critical security matters. The establishment of a mechanism to address both U.S. and Chinese security concerns is a welcome first step. ■

TECHNOLOGICAL ADVANCEMENT: THE CHOICE BEFORE US

James A. Lewis

Marshall Foch, commander of Allied Forces in World War I, is said to have remarked when he first saw an airplane in 1911, that "airplanes are interesting toys, but of no military value." Foch, like most others, did not recognize the destructive potential of the new technology or how it would change military and strategic calculations. Had this been predicted to him, he might well have thought of Jules Verne and of science fiction.

Advances in science and technology create military power. The first wave of advances came from the chemical industry and massive concentrations of high-powered explosives delivered by artillery-changed battlefields and tactics. The second wave was in electronics—first in sensors and then in computing. The third, which we are just entering, is in biotechnology (although this term is too narrow to capture the full range of change) and how it will enhance human performance. Each wave of technological change is layered upon its predecessor, and each wave changes what is required for military power. Biotech will be a major part of the defense industry of the future.

We already know some of the technologies involved: the drugs athletes use to boost strength and endurance or those that students use to boost mental acuity. Some are in testing—exoskeletons that will let humans lift and carry hundreds of pounds. Others are experimental—technologies that will create an "organic-silicon" link, where the tiny electrical impulses created by the brain will feed into computer networks to connect to mechanical devices.

Imagine: a monkey sits in a room. Electrodes are attached to his head. He looks at a screen upon which is pictured a banana. The monkey thinks of picking up the banana and miles away a mechanical arm, connecting to the monkey over the Internet, picks it up.

Other technologies use a sensor-laden helmet to sense the brain's electrical emissions. Organic-silicon linkages combine information and sensor technologies to turn these electrical impulses (already detectable by medical devices, such as electroencephalograms) into digital commands that can be transmitted to prosthetic devices or to a machine connected to the Internet. The first application may be a new generation of prosthetic devices to replace limbs lost in roadside bombings.

New classes of drugs will target pain, fatigue, stress, and the acuity of our senses. Exoskeletons, organic-to-silicon linkages, and drug enhancements are already here and will be deployable in the next few years. A further step would involve genetic enhancements, the ability to change physical performance temporarily by injecting genetic material to modify human traits—one test has already produced "Schwarzenegger mice," and other performance-enhancing genetic manipulations are possible. The research here, however, is at an early stage and, even if progress continues, we may be more than a decade away from being able to safely use this technology.

Like Foch, an initial reaction is that this is science fiction, but not if one considers the history of military technology. Flying, seeing in the dark, using tiny chips to perform complex calculations, or building weapons that rival the sun would have struck earlier generations as science fiction, if not wizardry. Using technology to enhance combatant performance has been the trend since the start of the industrial age. America has led in the development of technologies that increased the mobility and organic firepower of an individual soldier or unit. In the last two decades, technologies have improved decisionmaking and access to information. The result has been increased firepower, mobility, and informational advantage for combatants and commanders that sets a new standard for military performance. Now we are looking at the next wave of technology that will define both military performance and the future industrial base.

Of course, tactics, training, and doctrine must change to reap the full benefit of technological advances. Armies did indeed first use the airplane

Exoskeletons, organic-to-silicon linkages, and drug enhancements are already here and will be deployable in the next few years.

as a kind of flying bicycle, but pilots rapidly changed this by adding weapons. With very few exceptions, the effect of change in military technology has been incremental rather than revolutionary, as tactics and strategies lagged behind the capabilities of the new systems. And problems not amenable to military power—all the post-conflict political problems—require different solutions that advances in military technology will not supply. Civilian use will also require a careful rethinking accompanied by new rules and increased transparency.

The United States may also be unable to reap the full benefit because political problems will block or delay deployment. Political interference in scientific experimentation is commonplace in this country. The risk is not that outcomes will be distorted—we will not see an American Lysenko—but that promising avenues of research may be closed off by political pressure. It is easy to urge caution if you are not being shot at.

No one admits to being a technophobe, but the pace of discovery in America risks being slowed by armies of lawyers, political scientists, and ethicists who fear the consequences of technological change. To cite another historical example, some states required early cars to be proceeded by a walking flagman, waving a red flag because they feared the new technology and its seemingly dangerous speeds. We have many more people saying go slow, and there is some risk that fear will shape our approach to human enhancement, making it more likely that advances will occur somewhere other than in the United States.

This is the flip side of the advantages of human enhancement—the risks that come from fumbling adoption of the new technologies. Making our military more effective provides strategic advantage, but the greater advantage comes from the application of the new technology to commerce and the powerful impetus for growth this provides. The United States, for five decades, gained a unique economic advantage by linking the advances made from government investment in military research to commercial innovation.

The system that generated innovation and growth based on science and technology is broken, damaged by beliefs that government should shrink and that business will invest in public goods like research. The problem with the shrink-government approach is that it cannot sustain the U.S. role of superpower. Big breakthroughs come from government-funded programs. Innovation in the private sector tends to be a new flavor of soap or some new social network app.

In the last 20 years we made economic choices, perhaps unavoidable, that are shrinking our ability to manufacture the "old" technologies of metal chemicals and chips. These changes damage our ability to innovate, to come up with the new products that generate military advantage and economic growth. The damage from this can be reduced if we can take advantage of the "new" biotech industrial base (and if this new industry finally delivers on its long-awaited promise).

The alternative is to see our economic and military capabilities decline and watch the relative balance of power shift in ways unfavorable to our national interest. Power is now determined by the ability to innovate and grow more than it is by the size of a nation's military force. Technology offers harsh choices—our choice now is advance or decline. ■

PART II

Economic Security Three Years after the Financial Crisis

COMPETING FOR ECONOMIC CENTRALITY IN ASIA

Ernest Z. Bower

A world-shaping strategic competition is under way in Asia. It is one that recognizes that economics is power. Whoever sets and drives the agenda will eventually establish the rules for regional behavior from security and political affairs to trade and investment.

There are many actors in this competition, but the most focused and proactive has been China. Unsurprisingly, the Middle Kingdom believes that a Sino-centric model in Asia is inevitable. It defines Asia more narrowly as a zone of influence and prioritizes East Asia in that context. China is pursuing tactics that constitute a strategy for consolidating power on this basis. Priority structures for China are ASEAN + 3 (the ten ASEAN countries, plus China, Japan, and Korea) and bilateral relations with its neighbors.

The competing model is the evolving regional trade and security architecture based on ASEAN's centrality. The ASEAN approach envisions a broader

definition of the Asia-Pacific region including global powers like India and the United States along with regional players such as Australia and New Zealand. The United States has promoted and embraced this latter model, making a bet that ASEAN will be capable of serving as the "fulcrum," as Secretary of State Hillary Clinton called it, of an enduring regional architecture.

When it comes to trade and investment architecture, ASEAN centrality is less clear largely due to the issues of Burma/Myanmar and the wide range of development levels among the ASEAN member countries. Burma's appalling human rights and governance record over the last several decades has prevented the United States and Europe from fully engaging ASEAN in formal economic agreements such as free trade agreements, and the lesser developed ASEAN countries have sought derogations and protection from western style, high-level, legally binding trade and investment agreements.

A world-shaping strategic competition is under way in Asia. It is one that recognizes that economics is power.

Current economic models which engage parts of ASEAN include the Transpacific Partnership (TPP) which is currently a nine-country negotiation designed to create a world-class and legally binding trade and investment pact. Once established, other Asia-Pacific countries can join the partnership when they are prepared and capable of implementing the required commitments. Another consensus-based model is the trade facilitation track within the Asia Pacific Economic Cooperation (APEC) forum. APEC includes 21 economies, but has been of less interest to the private sector because its provisions are non-binding. Additionally, APEC currently excludes three ASEAN countries, namely Burma, Cambodia and Laos.

The East Asia Summit (EAS) has an economic track called the Closer Economic Partnership for East Asia (CEPEA) which has potential but as of yet has not received serious focus from the United States–which prefers to focus on TPP and APEC–or China–which prefers to focus on the ASEAN + 3, China-ASEAN and bilateral relationships.

Understanding the strategic nature of competition for these models in Asia is vital for advancing long-term American interests in the region. Traditionally, U.S. foreign policy has sought to use membership or inclusion in regional groupings as leverage to try to encourage improvements in human rights and governance issues. The effectiveness of that approach has decreased due to China's robust engagement in the region and its positing of an alternative approach.

Specifically, China has changed the paradigm by embracing any country within its self-defined zone of influence through a strategic and even mercantilist lens. Engagement with neighbors like North Korea and Burma is defined as strategic for China. While the United States has been focused on the global War on Terror and fighting wars in Iraq, Afghanistan and now Libya, China, by enhancing its ties with these countries and the rest of Southeast Asia, has retained and expanded its strategic engagement in Asia. It is not hard to imagine that Chinese policymakers have welcomed the new wave

of instability in the Middle East and North Africa. They hope that these events will keep the United States focused on other parts of the world as the Chinese seek to consolidate their role in Asia, the world's current and future economic engine.

The challenge for the United States is to follow through on the rhetoric of President Obama, who has defined himself with genealogical credibility as the "first Pacific president of the United States," and the outstanding leadership demonstrated by Secretary of State Hillary Clinton who clearly has a strategic view of the importance of Asia and the fundamental imperative to ensure that ASEAN's centrality, not China's, is the structure upon which Asia develops its political, security and economic norms for the 21st century. The United States understands clearly that an ASEAN-based model can only be viable and enduring if it is supported by rock-solid alliances and strategic partnerships with other important countries in the Asia-Pacific region.

The test for whether the United States is prepared to legitimately and strategically engage in this competition to shape Asia is whether President Obama and his successors in the White House can communicate the importance of Asia to the American people. This paradigm shift may be one of the most important historical challenges of the century for the United States.

Asia is foundational to America's long-term national and economic security. The region is and will be the source of economic dynamism that creates high-value jobs in the United States. Furthermore, Asia is a source of an enormous wealth of people-based power with strong links to America that will fuel future innovation and meet global challenges such as climate change, global health requirements, humanitarian assistance and disaster relief and non-proliferation.

Only after making the case for strategic engagement in Asia will the U.S. government be able to make the case for broadening its engagement in Asia and making hard decisions such as passing existing trade agreements with Korea, moving aggressively to conclude the TPP negotiations, tabling the prospect of a US-ASEAN free trade agreement in the future based on clear criteria related to Burma's governance, addressing the development gap among member countries, and strengthening ASEAN's institutions.

At the pivot point at which the United States clearly defines and consolidates its long-term interests in Asia, decisions such as bringing the additional three ASEAN countries into APEC, normalizing

military-to-military relations with Indonesia and Vietnam, and ratifying the UN Convention on the Law of the Sea (UNCLOS) will become self-evident.

The Obama Administration deserves real credit for following through on the hunt for Osama bin Laden. It has retained a high degree of continuity in the Asia policy of the United States and has taken engagement in Southeast Asia to a new level. A legacy shift of focus is now available to the president and his team, namely to wind down wars in the Middle East while increasing America's strategic focus on Asia.

The United States is engaged in a strategic competition to help shape the future of Asia. An ASEAN-centered model can help acculturate China to regionally acceptable rules and guidelines while giving the country room to grow, prosper and expand its peaceful influence. A China-based model will inevitably create anxieties and could exacerbate regional conflicts among the Southeast Asian countries, as well as with Japan, Korea and India. A stable, predictable and prosperous Asia is a necessary precondition for global security.

The rest of Asia has an enormous stake in helping to bring the United States into the newly developing regional architecture. ASEAN in particular must step up its game and ensure that relatively nascent forums such as the EAS are high value and enhance interaction between leaders as well as address the substantive issues of the day, including for instance maritime security when the leaders meet later this year in Bali, Indonesia.

The United States has a unique opportunity to follow through on its pivot towards Asia and strategically embrace a competition for models and ideas that will be good for Asia, support global growth and peace, and staunchly support American interests well into the future. ■

THE GLOBAL TRADE PICTURE FROM WASHINGTON

Meredith Broadbent

A retreat into trade protectionism after October 2008 is the dangerous dog that did not bite the international economy. Contrary to what might have been expected, the severe economic dislocations of the financial crisis have not led to a wholesale retrenchment in international trade. The World Trade Organization (WTO), established as a safety break against unsavory domestic political instincts, can claim a solid victory. It militated against the recoil of countries behind high tariff walls.

By standing solidly as the agreed arbiter of nondiscrimination and national treatment, the WTO has warded off the worst tendencies of national governments to embrace protectionist pressures. To be sure, state subsidies (for autos and green technology, to name a few) expanded in 2009 and government procurements became less open with the growth of "buy national" and "buy local" schemes worldwide. But subsidies and government procurement are areas where international trade rules have never been particularly strong. Time will tell for certain, but it looks like WTO disciplines designed to keep markets open, a system constructed and staunchly defended by the United States since 1934, held up as intended.

What may be taking root in the United States is a less obvious threat to the health of global commerce. Whether or not it is in reaction to the global economic downturn, an inward-looking, self-absorbed posture on trade matters has gripped the United States. This contrasts with the historic leadership role the United States has played in molding the WTO and establishing NAFTA, the legacies of which worked to the advantage of the United States when the global economy came under stress.

The logjam over the three pending free trade agreements (FTAs) seems to illustrate the new milieu. Lack of a domestic political consensus on trade is translating into paralysis and indecision in the view of our trading partners. U.S. Trade Representative Ron Kirk recently told an U.S. industry group that "through collective dialogue and constructive

consensus-building, together we can bring about shared prosperity to our peoples through trade." Presumably, Ambassador Kirk meant collective dialogue and consensus building with advocates of more international trade agreements and with trade skeptics in the U.S. Congress, two groups with diametrically opposing views on the role of the United States in the world economy.

Nevertheless, as the partisan discussion in Washington rages over the U.S. budget deficit, behind the scenes President Obama and Congress are setting the table for a needed national debate on U.S. trade policy. The first step was the president's National Export Initiative (NEI), announced last year, which establishes the goal of doubling U.S. exports by 2014. With economic growth now hovering at an annual rate of 1.8 percent, the president acknowledges with the NEI that the United States cannot afford to forgo the opportunities to create jobs through more trade. That said, increased trade promotion activity by the Department of Commerce and additional Export-Import Bank financing for small businesses, both part of the NEI, are much less significant in their effects on job creation than opening new markets under new trade agreements.

It is hard to overstate how fast the negotiation of FTAs by all of our economic competitors is accelerating and how absent the United States has been from the process.

Hence, the second piece of groundwork being laid for the coming trade debate is President Obama's somewhat delayed embrace of three pending free trade agreements concluded by President George W. Bush with South Korea, Colombia, and Panama. After negotiating supplementary deals on auto trade with South Korea and with Panama to crack down on international tax evasion, Ambassador Ron Kirk says those two agreements are ready to be submitted to Congress. The likelihood of successful approval of the U.S.-Colombia FTA, the most difficult politically for the White House because of opposition from the AFL-CIO, has increased in recent weeks following Colombia's commitment to implement an agreed "Labor Action Plan."

Until recently, the White House had intended to submit the three FTAs to Congress one at a time. The strategy was that a strong vote on the U.S.–South Korea FTA would help pave the way for an easier vote on the more controversial U.S.-Colombia FTA. However, the Republican leadership in Congress, joined by Senate Finance Committee chairman Max Baucus and House Minority Whip Steny Hoyer, has made known its strong preference for considering the deals "within the same time frame." These pro-trade members may see joint consideration of the FTAs as a guard against the Colombia FTA being left behind. In the Congress, said a leading Democratic strategist, "all roads to Korea lead through Colombia."

It is not unusual for difficult political issues to become linked and subsequently stalled in Congress. The impasse on implementing FTAs with South Korea, Colombia, and Panama has led to collateral objections to renewing duty-free treatment for imports under the Generalized System of Preferences (GSP) for 129 beneficiary developing countries. The Andean Trade Preference Program has also expired, resulting in higher duties for Colombian exports to the United States until the U.S.-Colombia FTA is enacted.

Add to this soup of trade business President Obama's announced intention to work to bring Russia into the WTO in the near future. This will entail a vote on legislation to remove Russia from the Cold War–era Jackson-Vanik statute, which requires annual renewals of Russia's most-favored-nation (MFN) trade treatment. Granting Russia permanent normal trade relations status will be a hard political lift in anyone's estimation.

A victory for the president on the three pending FTAs (and on these other trade matters that might come in a companion omnibus trade bill that would move together with the FTAs in Congress) cannot come too soon. The worldwide desire to further economic growth and efficiencies through the removal of trade barriers, often on a piecemeal basis, is fostering a relentless surge in the negotiation of FTAs by all of our economic competitors, including China, Brazil, and India and the rapidly growing countries in Southeast Asia.

It is hard to overstate how fast this trend is accelerating and how absent the United States has been from the process, relative to the historical role it has played in shaping the trading system to its advantage. As of July 2010, the WTO counted 230 FTAs in place worldwide, with many more in the process of being negotiated. Of these, the United States participates in 17, many of which are with tiny markets and all of which were negotiated five or more years ago. If the United States can deliver on commitments to South Korea, Colombia, and Panama to implement the deals that have been penned years ago, U.S. trade negotiators will be back in the game as credible players in this race to rewrite regional rules of international commerce.

Nowhere is momentum and U.S. influence more important than in Asia, where the United States has joined the ongoing Trans-Pacific Partnership (TPP) negotiation with eight other nations: Singapore, Australia, New Zealand, Chile, Peru, Brunei Darussalam, Vietnam, and Malaysia. A victory on the three pending FTAs this summer will set the United States up well to push these talks to a point of identifiable progress (such as an agreed framework or agreed chapters) by the time the president hosts TPP countries, along with 12 other heads of state, at the Asia Pacific Economic Cooperation (APEC) Summit in Hawaii in November 2011. The TPP negotiations are moving to a stage where U.S. positions on sensitive and controversial issues like intellectual property protection, labor,

and the environment will have to be tabled by the United States in the form of specific negotiating proposals in legal text.

Because of the deadlock on the three FTAs, the United States is many months, if not years, away from considering actual "fast-track" authorizing legislation for the TPP that would be expected to include concrete U.S. negotiating objectives for these talks. In the arcane world of U.S. trade policy, these consensus negotiating objectives for the executive branch, compromised and honed by the crucible of the legislative process, would present clear guidance to U.S. trade negotiators. Absent any such objectives, Ambassador Kirk's leadership will be tested as he tries to divine where the domestic consensus on these very controversial matters lies. Getting the backing of key constituencies in his own party, as well as that of Republican trade leaders, will require some deft maneuvering that would be made easier by a strong victory on the pending FTAs.

With or without the United States actively involved in TPP trade negotiations in Asia, China will continue to negotiate new trade agreements that set standards that may not be favorable to U.S. farmers and businesses. If the trade agenda moves forward in Washington, frustration with China's trade practices may come to a head in Congress. U.S. negotiators are keenly disappointed with the lack of progress in the WTO Doha Round talks. By most measures, China has declined to make substantial offers in Doha to open its market further, particularly to imports of industrial goods. It may be that Americans reevaluate economic relations with this trade powerhouse whose exports are protected worldwide by WTO rules.

More analysts are beginning to agree that China's entry into the WTO in 2001 has not been followed by the transition to freer markets in China to the degree that was expected. There is a general sense among some who supported China's WTO accession that evolutionary progress toward a less controlled market in China has stalled and that China, in fact, has redoubled its commitment to state authoritarian capitalism. Many observers see China as trending more in the direction of expanding state involvement in the economy, characterized by generous subsidies and measures to force U.S. firms to divulge sensitive intellectual property to Chinese competitors. Trade relations with this country are growing increasingly rocky. If a trade package is considered in summer 2011, it is possible that amendments may be offered aimed at shielding U.S. producers from certain Chinese trading practices on currency and other matters.

It is conceivable that members of Congress could take the opportunity presented by an omnibus trade bill to develop some new regional trade initiatives—for example, a roadmap for negotiating FTAs with reforming countries in the Middle East such as Egypt. There is also an interesting new industry proposal to expand the highly successful Information Technology Agreement (ITA) to include more countries and greater product coverage. Updating the ITA would respond to the ever-growing significance to the U.S. economy of trade in sophisticated electronic products and digital commerce conducted over the Internet.

Finally, Congress would do well to reconsider U.S. trade relations with India and Brazil, in light of the Doha Round's failure to improve U.S. trade flows into these markets that are growing four times as fast as the more-developed economies.

In sum, if the budget debate subsides, there is hope that portions of the daunting backlog on the trade agenda will be tackled. The table is set and the pieces are in place for the United States to make some important decisions about how it will pursue more prosperity in the international economy. ■

A CONVERSATION ON EMERGING POWER GEOMETRY

Charles W. Freeman III,
Karl F. Inderfurth,
Stephen Johnson,
and Stephen J. Flanagan

The following conversation derives from an online chat between Global Forecast editors and four CSIS scholars on the rise of China, India, Brazil, and Turkey.

The recent global financial crisis has been a huge headache for the West. Three years later, do China, India, Brazil, and Turkey look back at it as the beginning of an opportunity?

CHARLES FREEMAN: China's financial system was largely insulated from the immediate effects of the crisis, and China was among the very first globally integrated economies to bounce back. Many in China like to proclaim the success of the "China Model" and failure of the West. They see the financial crisis as a bellwether moment, an inflection point in China's re-emergence, and evidence of the irreversibility of U.S. decline.

KARL INDERFURTH: Indians share the sense that this has been an "I told you so" moment. As a result, and combined with the country's surging economic performance, Indians now have a bigger seat at the table. The G8 has been replaced by the G20. The IMF's governing board has given India a greater role. Indians believe the crisis underscored the need to give the world's big emerging economies greater responsibility in stabilizing and guiding the global economy.

STEPHEN JOHNSON: This has absolutely been an opportunity for Brazil. Petroleum and soy remain in high demand. The only place Brazil took a hit was in trying to compete with China's undervalued currency and the weakened dollar. Brazil is the eighth-largest economy in the world and on the rise.

STEPHEN FLANAGAN: Turks love to remind EU members that Turkey was one of the few European economies whose output in 2010 surpassed its pre-crisis levels. The Turkish rebound was fueled by strong exports, consumption, and investment and bolstered by effective crisis management mechanisms and fiscal reforms.

The common narrative has been that all four countries want greater respect on the world stage. How are they likely to assert themselves in the coming year?

FLANAGAN: Turks see their country as a "central" power and intend to act like one. Turkey will strive to play an active role in stabilizing Iraq, supporting Arab political reform, advancing Palestinian statehood, and negotiations over Iran's nuclear program. It will also seek greater influence to the east via development of a new Silk Road in Central Asia and a strategic partnership with China.

JOHNSON: It is uncertain whether Brazilian president Rousseff will be as assertive as President Lula was on the world stage. Lula's efforts to work the Iran fuel swap turned out to be an embarrassment for Brazil. Rousseff seems less likely to overreach or antagonize Washington. She is no pushover, though. In April 2011, she told China it needs to buy more Brazilian-manufactured products to restore balance to the trade relationship.

INDERFURTH: Indians believe their attention must be directed at home and on domestic challenges. They are focused on corruption, poverty reduction, education, and infrastructure needs. Indians are not looking for "superpower" status yet—maybe in 10 years. They still see themselves as a developing country, albeit with a global role to play. They also think the term "superpower" is a Cold War relic.

FREEMAN: China is schizophrenic about its role in global affairs. It seeks primacy, but is deeply wary of global responsibility. Like India, it remains focused on its own domestic fragilities, although in the wake of the crisis it made overt attempts to test its own perceived power with its neighbors. China's assertiveness in this regard largely backfired, with the result that its neighbors sought to move closer into Washington's orbit. Look for China to go back to biding its time and keeping a low profile in international affairs.

What are these countries' visions for global governance?

INDERFURTH: Delhi is trying to break from the paradigms of the past: developed and developing, North and South, East and West no longer apply in its mind. India wants to see the interests of all major power centers taken into account. It sees itself emerging as one pole among several in a multipolar world.

JOHNSON: Brazil has a similar vision. It sees a set of regional power centers emerging around multiple poles. Brazil has worked hard to advance the Union of South American Nations and the South American Defense Council for this purpose.

FLANAGAN: Turkey also favors a more diffuse, multipolar global power structure that recognizes Turkey's status as a G20 member. Turkey will continue to seek integration into Europe and values its membership in NATO, but it expects to be treated as a major player in world politics. Turks are no longer content to simply take direction from Washington and Brussels.

FREEMAN: China looks for a governance structure that is long on talk and short on teeth. On one hand, it views multilateral action with caution and rejects European visions of supranational authority. On the other hand, it is suspicious of the U.S. approach of coalitions of the willing. The Chinese aim is to avoid any diminishment of China's sovereign authority. China sees global institutions as providing a level of predictability and stability in international affairs that reduces the impact of global events on its own domestic affairs.

What single global or regional issue are we likely to see these capitals prioritize and try to move forward this year?

FREEMAN: China begins a major leadership transition in 2012, so Beijing is completely absorbed with its own politics. This is not an environment that encourages any significant policy moves abroad.

INDERFURTH: India's priority will continue to be its own economic growth and development. Of course, Delhi will be keeping a watchful eye on its security interests as they are affected by unfolding events in Afghanistan and Pakistan.

JOHNSON: Look for Brazil to focus on strengthening its regional commercial ties.

FLANAGAN: Turkey's priority will be to maintain stability in the greater Middle East in the face of the revolutionary movements still unfolding in the region and U.S. withdrawal from Iraq. No small task.

Does Washington currently have the correct policy orientation toward these regional powers that exert influence beyond their region? If not, what should the United States do differently in the future?

JOHNSON: There is room for improvement on Brazil policy. Lula was kept at arm's length to little effect, and President Obama's March 2011 trip to see Rousseff was eclipsed by the Libyan bombing and yielded no major new initiatives. Joint U.S.-Brazilian ventures on energy cooperation and science and technology could produce an uptick in relations.

FLANAGAN: Washington needs to find a better balance between treating Turkey as a full partner and playing to Ankara's perception that it is now an indispensable country. Turkey is a major player in its region, but it overestimates its capacity to deliver. When interests diverge—which they will—Washington needs to be able to manage this in a way that avoids a major breach.

INDERFURTH: U.S.-India relations have been transformed over the past decade, under three presidents, from what once was described as "estranged democracies" to what can correctly be called today "engaged democracies." So the task for the Obama administration is to continue the upward trajectory of the relationship and not assume that it can be placed on "autopilot," even as other demanding issues, at home and abroad, press in from all sides.

FREEMAN: The administration's early, optimistic approach to broad cooperation with China was followed by a subsequent frustration with all things China. It now has settled into a more realistic, minimalist focus on reducing unnecessary frictions. Given political realities, the United States is left more or less to tread water in its policy toward Beijing. This is not without risk: the United States is essentially playing a game of tactics with China, and a more long-term, strategic assessment following the current political stasis would be highly useful. ■

DEMOGRAPHIC TRENDS AND REALITIES

Richard Jackson

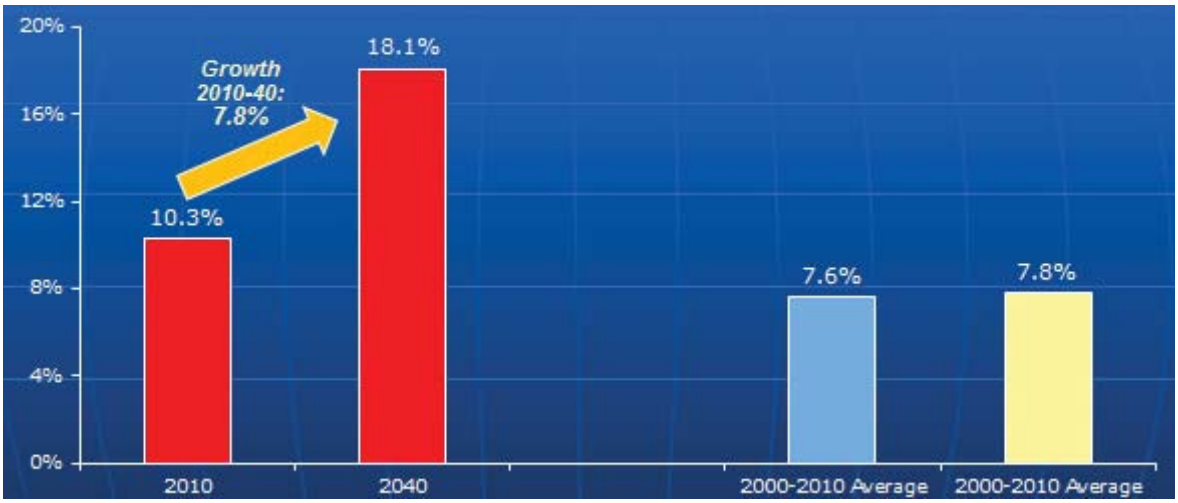
Many have observed that the recent global economic crisis is helping to accelerate the relative decline of today's developed countries and drive the rise of today's emerging markets. It is less well understood that demography is working in analogous ways, though over a much longer time horizon. Demographic change shapes economic and geopolitical power like water shapes rock. Up close the force may appear trivial, but given enough time it can move mountains. The long-term prosperity and security of the United States may depend in crucial ways on how effectively it prepares for the demographic transformation now sweeping the world.

Most of the developed world finds itself on the cusp of an unprecedented new era of population aging and population decline. According to the UN Population Division, the median ages of Western Europe and Japan, which were 34 and 33 respectively as recently as 1980, will soar to 47 and 52 by 2030, assuming no increase in birthrates. In Italy, Spain, and Japan, more than half of all adults by then will be older than the official retirement age—and there will be more people in their seventies than in their twenties.

Working-age populations have already begun to contract in several large developed countries, including Germany and Japan. By 2030, they will be contracting in nearly all developed countries. In a growing number of countries, total population will also begin a gathering decline. Unless birthrates or immigration surge, Japan and some European nations are on track to lose nearly one-half of their total current populations by the end of the century.

The United States, in fact, is the only major developed country that does not face a future of relative demographic decline. Yes, America is also graying, but to a lesser extent. The United States is the only major developed nation with replacement-rate fertility of 2.1 children per

PROJECTED GROWTH IN MAJOR U.S. ENTITLEMENT PROGRAMS* VERSUS CURRENT DISCRETIONARY SPENDING AND INDIVIDUAL INCOME TAXES, AS A PERCENT OF GDP



** Congressional Budget Office (CBO) "Alternative Fiscal Scenario." Includes Social Security, Medicaid, Medicare, Exchange Subsidies, and CHIP outlays. Source: CBO (2010).*

couple. By 2030, its median age, now 37, will rise to only 39. Its working-age population, according to both United Nations and U.S. Census Bureau projections, will also continue to grow through the 2020s and beyond, both because of its higher fertility rate and because of substantial net immigration, which America assimilates better than most other developed countries.

Yet if the United States will have the youth to play a major geopolitical role come the 2020s, it is an open question whether it will have the economic and fiscal resources.

Despite its demographic advantage, the United States faces serious challenges, including a chronically low savings rate, a large structural budget deficit, a looming cost spiral in entitlement spending, and a political system that finds it difficult to make resource trade-offs. All of these threaten to become growing handicaps as the U.S. population ages.

Standard & Poor's recent downgrade of the long-term U.S. debt outlook should serve as a wake-up call—and indeed, there are some encouraging signs that political leaders are finally getting serious about the deficit. Yet there is also much delay, diversion, and denial. From some on the left, we hear that all we need to do to fix the problem is roll back tax cuts to the wealthy. Yet to pay for the projected growth in entitlement spending from 2010 to 2040—8 percent of GDP, according to the Congressional Budget Office—we would have to double total personal income tax collections. From some on the right, we hear that all we need to do is to squeeze all the waste, fraud, and abuse out of the discretionary budget. Yet we could zero out all discretionary spending on everything from the national parks to national defense and still not balance the budget by 2040.

Along with putting its fiscal house in order, the United States will need to remain

steadfast in its commitment to globalization. In a world in which some countries will continue to have young and growing populations, while others will have aging and stagnant or declining ones, the potential benefits of globalization will grow. Immigration and outsourcing can match workers and jobs; global financial markets can match savers and investment opportunities.

The danger is that aging countries with stagnant or contracting domestic markets may face increasing political pressure to roll back globalization. Historically, eras of stagnant population and market growth have been characterized by rising tariff barriers, corporatism, market management, and other anticompetitive policies that tend to shut the door on free trade and on free markets.

To pay for the projected growth in entitlement spending from 2010 to 2040, we would have to double total personal income tax collections. To make room in the budget for the projected growth without raising taxes, we would have to zero out all discretionary spending.

As demographic change reshapes the global landscape, the United States will also have to rethink long-standing economic and strategic assumptions. U.S. prosperity will increasingly hinge on the strength of its economic relationships with emerging markets. The same may also be true for U.S. security, which will come to depend less on America's traditional alliances with other developed countries and more on its success in building enduring new strategic alliances with younger and faster-growing developing countries that share its liberal democratic values.

The weakening of the developed countries might not be a cause for concern if the world as a whole were becoming increasingly pacific. But demographic trends suggest that this may not be the case. By the 2020s, much of the developing world will be buffeted by its own potentially destabilizing demographic storms. China will face a massive age wave that could slow economic growth and precipitate political crisis just as it is overtaking the United States as the world's leading economic power. Russia will be in the midst of the steepest and most protracted population implosion of any major power since the plague-ridden Middle Ages. Meanwhile, many other developing countries, especially in the Muslim world, are due to experience a sudden new resurgence of youth.

It is fashionable to observe that U.S. power has peaked. Let's hope not, for demographic trends point toward a world that will need the United States more, not less. ■

SECURITY IMPLICATIONS OF THE CHANGING ENERGY LANDSCAPE

Frank A. Verrastro

Even before the onset of the credit crunch and the global economic meltdown, energy markets were already in the midst of significant change. Energy demand growth earlier in the decade had eroded existing spare capacity, creating persistently tight markets in which any geopolitical or weather-related supply interruption often resulted in precipitous spikes in commodity prices.

Infrastructure and capabilities limitations, heightened geopolitical and investment risk, volatile costs and prices, and growing concern over the environmental implications of fossil fuel use further complicated the picture. At the same time, the emergence of new global players with increasingly larger energy and geopolitical footprints posed new threats to the ability of the United States to influence and shape the global energy system going forward.

Over the next several decades the world's population is expected to grow from 6 billion to 9 billion people. With population, economic growth, and standards of living expected to increase in already densely populated areas, society will necessarily require more resources such as food, water, land, energy, and other basic materials to fuel and sustain this expansion. As the world struggles to meet these needs, new trends and dynamics are shaping our collective energy future.

As a consequence, even before the current run-up in oil prices, a growing consensus had emerged that the world was on an increasingly unsustainable path with respect to energy and that the time had come to fundamentally "re-set" the system and develop new technologies, policies, and strategies to address simultaneously the economic, environmental, and foreign policy and security challenges related to the way we produce, transport, and consume energy.

This new landscape is characterized by five overarching trends or dynamics: shifting demand patterns; the changing resource base; price volatility and investment uncertainty; new players, alignments, and evolving rules; and the threat of climate change and efforts to impose carbon constraints on a fossil fuel-dependent world.

Shifting Demand Patterns

While most forecasts project a 40 to 60 percent growth in energy demand over the next 25 years, there has been a decided shift in who those consumers are. In the past, the members of the OECD, or developed economies, were the largest energy consumers. That title has now been claimed by the emerging or developing economies, led by China, India, and the Middle East. The overwhelming majority (some 75 percent) of new fuel growth will be determined by the choices these nations make. And while this shift poses considerable challenges for transparency, data reliability, and quality, it also presages new geopolitical alignments and, based on current consumption patterns, increased use of fossil fuels—with attendant climatic impacts.

Changing Supply Choices

Despite the doomsday predictions of the past decade, the good news is that the world's endowment of energy resources—both conventional and unconventional—is enormous. These resources, however, are becoming increasingly challenging and expensive to access, produce, convert, and deliver to where they are needed in a cost-effective, secure, and environmentally benign manner. A disproportionate chunk of the remaining conventional oil and gas resources are geographically concentrated in a relatively few areas of the Middle East, North Africa, and Eurasia, and although the western hemisphere is rich in unconventional fuels such as oil sands, oil shale, unconventional gas, and extra-heavy oil deposits, their extraction and refining present considerable challenges, especially in an age of carbon constraints.

The wave of popular and political unrest that has recently upended governments in Tunisia and Egypt and challenged Libya, Bahrain, Yemen, and others has refocused attention on the reliability of supplies from selected areas. Events have also reinforced concerns related to the adequacy and security of the delivery infrastructure required to transport increasingly larger volumes over long distances and through already crowded and potentially vulnerable "choke points," such as the Suez Canal and the Strait of Hormuz.

The rapid rise in new technologies and renewable energy sources (albeit from a very small base) presents an optimistic case for transformative efforts. The enormity of global demand needs, however, and the cost for new transmission infrastructure as well as the technological challenges presented by the variability of renewable sources suggest that, absent major breakthroughs, the transformation to lower-carbon energy sources will take decades.

Price Volatility and Investment Lags

Persistent demand and tight supplies along with rising costs for equipment and materials resulted in rapidly escalating oil prices between 2006 and 2008. In the five-year period between 2003 and 2008, prices rose by more than $100 a barrel, only to drop by more than 50 percent a year later. The hefty increase in prices also resulted in a massive transfer of wealth from consumer nations to producers, many of whom now hold substantial sovereign wealth funds. From the consumer perspective, these outlays present significant balance of payments problems. For newly enriched producers, the cash receipts allow nations to self-finance projects and use those funds to cement geopolitical alliances.

At this writing, we are once again in the throes of an accelerated price rise, fueled by the lethal combination of growing demand, geopolitical tensions, a weakened dollar, and speculative investors. Volatility in energy prices, including those for substitutes such as alternative energy forms, has frozen or otherwise restricted new investment and consequently delays the lead times for new sources to be brought to market.

The impacts of the Macondo oil spill continue to reverberate with "spillover" impacts on domestic shale gas development as the industry struggles to rebuild public confidence and address increased regulatory scrutiny. Faced with fiscal constraints, the ability of governments to continue to subsidize alternative energy is under threat. The tragedy at Fukushima in Japan is likely to stall the nuclear renaissance once again, and major infrastructure efforts like the Keystone pipeline or large transmission projects remain under renewed environmental and safety challenges—even as energy demand continues to grow.

New Players, New Alignments, New Rules of the Road

Geopolitical trends continue to have a significant impact on energy production, prices, and trade. Higher prices resulted in a resurgence of resource nationalism and the tendency to exert greater state control over the resource base. They also, in some notable cases, have allowed producers to use energy resource leverage to further foreign policy and political agendas. Although sovereign nations have always exerted some measure of control over indigenous resources, the revision of legal and regulatory structures and limitations on access to resources have created an atmosphere of limited investment opportunity and uncertainty.

Other factors have emerged as elements of the changing geopolitical landscape affecting energy production, delivery, and use. These include the changing role of geopolitical alliances in forming energy deals; governance and political stability issues; threats to facilities, infrastructure, and transit areas; and a greater focus on human rights, environmental degradation, the threat posed by climate change, poverty alleviation, and energy equity issues. As a result of these factors and high or volatile prices, governments are increasingly concerned about their immediate and long-term energy security.

These changing dynamics are threatening the utility, relevance, and effectiveness of existing institutions, many of which are the result of a post–World War II order that was conceived in a decidedly different environment from the global dynamics we are currently experiencing. The existence and magnitude of recent sovereign wealth funds have recently allowed strategic resource holders and burgeoning economic powers to self-finance new investments, both at home and abroad, without the involvement or structures

of traditional lending institutions such as the World Bank, the International Monetary Fund, and regional development banks.

Similarly, the emergence and desires of growing economic powers like China, India, and Brazil are challenging traditional notions of free trade and globalization. A further complication resides in the fact that as our global challenges increasingly reflect horizontal movement and coordination across sectors, regions, and governments, typical institutional decisionmaking and priorities continue to reflect a more vertical orientation.

Climate Change

Of all the trends identified above, climate change and efforts to decarbonize the energy mix have the greatest potential to fundamentally transform the global energy system. The world relies on fossil fuels for more than 80 percent of its energy needs. Reducing this dependence will require significant new investment, technology advancements, and massive-scale deployment sustained over a long period. Transitioning to a low-carbon energy future will require the transformation of an energy delivery system that the world has relied upon for more than a century, moving toward a more sustainable design but one that is largely theoretical, untested at scale, and expensive.

The world's energy resources are becoming increasingly challenging and expensive to access, produce, convert, and deliver.

Yet if the projections outlined by the Intergovernmental Panel on Climate Change are anything close to correct, the catastrophic impacts of moderate to severe increases in temperature and sea levels will threaten large portions of the world's population, stress food and potable water supplies, produce flooding and drought, exacerbate the spread of disease, force large-scale migration, and strain the capabilities of governments to respond—including in those regions currently responsible for large portions of global energy supplies.

Lessons drawn from recent food and grain shortages should be instructive about the range of unanticipated consequences; the interrelationships between energy security, economic, climate, and agricultural policy; and the complexities of the global system. In addition, the future geopolitical effects of climate change could also have enormous implications for the geopolitics of energy. ■

THE FUTURE OF LOW CARBON GROWTH

Sarah O. Ladislaw

In the wake of the economic crisis, the conversation about global cooperation to deal with climate change has shifted almost entirely to a discussion about the competitive economic advantage to be gained from leading in so-called clean energy technologies. What started among low carbon advocates as a shift in rhetoric and emphasis to reflect the prevailing global economic anxiety has now come to represent an important structural change in the movement toward low carbon energy.

The drivers are still the same. Governments and companies still look to clean energy, mostly renewable energy but increasingly natural gas and nuclear, to insulate their economies from volatile energy prices, protect them from supply disruptions, alleviate local pollution issues, contribute to climate change solutions, and seek economic gain from greater access to energy or as a creator of low carbon technologies.

Over the last several years the vision for achieving all of these things rested inside the notion that the international community would agree to take coordinated action to decarbonize the energy sector—removing or fundamentally altering the role of all fossil-based energy sources—over the next four or five decades. This vision provided the theoretical framework through which climate change would be manageable and the market for low carbon technologies would be enormous—hence the need to be a competitive leader in the field of low carbon energy.

This type of top-down coordination and certainty, long criticized by some as naïve and unworkable, afforded those who believe in the need to transition to a new

energy system an organized and somewhat inspiring vision of how such a transition could be achieved in developed and developing countries alike, with lots of potential gains to go around. It appears that this vision has failed to materialize for a variety of reasons, and the momentum for shifting to a low carbon energy system is now driven almost entirely by efforts coming from the aggregated national ambition of specific countries, emerging economies being of chief importance.

Emerging economies are expected to make up the bulk of the growth in energy demand in the coming decades. As the global centers of growth and expansion they will have increasing influence over how new energy markets evolve—commercial frameworks, technology sharing and development, regulations, and preferences for fuels and technologies that meet their societies' specific needs. Many of these countries have integrated new notions of sustainable development driven by local pollution, energy security, climate change, and social development goals that are likely to bring about energy systems that are different from U.S. or European models of energy infrastructure and use.

These development frameworks influence how companies compete and succeed in these markets. In some cases they are serving to drive down the cost of traditionally more expensive energy technology options. These countries also serve as models for energy development in lesser-developing countries, and, in some cases, are using lesser-developed markets as platforms for their own technology ventures. Many global energy companies are using new business ventures and strategies to help these countries meet their wider development goals while fulfilling their basic energy needs—though many face challenges.

A transition to low carbon energy sources requires, first and foremost, a market for those technologies and sources. Countries like China, India, and Brazil represent the future of energy demand growth and, in the case of the first two countries, the future largest energy markets in the world. To the extent these countries prioritize low carbon energy sources and technologies in their development pathway, they create markets.

Low carbon pathways are about more than manufacturing wind turbines or owning the rights to an important battery technology.

China's low carbon ambition gets the most attention here in the United States. China is at once the largest greenhouse gas emitter and the largest market for clean energy technology. Depending on which side of the debate is speaking, China is either now the global leader in clean energy growth, and "eating our lunch" as a result, or an environmental laggard using lots of high-level targets and big renewable energy projects to distract attention away from their enormous fossil-based energy consumption. Both perspectives miss the point about what is actually happening in the global clean energy landscape.

First, as stated earlier, climate-relevant low carbon pathways are not a valid metric of assessing the low carbon strategies in these markets. Clean energy

technology meets a host of domestic political and economic objectives and attracts a great deal of positive international attention and financing for these countries. This means the trend is not about emissions reduction at its base, but about all the attendant benefits that come as part of the clean energy vision.

Second, the outlook for clean energy investment does not look bright, but some countries have marked out this territory as a strategic area of growth and are determined to realize that vision. Most clean energy technologies like solar, wind, biomass, and nuclear require some sort of government support in terms of both policy and financing. Governments are hurting right now, and much of the momentum behind clean energy spending in the last two years has been the result of global economic stimulus programs that are likely to run out.

The exception to this statement is in rapidly emerging developing economies. These countries face economic challenges too, but clean energy technology represents a much more serious and fundamental part of their development strategy than it does in many developed economies (the EU aside). Both China and India, for example, have set renewable energy and emissions intensity targets—backed up by national law and programs—that will continue to drive domestic demand for clean energy and energy efficiency technologies and services.

The targets are not overly ambitious in a climate change context but are a significant departure from business as usual, and—as we have seen from China's most recent Five-Year Plan (its twelfth)—clean energy targets and programs are becoming more deeply ingrained in the development strategy because of these countries' core beliefs about the unsustainable nature of development pathways that rely on conventional energy alone. Each country faces significant challenges in deploying clean energy technologies and systems, but there are signs that important progress can be made on some key obstacles like driving down technology cost, developing new distributed power generation models, and achieving higher levels of renewable grid penetration.

Rest assured the United States will not forfeit its role in the clean energy markets. Many U.S. companies are involved in the finance or technology side of the growth happening elsewhere—as the global supply and value chain for these products and services is truly international. Low carbon pathways, however, are about more than manufacturing wind turbines or owning the rights to an important battery technology. The pathways are about learning by doing, changing infrastructure, innovating systems, and redefining the future.

These countries have latched onto the vision of low carbon growth in a pragmatic yet determined way. It is unlikely that they will lead the world down a low carbon pathway that resembles the low carbon ambitions of the last several years, but make no mistake, they are the ones leading. If the United States wants to take a more active role in developing this market, it should look for ways to start transitioning the U.S. market toward favoring clean energy investments, perhaps first by looking at areas where outdated infrastructure and facilities need to be updated or replaced, or areas where the United States can cultivate an existing technological advantage and continue to work with other countries to learn from their progress and mistakes. ■

DEVELOPMENT IN A TIME OF DIMINISHING FOREIGN ASSISTANCE

Daniel F. Runde

The 10-year bull market on traditional development assistance is over. The Bush and Obama administrations have almost tripled the United States' official development assistance (ODA) disbursements from $13.4 billion in 2000 to $30.6 billion (constant 2009 dollars) in 2010. Worldwide, ODA is at a record high of $127 billion. However, continuing repercussions of the recession and financial crises in Europe and the United States are putting downward pressure on foreign assistance budgets. As a result, hard questions are being raised, ones that did not need to be asked in the proverbial "fat years" of the 2000s.

The current budget deal and proposals for next year's budget all include cuts to foreign assistance spending. The United States will have to find ways to remain influential without the full range of traditional development programs—U.S. economic and national security interests are increasingly tied to developing countries. Even in a constrained budget environment, foreign assistance, as well as trade and private investment, remains a vital avenue for engaging with the developing world and promoting key interests through development.

The last major drop in foreign assistance disbursements took place in the years immediately following the Cold War. The period between 1991 and 1997 showed a drop of 26 percent in worldwide ODA disbursements, with a 64 percent drop in the U.S. ODA disbursements during the same period. (ODA cannot capture all of U.S. foreign assistance but is a useful proxy.) Various studies have found that financial or banking crises in donor countries

have historically led to substantial drops in the levels of foreign assistance provided, beyond simply the income-related effects of the crisis. According to the atmospherics in Washington and past precedent, the next five years could see a significant drop in U.S. ODA from the $25 billion–$30 billion range to the $20 billion–$25 billion range.

In the new climate of fiscal austerity, countries and sectors that are not backed by a political constituency in the United States are at risk of foreign assistance being significantly diminished or cut altogether. Conflict-affected countries like Afghanistan and Pakistan and other geostrategically important areas, as well as initiatives such as counterterrorism, humanitarian assistance, and counternarcotics, will continue to be large recipients of U.S. dollars. On the other hand, important but relatively wealthy regions like Latin America and Eastern Europe, along with development initiatives such as democracy and governance, economic growth funding, and the Millennium Challenge Corporation, are vulnerable. Pressures to pull back foreign assistance will result in the closure of 10 to 20 U.S. Agency for International Development (USAID) missions over the next three to five years.

The tightness of foreign assistance budgets in the United States and elsewhere will lead to an increased demand for accountability, responsiveness, and results. Congress will want to see what constituents' tax dollars are paying for and that every dollar is being used effectively. The Obama administration has the opportunity to build on the experience, assets, and authority already present in USAID and the development ecosystem to respond to this challenge. The cuts risk taking USAID as the lead development agency off the path it has been on for the last 10 years—building back its human capacity. As a result, the U.S. government will face renewed pressure to use contracting modalities that it has criticized, rather than grants to multilateral organizations or NGOs, because of limited budgets to cover the additional personnel needed to administer smaller development funding instruments.

Overall economic engagement between developed and developing countries will only be marginally affected—flows from trade, remittances, and private flows will remain about the same. While the context of a diminishing foreign assistance budget will result in some difficult cuts, it presents the United States with the opportunity to reshape the way it does development and delivers foreign aid.

Among the ideas the administration ought to consider are the following five:

- Fundamentally rethinking the relationship with middle-income countries, where the relative importance of trade and investment flows is growing compared to the traditional foreign assistance relationship. It will become increasingly difficult to sell the idea that the United States should be contributing foreign assistance money to countries like Brazil and India that are growing quickly and even have development agencies (and space explora-

The United States will have to find ways to remain influential without the full range of traditional development programs.

tion programs) of their own. Closing down aid missions where secondary geostrategic interests are met will be the path of least resistance but will also open up opportunities for legacy partnership programs that build a dialogue about the future of global development.

- Increasing the use of public-private partnerships. Increasingly, the U.S. government should examine how to support policies that increase and attract private investment and remittance flows to developing countries.

- The U.S. government should be more creative about how to leverage the private sector to unleash local investment capital. Congress should increase the Overseas Private Investment Corporation direct loan authority, as well as giving it additional authority to take on added risk and pay for technical assistance from its profits. The use of USAID's Development Credit Authority to catalyze private sector investment and foster entrepreneurship in developing countries should be increased.

- The administration should seek greater scope and flexibility with earmarks to the foreign assistance budget to cover development activities. For example, the administration has expanded the definition of health priority programs encompassed in PEPFAR beyond the focus on HIV/AIDS. It is likely that the administration and others will need to look at other earmarked monies and expanded definitions in those sectors.

- Policymakers should focus on providing technical assistance to help developing countries to collect tax revenues and expand the local tax base in order to lessen the amount that they depend on foreign assistance.

Foreign assistance is a critical investment for U.S. interests. The next five years will be a period of diminishing foreign assistance budgets, and Washington will have to balance influence with fiscal austerity and explore new business models to expand the impact of its limited resources. ■

INSTABILITY AND GLOBAL FOOD SUPPLIES

Johanna Nesseth Tuttle

World food prices are at an all-time high. The world's population is growing and is expected to increase by 2 billion people over the next 40 years. Riots in Tunisia, triggered in part by food prices, set off a remarkable chain of events that resulted in the downfall of governments in Egypt and Tunisia, a NATO operation in Libya, and instability in several other countries. Will the face of hunger be the face of insecurity?

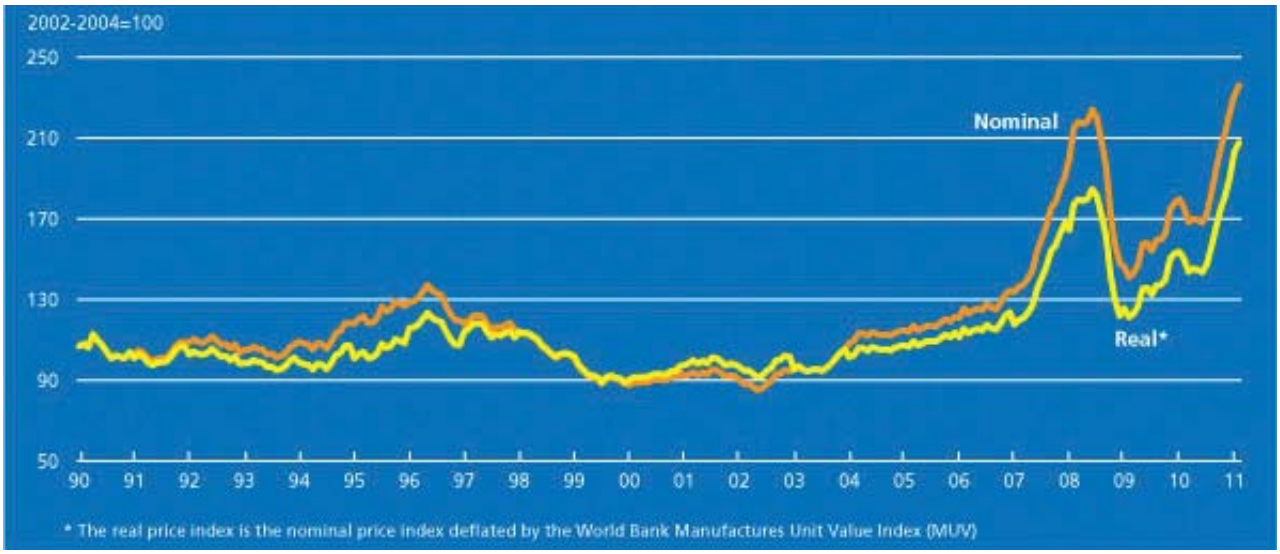
Malthusian warnings about food supply have not been realized. The world did not run out of food as the global population rose through the twentieth century; the earth did not reach the limits of growth. However, it was not simply a turn of events or good luck that allowed food production to increase to meet a growing global population. Rather, it was a remarkable blend of science and personal dedication, by Norman Borlaug and others, that created a set of technologies and enabling environments that produced the dramatic increase in food productivity that has fed the world for so long.

As food prices have risen—to a new, all-time high in 2011—it is clear that, although we are not inevitably destined for instability as a result of declining food stocks, without serious commitment and focus we will be hard-pressed to manage the dramatic increase in food production that will be needed to meet global demand.

The United Nations Development Program estimates that world population will grow from 7 billion today to more than 9 billion in 2050. Some researchers, however, believe that figure is too conservative and that at current rates of growth the population may be even larger by then. This demographic pressure is daunting, especially when people are living longer than ever. Add to this the demands of rising numbers of people joining the middle class in emerging countries, especially China and India.

As they earn more, people spend more money on luxuries, including better food—more protein, sugar, and fat. And while a pound of grain is a pound of grain, producing a pound of chicken requires

FAO FOOD PRICE INDEX



Source: Food and Agriculture Organization (FAO), Food Price Index. Representing 55 commodity quotations in points based off the baseline of 2002—2004.

three pounds of grain; a pound of beef, up to 15 pounds. As consumers turn to higher-value foods, the demand for milk, yogurt, pork, beef, and chicken will grow rather than decline.

The impact on water supplies from this increasing demand is especially stark. Globally, 70 percent of water resources are dedicated to agriculture and irrigation. In water-scarce Yemen, 95 percent of water is used for agriculture—and a key economic activity is production of a narcotic plant, qat, that not only absorbs massive amounts of water but also diverts land and resources away from more productive farming.

In 2008, 40 countries experienced riots and protests because of high food prices. Those outbreaks were significant in number and in type. Prior to then, food shortages tended to occur in rural areas, around crop failures, or as the result of poor government decisions. It was a shock when the problem appeared in cities—where food was available in stores but at prices so high that many could not afford to buy it.

The concern was not only about overall food supplies, but also about what happens when people in densely crowded urban areas are unable to purchase food. The answer then was riots, from Italy to Egypt to the very serious situation in Haiti where the government was overturned. In Tunisia in 2011, riots erupted again—not solely because of food prices, but rising food prices were yet another factor that was disrupting lives and creating uncertainty about the future.

Food supplies will continue to be strained, and prices will continue to be volatile over the next year. Some in wealthier countries encourage a vegetarian diet or suggest reducing consumption of meat to reduce the overall demand for food and ease pressure on supplies. Suppressing demand is not the answer, however. Agriculture is fundamentally a market-driven activity. High prices signal to producers the need to increase production; and to researchers and scientists, they signal a financial return for the enormous cost of developing new varieties of seeds and machinery.

Will the face of hunger be the face of insecurity?

The real answer is to find ways to improve production and access to food globally. Increasing strategic public support for research on key staple crops, from corn to soybeans to cassava to legumes, will ensure that crops will grow in abundance and that plants will be bred to withstand the strains of the rising temperatures, droughts, and volatile weather patterns that will disrupt food supplies far into the future.

Food security—for all people—means that there will be enough food for people to be well-nourished, productive citizens. Focusing on a strategic, public agenda for research and planning to manage price volatility for the long term must be a priority. ■

PART III

Regional Security after the Arab Spring

THE EARTHQUAKE: HOW EGYPT EMERGES FROM UNCERTAINTY

Jon B. Alterman

Egypt is not Tunisia. When Tunisian president Zine El-Abidine Bin Ali fled Tunis on January 14, it was a curiosity in the Middle East. Tunisia had long nurtured pretentions of being more European than Arab, and its relatively small population cast a scant shadow on the Arab world. Its businessmen seemed more comfortable in Paris than Cairo, and Bin Ali had done little to win either the affection or scorn of his fellow Arab leaders. In the broader scope of Arab life, Tunisia did not much matter.

When Husni Mubarak resigned on February 11, it was an earthquake that shook the entire region, and shakes it still. Egypt had long ago lost its mantle as the leader of the Arab world, but it was certainly its center of gravity. How Egypt emerges from its current uncertainty will shape the coming decades in the entire Middle East.

For hundreds of millions of Arabs, Tunisia is a distant relative, but Egypt is an intimate. Egyptians are everywhere in the Middle East, serving in roles ranging from physicians to schoolteachers

to laborers. Egyptian actors dominate the cinema, Egyptian singers dominate the airwaves, and Egyptian writers and editors dominate the newsrooms. The traffic is not all one way. Arabs flock to Egypt for business and pleasure, filling hotels by day and the clubs at night.

Mubarak's departure from power cast doubt over the certitudes that had ruled the Arab world for decades. In three decades of rule, Mubarak had prized stability over all else. What he lacked in creativity he made up for in predictability. Among the elders in the Arab world, Mubarak was one of the few genuine peers, a wily survivor who guided his country through regional wars and a terrorist insurgency. More important, he guided Egypt back into the Arab fold after his predecessor's peace with Israel had made Egypt a pariah.

As Arab leaders charted their course through the challenges of the last two decades, Egypt played a central role. Husni Mubarak was at the front of coalition efforts to push Saddam Hussein out of Kuwait in 1991, and his reluctance to attack Saddam in 2003 was an important barometer of Arab thinking. Mubarak's carefully modulated approach to Israel—keeping a lid on Gaza while maintaining a distance from Israelis until the Palestinians received their due—met with favor across the region. Gulf Arabs also welcomed Mubarak's outspoken alarm at Iran's alleged activities in Egypt. To them, it showed his acumen. He was a strategist, and he knew the world was full of enemies.

Mubarak's sudden departure from the scene leaves a void, and it is one that Arabs fear will be filled by someone hostile to their interests. It is here that Arab disunity rears its head. If one believes the chatter on Cairo streets, the Qataris are behind the Muslim Brotherhood, the Saudis are supporting the even more orthodox Salafis, the Israelis are comfortable with the military and the remnants of the National Democratic Party, and so on. There is no widespread assessment of who the Iranians are supporting, but little doubt that the Iranians are pursuing their own interests.

The stakes are surely high enough to provoke outside interest. If Egyptian policy lurches in a different direction, it would reorder the political environment from Morocco to the Gulf. An Egypt more hostile to the United States would force many countries to rebalance their relations with the United States; an Egypt less reluctant to skirmish with Israel would cause them to rethink their position vis-à-vis Israel. Similarly, an Egypt that nurtured radicalism would be a fount of radicalism throughout the region. The outbreak of proxy battles in Egypt would be destabilizing, as well, threatening to bring the turmoil of Lebanon to a country of more than 80 million people.

Perhaps most frightening, especially to many of the Gulf Cooperation Council (GCC) countries, is a period in which an introspective Egypt is simply absent from regional affairs. If that were to happen, many of the GCC states would feel exposed. They have long feared Iran, and they have little trust in a Shi'a-led Iraq. Coordinating with Israel is beyond the pale. The populous North African countries of Morocco and Algeria are too remote physically and emotionally to give them much confidence. Without Egypt they would feel vulnerable, left to rely only on a U.S. government that they view to be incompetent in Iraq, ineffective in Afghanistan, and recklessly chasing engagement with Iran. At issue is Egypt's weight more than its military capacity. Without it, many Arab leaders fear they can be picked off one by one.

If Egyptian policy lurches in a different direction, it would reorder the political environment from Morocco to the Gulf.

For all of the regional importance of Egypt, however, the world is sitting on its hands, waiting to see how things play out. At the time of this writing, there have been no major investments, no major tranches of new aid, and no new partnerships. Yet, the Egyptian economy is perched on the brink of failure, with the sudden convergence of anemic tourism receipts, rising commodity prices, collapsing foreign investment, and capital flight. While the economy has not yet gone into free fall, economic weakness could become evident by summer, when election campaigns are under way. In that way, Egypt would be entering its period of maximal political openness at a time of maximal economic disorder.

Those who pine for a moderate Egypt need to help create one. Each has different tools. For the United States, announcing the resumption of negotiations over a free trade agreement would send a signal of confidence for where Egypt is headed—and focus U.S.-Egyptian discussions during a period when Egyptian bureaucrats are unsure of their future. U.S. companies should invest in training young Egyptians for high-quality jobs. Surely the energy and creativity of the youths' protests suggest a talent pool worth exploiting on the world stage. The GCC states, benefitting from high oil prices, should invest in Egypt, and especially in sectors that create jobs.

A GCC foreign minister commented privately this month that it would cost "tens and tens and tens of billions of dollars" to save Egypt, but the cost of losing Egypt was even greater. The words are true. The actions have not yet followed. ■

THE LIBYAN INTERVENTION: A STUDY IN U.S. GRAND STRATEGY

Clark A. Murdock and Becca Smith

The intervention in Libya has sparked another debate over the role of grand strategy in U.S. foreign policy formulation. Analysts are asking if there is a new "Obama Doctrine" or if President Obama is simply "muddling through" and "ad hoc-ing it" from one foreign policy crisis to another. In fact, some pro-administration members of the commentariat argue that President Obama's success reflects the absence of grand strategy. We disagree. In fact, we believe that grand strategy, although it has not been defined explicitly yet, has helped the Obama administration navigate its way through a minefield of difficult choices.

We define grand strategy as both *what* a nation pursues, including prioritization of national ends (or interests), and *how* it seeks those ends, whether collaboratively or unilaterally, as nationalists or internationalists, proactively or reactively. Obama's evolving grand strategy might be categorized as "balanced internationalism," with these characteristics: Obama gives approximately equal weight to security, economics, and values (the three "baskets" of national interests); he prefers collaborative action with other nations but, when the stakes are high enough, Obama is capable of über-unilateralism (see the pursuit of Osama bin Laden); his bias for internationalism seems genuine but the priority he gives to U.S. security and economic interests is distinctly nationalist; and though his leadership style is often reactive and deliberative, he has always been capable of proactive boldness (beginning with running for president "before his time").

Is Obama's balanced internationalism the right grand strategy for the United States in a cost-constrained world? The slow recovery of the U.S. economy from the Great Recession has reinforced the perception, both at home and abroad, that the United States has entered a new era of limits. Let's test Obama using the three-step approach below to examine U.S decisions about whether and how to intervene in Libya at the same time that, unbeknownst to the world, the United States was closing in on Osama bin Laden.

Step 1: Determine what is at stake. Identify the challenges, threats, and opportunities to U.S. security, economics, and value interests. Decide (before looking at the means) on the nature and scale of national ends.

In reacting to the surprising, game-changing "Arab Spring," the Obama administration has carefully weighed the ends at stake in each country (Tunisia, Egypt, Bahrain, Yemen, etc.) against the means it was willing to use and reached a different balance for each situation.

In the case of Libya, the security and economic stakes were relatively low—Qaddafi's successful suppression by force of democratic unrest could have encouraged other dictators to resort to repression, and most Libyan oil goes to Europe. However, American values were at stake because Qaddafi threatened to kill all the "cockroaches . . . house by house" in the rebel stronghold of Benghazi. As Obama clearly indicated in his March 28 National Defense University speech, he did not want a repeat of Rwanda, when the United States stood on the sidelines as atrocities occurred in a country where the United States had only minor economic and security interests. Turning a blind eye, Obama judged, "would have been a betrayal of who we are." On the other hand, he did not want to take ownership of Libya as his predecessor had in Iraq, because the U.S. security and economic stakes did not warrant them.

Step 2: Identify the nature of the challenge and the options for addressing it. Decide whether a specific challenge is a problem that can be solved or a dilemma that can only be managed (to borrow from corporate strategist Bob Johansen). Identify the options for problem solving or dilemma managing.

The limited nature of U.S. stakes in Libya dictated (for Obama) a constrained U.S. response, which has infuriated both liberal interventionists on the left (e.g., the *New York Times*) and neoconservative exceptionalists on the right (e.g., columnist Charles Krauthammer and several GOP presidential candidates-to-be). For the Obama team, Libya is clearly a problem that must be solved—"Qaddafi must go"—but not primarily by military force and not with the United States in the lead. Moreover, the circumstances of the Libyan intervention, including the Security Council resolution, may not be repeatable elsewhere in the region. Obama's applied grand strategy is clearly reflected in the limited means he was willing to employ: the United States did what it had to (a U.S.-led campaign relying on air strikes) when it had to (preventing Qaddafi's forces from overrunning Benghazi), but then increasingly turned over responsibility to NATO and Arab allies in its "lead from behind" approach (in the words of an unidentified senior official) and constricted the number of air assets available for NATO missions to tankers, ISR, and a few armed Predators (witholding strike aircraft used earlier in the conflict, such as AC-130s and A-10s).

Step 3: Apply the Grand Strategy litmus test by asking the following questions:

Is there an option that achieves the administration's preferred grand strategy?
If so, take the action (including doing nothing) if the cost-benefit analysis is deemed acceptable.

If not, does the preferred option meet the demands of an alternative grand strategy?
If so, go back to step 1 (determine what is at stake) and reconsider the strategy.

At this point in the Libyan case, the Obama administration is following a course of action consistent with his balanced internationalism: he is

"leading from behind" with reliance on nonmilitary means to force Qaddafi from power and using only as much U.S. military force as needed to hold Qaddafi in check. Rejecting Iraq-style regime change as "not something we can afford to repeat," Obama deemed the costs of the more limited mission acceptable and the means adequate. This could still work out. As Michael O'Hanlon has pointed out, the best analogy to Libya is Kosovo, and President Obama may be on track to an "ugly" win. If circumstances prove otherwise, Obama, as prescribed by step 3 of the framework, will need to revisit the nature of the stakes at play and the means the United States is willing to use to achieve them.

The Obama administration's successful conclusion to the long-standing U.S. campaign to kill or capture Osama bin Laden puts Obama's decisionmaking in Libya in a new light. The *Washington Post's* characterization of Obama's bold and decisive strike was exactly right—it was "gutsy and well executed." Indeed, speaking both of Libya and al Qaeda on March 28, Obama had promised that when necessary, "I will never hesitate to use our military swiftly, decisively, and unilaterally." The decisions Obama made in Libya were those of a president deliberately weighing the ends and means involved in the strategic choices facing him.

For the Obama team, Libya is clearly a problem that must be solved, but not primarily by military force and not with the United States in the lead.

Grand strategy becomes more important to presidential decisionmaking in an era of limits and constraints. Knowing how important the stakes are with regard to U.S. security, economic, and value interests is the basis for making decisions on what to do and, just as important, what not to do. It is the foundation of national self-discipline: securing vital interests justifies high costs; securing minor interests does not. Although the Libyan intervention is far from over, and unintended consequences undoubtedly lie ahead, President Obama so far gets a very good grade on how he has applied grand strategy. ■

WHAT LIBYA TELLS US ABOUT THE FUTURE OF MULTILATERALISM

Mark Quarterman

The UN-mandated, NATO-led military action in Libya highlights a number of fundamental characteristics of multilateral politics. Libya reminds us of the continued relevance of and need for multilateral institutions to help states do together what they cannot or will not do alone. Multilateral institutions allow the international community to use the best tools and means available to solve transnational problems. But, understanding the strengths, weaknesses, and uses of multilateral action is critical for engaging in these operations successfully.

First, there is a fundamental disagreement among veto-wielding members of the Security Council and rising powers regarding the meaning of sovereignty. Some, including China, India, and Russia, believe that sovereignty is a firm divide, a wall that should prevent external actors from meddling in the internal affairs of states.

Others, including the United States and much of Western Europe—France and the United Kingdom in particular—believe that sovereignty is contingent on how a government treats its citizens. If that treatment deteriorates below a certain level, these states believe that the international community has the right to intervene through diplomacy, sanctions or, in limited circumstances, military force.

This divide was a fault line in the March 2011 vote on resolution 1973 that authorized military action in Libya. It was reflected in the abstentions of five key members: Brazil, China, Germany, India, and Russia.

Second, the Security Council is not built for rapid action, even in the face of potential humanitarian catastrophe. Multilateral politics, because it requires agreement among sovereign states that often hold divergent views, can slow decisionmaking to a crawl and result in a lowest common denominator outcome. The Security Council adopted resolution 1973 with

great rapidity (in multilateral terms). But action occurred only when the international community perceived an imminent disaster after nearly a month of increasingly violent attacks by the Qaddafi regime on civilians. It took that long for the relevant states to agree on how to address the problem.

Third, states will often overlook disagreements or vague text in a resolution to enable a mission to go forward. These disagreements might only become apparent during implementation. In the case of Libya, the early disavowal of the mission by Arab League chief Amr Moussa, only to recant quickly, was a particularly dramatic form of this.

Coalitions are often built on a weak foundation of divided goals and interests. For example, three of the leading members of the coalition on Libya—France, the UK, and the United States—have explicitly stated that they desire regime change. They make clear that their actions within the coalition are constrained by the mandate of the Security Council to protect civilians from the threat of attack. As a result, they cannot legally or politically stretch the military mandate to bring about regime change and at the same time hold the coalition together. Moreover, if the mission becomes bogged down in a long-term stalemate between the rebels and the regime, the coalition could have difficulty hanging together.

The fourth point regards the selectivity of the intervention. The two Libya resolutions are significant in their citing of the norm of the responsibility to protect (R2P). The resolutions further advance R2P through its application in this case, despite the abstentions of certain Security Council members, and shine a spotlight on the behavior of the Libyan regime.

So, why apply it to Libya and not Cote d'Ivoire or Bahrain or Syria? A partial answer is supplied by Bismarck's aphorism that politics is the art of the possible. Because of a unique set of circumstances—Muammar el-Qaddafi's isolation from the Arab world, a lack of great power vital interest, significant British and French advocacy—action was possible in Libya that would not have been possible elsewhere.

Fifth, increasingly, multilateral politics will be influenced by the rise of emerging powers. The current membership of the Security Council is fascinating because it includes four states that are aspiring to become permanent members: Brazil, Germany, India, and South Africa. Their future behavior on the council will be interesting, as will that of an increasingly assertive China. Of this group, only South Africa voted in favor of resolution 1973.

Some observers suggest that they should only be granted permanent membership when they show that they are able to shoulder the responsibilities of great powers. But, these emerging powers will likely chart their own paths to great power status, and the period of transition could be unstable. As a result, multilateral bodies could well become sites of great power struggles and rivalry, possibly leaving the multilateral political landscape looking rather different than it does now.

Coalitions are often built on a weak foundation of divided goals and interests.

In the coming years, especially in the context of the rising powers, states will continue to tweak the system. We have seen—in the resort to the G-20 during the economic crisis of 2008 or in the reform in voting rights at the World Bank and IMF—an effort to make multilateral institutions more representative and therefore more legitimate. Relatively new bodies such as the East Asian Summit will bring governments together in relevant groupings for specific tasks. And the Security Council, whether or not its membership is reformed, will carry on grappling with a range of security issues.

Whenever obituaries are written for the multilateral system, something happens to demonstrate its relevance. The system might be creaky, unrepresentative in some aspects, inefficient, and at times impenetrable and opaque, but despite this, multilateral organizations remain a fundamental forum of interaction among states. ■

BRACING FOR AFTERSHOCKS: NORTH AFRICAN POLITICS AND SECURITY

Haim Malka

North Africa is bracing itself. Not since Algeria's brutal civil war a generation ago has the region witnessed so much turmoil and uncertainty. Angry and frustrated masses demanding improved governance and greater socioeconomic opportunities present regimes with new challenges. The need for governments to address these grievances is urgent. Failure to respond will intensify public pressure and heighten the risk of more violence.

At the same time, the renewed specter of terrorism in the wake of the April 28 bombing in Marrakesh and growing reports of al Qaeda in the Islamic Maghreb (AQIM) activity exploiting the turmoil in Libya threatens to stall reforms at the heart of popular protests. The danger is that regimes will use renewed security challenges as a pretext to delay addressing their urgent political problems. The formula risks even greater unrest.

It started with Tunisia. While the events of the Middle East affect the Maghreb states of North Africa indirectly, Tunisia is a close cousin. The popular uprisings that pushed President Bin Ali from power in January 2011 sent shudders down the semi-authoritarian spine of the region. Still it was unclear at first whether Tunisia was an anomaly and what lessons regimes should draw from Bin Ali's missteps. It was not until similar mass protests forced out President Mubarak

of Egypt a month later that rulers in the region fundamentally changed the way they interpreted their problems and thought about their solutions. The need for urgent action to address a broad mix of socioeconomic and political grievances became obvious. The strategies for doing so, however, were less clear.

The first instinct was to buy peace. Both Morocco and Algeria announced ambitious public spending projects, higher public sector wages, including the military and police, and generous subsidy programs. But as one regional observer noted in the past, "unemployed young men don't riot over the high price of sugar." Economics was only part of the problem, and without addressing basic political grievances there was little chance for quelling popular protests.

Morocco's King Mohammed VI was the first to recognize the new reality. In the face of mass protests the king stunned many Moroccans in March 2011 by announcing sweeping constitutional reforms that would in theory relinquish some of his executive authority. Many Moroccans were cautiously optimistic. In Algeria, popular protests moved the aging regime to annul emergency rule, which had been in place for nearly two decades. There was even talk about early national elections.

The public outcry was having an impact. Some protesters were satisfied that the regimes had bent toward their demands. Others grew bolder, their appetites whetted by their newfound power, whether real or imagined.

Then the United States and European powers intervened in Libya's civil war. There was no love for Qaddafi and his antics, but for his North African neighbors Qaddafi was an important counterterrorism partner and bulwark against al Qaeda. Although AQIM had made itself scarce in the North, multiple accounts of AQIM operatives purchasing weapons in Libya rattled security chiefs and heightened the threat level in the region. A further breakdown in central authority or protracted fighting in Libya could provide new ungoverned spaces for AQIM to exploit in refocusing its attention on Northern Africa after operating primarily in the expanses of the Sahara and Sahel region for the last several years.

Then a bomb struck Marrakesh, killing 17 people. Even by the new standards of the Middle East, where nothing is impossible, the bombing in one of Morocco's most secure cities was perplexing. There is cause for concern beyond the loss of life. The last major wave of bombings that struck Casablanca in 2003 derailed the reform process launched by the king when he ascended the throne more than a decade ago. In Algeria widespread political violence decapitated promising political reforms in the late 1980s, followed by martial law.

The threat now is that regimes could manipulate renewed security fears to justify wider crackdowns on popular protests and opposition forces.

The threat now is that regimes could manipulate renewed security fears to justify wider crackdowns on popular protests and opposition forces at a time when governments should take decisive action to address widespread political and social grievances. There is no guarantee that political and economic reforms will solve all of the region's deep problems. Yet delaying reforms at this critical juncture will likely galvanize opposition forces rather than suppress them. People are restless. With expectations high that public pressure can change decades of corruption and authoritarianism, people are unlikely to sit by and watch this opportunity for change evaporate.

If regimes fail to meet the basic expectations of their citizens, reasonable popular demands for good governance and socioeconomic advancement could transform into dangerous demands for more radical change. The ensuing confrontation could force governments to take more extreme measures to preserve their power and risks a wider clash that will be difficult to heal. ■

SECOND-ORDER EFFECTS IN SUB-SAHARAN AFRICA

Jennifer G. Cooke

The crisis in Libya has raised fears among security analysts that the ongoing conflict will destabilize the already fragile states of the Sahel and strengthen the hand of affiliates of al Qaeda in the Islamic Maghreb (AQIM) operating in Mauritania, Mali, and Niger. There is good reason for these fears. Although relatively small in number, AQIM forces have taken full advantage of the security vacuum that exists in the arid, remote northern regions of these countries and the ease of crossing borders that are virtually impossible to monitor effectively.

Outside of Algeria, AQIM's political and ideological appeal has been thin on the ground. The movement, launched in early 2007, succeeds the Salafist Group for Preaching and Combat (GSPC), which itself grew out of the multiple "jihadi" militias engaged in an insurgency in the 1990s against the secular Algerian government. Initially the movement sought to create a pan-Maghreb network that could not only challenge regional regimes but would have the capacity to strike beyond North Africa into European capitals. The group found little traction in Morocco or Tunisia, and even less in Libya, where Qaddafi, for all his many failures, successfully stifled the Libyan Islamic Fighting Group and other Islamist opposition groups.

Constrained by an increasingly effective Algerian counterterrorism response and blocked in its North African ambitions, AQIM's Algerian leadership turned southward, to Sahelian states with little capacity to monitor, track, or disrupt operations. Further, these countries are home to populations (largely Muslim) that are among the poorest in the world, with few viable economic opportunities, a long tradition of trafficking in illicit goods (from cigarettes to guns), and a range of soft, albeit not particularly dramatic, potential targets.

AQIM's affiliates in Sahel are few in number, generally estimated at 200–300 forces. They enjoy little, if any, local popular support and are less politically or ideologically driven than the organization's Algerian leadership. Their kidnapping targets are largely opportunistic—Western tourists or NGO workers who will bring in a ransom, but who do not have particularly powerful symbolic impact. This is not to underestimate the threat that these affiliates pose.

AQIM forces are increasingly allied with drug, cigarette, and arms trafficking networks in lucrative partnerships that may, like the burgeoning piracy industry off the coast of Somalia, enable them to launch increasingly sophisticated and ambitious attacks. The military and law enforcement capacities of the Sahelian states are no match for loose, opportunistic, and multifaceted criminal networks, operating across the vast, sparsely populated spaces of the northern Sahel.

Efforts to contain AQIM divert scarce government resources away from service delivery and poverty alleviation, and the security risks, however limited in reality, undermine what opportunities exist in attracting investment, development, and tourism. As yet, there is little evidence of "jihadist" ideology gaining significant ground in the Sahel. Alliances, however, with groups that at present have a more parochial political focus—for example, the extremist Boko Haram sect in northeastern Nigeria—are possible.

Chaos in Libya brings a vast new element of uncertainty into the mix, with a potentially dramatic expansion of the security vacuum as the eventual government that emerges will almost certainly be fully absorbed with putting down domestic rather than regional threats. Already regional leaders report that AQIM fighters are engaged in Libya, with allegations (as yet unconfirmed) of AQIM accumulating weaponry, including anti-aircraft missiles, seized from Libyan military installations and transferred to arms caches in northern Mali and Niger. And if Libyan Islamists elements reassert themselves in an eventual power struggle, they may bring renewed energy to those seeking ideological converts in the broader Sahelian region.

The immediate fallout from the Libyan crisis in sub-Saharan Africa will likely be to increase insecurity and volatility in the Sahel, with a potential boon to AQIM and affiliated criminal networks, and perhaps a new infusion of regional Islamists, now liberated from Qaddafi's prisons. A natural and warranted reaction will be for regional leaders and their international partners to focus on bolstering law enforcement capacity and reach, strengthen transnational cooperation and intelligence sharing, and seek, in limited ways, to counter the spread of extremism and alienation.

But as the region and its partners seek to mitigate the potential security fallout from the Libyan crisis, they should also maximize the opportunity that it presents. Despite the continent's poverty and the dire predictions after 9/11 that it would become a safe haven and breeding ground for terrorist operations, much of Africa, including the Sahel, has been impervious to al Qaeda's extremist influence.

The upheaval in Libya—as well as in Tunisia, Egypt, and further afield in the Middle East—offers an opening for a new and powerful political narrative that may inspire citizens and compel governments to act in ways that may ultimately be more effective

in marginalizing further al Qaeda's appeal in Africa. Libya and the broader "Arab Spring" have challenged the notion that citizens must passively wait out their long-serving leaders, however corrupt or repressive. Sustained protests in Uganda and Burkina Faso are early signals of changing expectations.

Autocratic leaders are on notice as well. Uganda forbade mobile phone companies from transmitting words like "people power," "Tunisia," and "Mubarak" during that country's presidential elections, and the government of Zimbabwe arrested nearly 50 people who were watching a video of Tahrir Square on the University of Harare campus.

The United States should not underestimate the threats that an unstable and chaotic Libya might present, but it should also draw broader lessons on what the Libyan example may hold for its neighbors. Encouraging development and seeking to expand economic opportunities have been oft-stated and long-standing objectives of U.S. engagement in the Sahel, although not always backed with the resources or attention that are required. They are still objectives worth pursuing, although results will come only over the long term.

The immediate fallout from the Libyan crisis in sub-Saharan Africa will likely be to increase insecurity and volatility in the Sahel.

But at this moment of opportunity, a first priority must be to close the gap between governing and governed: to help citizens and communities articulate and channel their priority demands in peaceful and effective ways and to press and support Sahelian governments to listen and respond to those demands to the best of their current ability. ■

WHAT BIN LADEN'S DEATH MEANS FOR AL QAEDA

Rick "Ozzie" Nelson and Thomas M. Sanderson

Intelligence exploited from Osama bin Laden's compound in Abbottabad, Pakistan, revealed that the late al Qaeda leader exerted greater operational and tactical influence on the organization than previously thought. Not isolated in the mountains of western Pakistan, as presumed by many, bin Laden instead was located just miles from Islamabad, where he continued to play the preeminent leadership role in the larger al Qaeda organization.

Bin Laden's role in the al Qaeda movement, particularly over the last few years, has been a topic of much debate both inside and outside of government. His death raises important questions regarding the future of al Qaeda and U.S. counterterrorism policy. Over time his true value to the organization will become clearer. But what remains certain is that while al Qaeda could never have been fully dismantled with bin Laden alive, bin Laden's death in no way means the end of al Qaeda.

In the nearly 10 years since the September 11, 2001, attacks, al Qaeda's associated movements—its

regional affiliates such as al Qaeda in the Arabian Peninsula (AQAP) and al Shabaab—have evolved as significant threats of their own. For decades bin Laden's al Qaeda "core" nurtured like-minded terrorist and insurgent groups with training, funding, and inspiration. Across the globe, personal networks, established among men who fought the Soviet Union in Afghanistan in the 1980s and trained in camps there throughout the 1990s, flourished. Based in Sudan in the mid-1990s, bin Laden networked militants from Eritrea, Morocco, Libya, Tajikistan, Indonesia, and areas further afield.

Bin Laden's goal was always for al Qaeda to serve as the vanguard for a global "war" against the West and its Muslim partners by catalyzing a self-sustaining movement. Following 9/11 many of these nascent linkages matured from instances of direct patronage to public affirmations of ideological solidarity. Homegrown, self-radicalized individuals inspired by al Qaeda's toxic narrative also emerged to compound the threat. In many cases, these individuals draw inspiration from key figures within al Qaeda's diverse set of affiliates, like AQAP's American born Anwar al-Awlaki. Awlaki has been particularly effective at radicalizing U.S. citizens and legal residents because he delivers online sermons in English. Ultimately, then, bin Laden succeeded in blending local grievances with his global terrorist agenda in hope that these groups would survive his inevitable demise.

Militant groups, validated and incubated under al Qaeda, now are self-sustaining and dangerous in their own right. They also network among themselves and reach beyond traditional areas of activity.

In Africa, al Shabaab is at the center of a maelstrom that defies solution and includes remnants linked to al Qaeda's original network in East Africa. Algeria-based al Qaeda in the Islamic Maghreb (AQIM) moves freely across the ungoverned Sahel region and is eager to exploit chaos in Libya. On the Arabian Peninsula, AQAP, according to some within the intelligence community, has evolved into the most significant terrorist threat facing the United States. In Iraq, an unstable government and sectarian score-settling provide a chance for al Qaeda in Iraq (AQI) to wreak further havoc. In Central and South Asia, al Qaeda–linked insurgent and terrorist groups threaten regional stability. Among these are Lashkar-e-Taiba (LeT), the Haqqani Network, and the Islamic Movement of Uzbekistan (IMU). A fluid assortment of groups and individuals continue to support terrorism in Indonesia and the southern Philippines. One prominent Philippines-based terrorist, Umar Patek, was arrested in Abbottabad shortly before bin Laden was killed, raising suspicion about the current links between Southeast Asian and South Asian militants.

On the positive side, countervailing forces to these groups are unfolding throughout the Muslim and Arab world, repudiating al Qaeda's raison d'être. Bin Laden's death presents a unique opportunity to undercut the perverted philosophy of al Qaeda and to puncture, once and for all, the narrative that drives the movement. Opinion polls in Muslim-majority countries have indicated low approval of bin Laden and al Qaeda's murderous agenda that overwhelmingly targets Muslim civilians. Most recently, the dramatic popular revolutions sweeping dictators from power forsook the formulas for victory prescribed by al Qaeda. But even this euphoria is tempered by the reality that ongoing volatility and disarray are igniting sectarian violence, while unmet expectations could allow militant groups to manipulate the failings of nascent democracies and muffle suggestions of al Qaeda's irrelevancy.

Countervailing forces are unfolding throughout the Muslim and Arab world, repudiating al Qaeda's raison d'être.

Al Qaeda certainly will experience some degradation with the death of its founder. The reams of intelligence gathered at Abbottabad makes it likely that the next generation of al Qaeda leaders will lie low in the coming months, fearing U.S. action. And the network will change or even fragment, but several issues will help maintain al Qaeda's appeal. The unresolved Israel-Palestine peace process, continued perceptions of undue Western influence in Muslim-majority countries, and dire socioeconomic conditions will thwart an imminent solution to this threat.

The future of al Qaeda—and bin Laden's legacy—will remain uncertain for years. Did bin Laden do enough during the last two decades to ensure a self-sustaining movement, or did he create an organization ultimately limited by the persona of its leader? Faced with this unknown, the United States and its allies will be required to maintain counterterrorism pressure on al Qaeda and its affiliates to once and for all disrupt, dismantle, and defeat the network. ■

PART IV

Global Security after the Japanese Disaster

NUCLEAR GOVERNANCE AFTER FUKUSHIMA

Sharon Squassoni

The March 11, 2011, earthquake and tsunami that devastated Japan and killed tens of thousands of people resulted in partial core meltdowns at three reactors at the Fukushima Daiichi power plant. Although the plants shut down properly, off-site electricity was interrupted and back-up generators failed. When battery-supplied cooling was lost, fuel heated up and produced hydrogen explosions that exposed spent fuel pools and released radiation. The Japanese government evacuated residents and temporarily banned foodstuffs from the Fukushima region.

As expected, several countries that now operate nuclear power plants, including the United States, have announced intentions to conduct safety reviews. Germany shut down its oldest reactors pending a safety review, and China, which has the largest number of nuclear power plants under construction, has announced a temporary suspension. Italy has postponed a referendum on nuclear power that originally had been scheduled for June 2011.

The International Atomic Energy Agency (IAEA) announced it would hold a ministerial-level conference in June in Vienna, which will address improving the protection of nuclear power plants against multiple hazards, preparedness for prolonged power blackouts, enhancing emergency power supply, and protecting spent fuel under accident conditions. Parties to the Convention on Nuclear Safety in April agreed to hold an extraordinary review focused on Fukushima in 2012.

The long-term impact of the Fukushima accident on nuclear power in Japan and worldwide is unknowable at this point, as the crisis has stabilized but is not yet over. Estimates of damages have been as high as $24 billion for the Tokyo Electric Power Company (TEPCO), which owned and operated the damaged reactors. Although many countries may regard the possibility of another such event combining earthquake and tsunami to be very low, particularly for them, the difficulties Japan—a highly sophisticated and technologically competent country—experienced because of the lack of electricity has raised questions about the costs and risks of nuclear power.

There will certainly be lessons for nuclear safety but also for nuclear security and, more broadly, nuclear governance.

Nuclear Safety

On nuclear safety, a key question centers on whether emergency planning, including evacuation zone standards, is adequate. The Japanese government initially recommended a 3-km evacuation zone, then quickly expanded it to a 20-km evacuation zone. Days later, the U.S. government recommended a 50-mile evacuation zone for its citizens near Fukushima, based on an assessment by the Nuclear Regulatory Commission. The difference in these recommendations raised concerns about what standards were being applied and what assumptions had been made. Experts have also questioned whether severe accident management, including international cooperation, needs to be improved.

Fundamentally, nuclear safety experts should consider whether the design basis of existing and future reactors should cover more severe accident triggers such as those experienced at Fukushima. In addition, the implications of locating nuclear plants near large populations, along seacoasts, with multiple reactors on site and in areas at risk from powerful earthquakes, tornadoes, fires, or terrorist attacks potentially capable of producing a prolonged "station blackout" as at Fukushima need to be assessed. At a minimum, extending the capabilities of back-up power, including diesel generators and batteries, is warranted.

Unlike other major accidents, the Fukushima crisis highlighted the vulnerability of spent fuel pools. A reevaluation of their design and permissible loading limits is likely. This could also prompt more support for moving spent nuclear fuel more quickly out of wet storage and into dry cask storage away from the reactor.

Aside from specific improvements to reactor designs and sites, the Fukushima crisis has already provoked a debate about transparency and responsibility in nuclear safety. Media reports have questioned the independence of Japanese regulators and whether U.S. safety improvements to the General Electric–designed reactors were carried out in Japan. A related issue is whether nuclear safety standards should be adopted and enforced globally.

The International Nuclear Safety Group stated in 2006 that "it is time to agree upon common safety principles and to undertake worldwide implementation of good safety practices in the siting, design, operation, and decommissioning of nuclear facilities. These principles should then be documented in international safety standards and international conventions." Adoption of best practices regarding nuclear safety is key, yet some of the mechanisms for sharing information have not been effective.

Nuclear Security

The Fukushima crisis highlighted the vulnerability of infrastructure to support nuclear power, which has implications for nuclear security as well as nuclear safety. While nuclear safety measures aim to mitigate the risks of unintended events (primarily initiated by natural occurrences or errors), nuclear security measures must protect against intentional, malicious acts such as sabotage, theft, or unauthorized access. The goal of both is to protect people, society, and the environment from a large release of radiation or radioactive material. Fukushima has highlighted some new vulnerabilities (such as densely packed spent fuel pools), but also illustrated graphically just how disruptive a major accident can be. The first "Internet-accessible" nuclear accident undoubtedly has provided a lot of otherwise hidden information to terrorists.

Since 9/11, efforts to improve security at nuclear power plants have been undertaken in the United States and elsewhere. Although the 2010 Nuclear Security Summit focused on nuclear material, the Republic of Korea may choose to address enhancing the synergies between safety and security at nuclear power plants at the 2012 Nuclear Security Summit. Two critical issues that arise are how to adjudicate between nuclear safety's need for transparency and nuclear security's need for confidentiality and the different responsibilities of the state versus the operators.

How to adjudicate between nuclear safety's need for transparency and nuclear security's need for confidentiality?

Nuclear Governance

Before Fukushima, more than 65 countries had expressed an interest in developing nuclear power, compared with the 29 (plus Taiwan) that now operate nuclear power plants. It is not yet clear if Fukushima will have a similar impact as Chernobyl, after which many countries halted plans to develop nuclear power because of fears about safety. Nevertheless, some of these countries, spurred on by concerns about energy security, electricity demand, and climate change, may move forward. Quite a few are located in regions of political instability or have terrorists active on their soil. Many have governance issues, including corruption and lack of transparency. Few are likely to have "whistleblower" cultures. A possible silver lining from Fukushima could be a broader acceptance of the tremendous responsibilities that nuclear energy confers and a sober assessment of what sustainable nuclear governance entails. ■

NUCLEAR POWER AFTER FUKUSHIMA

David Pumphrey
and Jane Nakano

Japan's tragic March 11 earthquake and tsunami have triggered the most serious nuclear emergency in 25 years and have raised questions about the future viability of nuclear power in the energy system around the world. Subsequent to the crisis at the Fukushima Daiichi nuclear power station, a number of countries have announced safety reviews of current nuclear facilities, with some announcing plans to shut down some of their older reactors. Others are also reviewing their plans to add new nuclear power plants.

Despite these reviews, the pressure to meet rising demand for electricity ensures that nuclear power capacity will continue to grow, especially in developing countries. The challenge will be to ensure that this expansion will occur with the highest levels of safety and security and that adequate safeguards can be put in place to minimize the risk of proliferation of nuclear weapons or materials.

While still unfolding, the crisis at Fukushima provides many important insights for the nuclear power industry. Events of this magnitude and complexity are rare, and the world will need to take the time to absorb the lessons the crisis will provide. Some preliminary conclusions are possible.

First, the nuclear facility itself seems to have withstood a record 9.0 earthquake without critical damage because all of the reactors struck by the earthquake shut down as intended. The March 11 earthquake exceeded the design criteria and reinforces a lesson learned from an earthquake that damaged the Kashiwazaki-Kariwa reactors several years earlier—these facilities are very robust.

A second lesson is that the facility was vulnerable to compromise from damage to external elements of the plant brought about by a tsunami that was 150 percent larger than the design criteria.

Third, the crisis has shown the handling of radioactive waste at reactor sites still warrants attention, as do the risks that may be associated with current practices in the United States.

Finally, the crisis has highlighted the need to carefully review the contingency plans that are put in place to see if they actually work during times of large-scale crises whether or not they pertain to nuclear plants.

While the Fukushima crisis may cause the world to pause and consider the role for nuclear, the interest in nuclear power is likely to be sustained. At the beginning of 2011, approximately 440 nuclear power reactors were operating in 29 countries, providing about 14 percent of the world's electricity. An additional 65 reactors were under construction worldwide with 27 of these in China alone.

While the Fukushima crisis may cause the world to pause, interest in nuclear power is likely to be sustained.

Perhaps even more important is the growing interest in countries that currently do not have nuclear power plants. The International Atomic Energy Agency (IAEA) has said that more than 60 countries have expressed interest in nuclear power. The IAEA expects that by 2030, 20 new countries will have nuclear power on line.

The driver behind this interest is very clear. The demand for electricity is expected to continue to be strong, especially as developing countries become wealthier and more urbanized. Also, many countries, including in the developed world, are looking to expand the use of electric vehicles.

The IAEA's most recent *World Energy Outlook* projects that even under positive assumptions about energy policies, the demand for electricity worldwide could grow by 75 percent by 2035 while total demand for energy grows by only 36 percent. The growth rates in developing countries are even more startling with electricity demand growing by 135 percent while total energy grows by 75 percent. Not surprisingly, the most rapid growth is in the developing countries of Asia, followed by the Middle East.

In this context the attractiveness of nuclear power is clear. Nuclear power generation is technologically and commercially proven and provides reliable base-load power at high operational efficiency levels and at predictable costs. Also, once constructed, nuclear power has much shorter supply chains vulnerable to disruption or cost volatility. For countries experiencing rapid growth, these characteristics can be compelling.

In addition, while nuclear power must deal with the question of waste disposal, the footprint for other environmental pollutants is generally better than fossil fuels, and nuclear power is not subject to the intermittency that can plague power generation from renewable sources.

Expansion of nuclear power in countries lacking strong regulatory capacity or mature institutional experience has raised concerns about safety, security and proliferation risks for some time. The

Fukushima crisis has happened in a country with a long track record of involvement in international safety and safeguards practices. By highlighting the potential vulnerabilities of nuclear power plants, the Fukushima crisis has reinforced the safety and safeguards concerns in countries with civilian nuclear programs, old or new.

Ensuring the growth of nuclear power industry in a safe, secure, and proliferation-resistant manner will require enhanced international cooperation at both the governmental and private sector levels. To meet these challenges, governments and industry must strive to develop a framework that would raise the bar for an expanding nuclear industry. Essentially, a globally accepted set of standards governing safety, security, and proliferation must emerge if nuclear power is to deliver and fulfill all of its benefits.

Governments will need to evaluate whether the existing global institutions for nuclear power need to be modified to take on a broader role in addressing these issues. In particular, while the IAEA has nonproliferation as a core mission, its strength seems to lie more with materials protection, control, and accounting activities than in safety activities. The members of the IAEA may want to consider strengthening these services.

The Nuclear Energy Agency (NEA), under the Organization of Economic Cooperation and Development (OECD), provides a forum for member countries to exchange experiences in a wide range of nuclear energy issues including safety. As a part of the OECD, however, the NEA does not include the developing countries most interested in expansion and in need of capacity building.

Government action alone will not be sufficient. After the Three Mile Island accident, the U.S. nuclear industry organized the Institute of Nuclear Power Operators (INPO) to perform in-depth peer review of safety practices of U.S. nuclear power plants. The industry recognized that the behavior of each individual member directly affected the interests of all. As a consequence, INPO has been effective in setting best practices for the industry, significantly improving safety as well as operating performance. A global effort of peer review that drives toward high international standards for safety and security should be a central part of the evolution of the global industry.

The United States, joining with Japan, France, and others with established nuclear power industries, will need to take the lead in establishing this new, more comprehensive international framework. The world will likely see the sustained role for nuclear power in the global energy system regardless of how individual governments may react to the Fukushima crisis. Particularly for developing countries with a strong appetite for electricity, nuclear power holds much promise with its technological and commercial viabilities and limited carbon footprint.

Nuclear power is a principal source of growth for the clean electric power vital to economic development. It is left to the countries with established nuclear industries to decide whether to be proactive in shaping the future course of nuclear energy deployment beyond their borders that is already under way, albeit at a nascent stage. All countries share a strong interest in developing and maintaining the highest standards possible. ■

A PARTNERSHIP FOR RECOVERY

Michael J. Green
and Nicholas Szechenyi

The earthquake, tsunami, and nuclear disaster that struck Japan on March 11, 2011, reminded the world that even the most developed nations are not immune from nature's wrath. The triple catastrophe took more than 14,000 lives, and estimates of total damage range from $250 billion to $600 billion. Already beset by multiple challenges including political instability, an aging society, and anemic economic growth, Japan faces the pressing need to rebuild affected regions in the northeast and craft a long-term strategy for recovery.

There are real questions about Japan's ability to recover as evidenced by Standard and Poor's downgrade of its outlook on Japanese sovereign debt due to concerns about the impact of the disaster on the fiscal deficit. Another uncertainty is political leadership with public opinion polls in Japan revealing a lack of confidence in the government response to the disaster and the performance of the Kan administration. But there are ample resources to draw on: the remarkable resilience of the public; past experience, as the nation rebounded quickly after major earthquakes in 1923 and 1995; and the support of the international community.

More than 130 countries and regions have offered assistance to Japan since March 11, a testament to its leadership role in world affairs and a collective interest in ensuring that the world's third-largest economy emerges from these trying times as vibrant as the Asia-Pacific region, which is increasingly becoming the center of gravity in the international system. Conventional wisdom might dictate that the challenges associated with Japan's recovery necessitate an inward focus and a less ambitious diplomatic profile, but on a range of issues from humanitarian relief to reconstruction to nuclear safety, the lessons Japan learns from this tragedy could very well yield expertise that will further its contributions to international security and prosperity.

Supply chain disruptions after the earthquake spoke to Japan's critical importance in the global economy. Japan also is well positioned to finance reconstruction and is forecast to return to growth within a year. But a fundamental question is whether it can deliver a robust economic growth strategy for the long term in the face of multiple challenges. Japan's increasing elderly population, many of whom were victims of the disaster, will command greater social welfare spending that could magnify a public debt burden already close to 200 percent of GDP.

The debate on issues such as trade and energy policy could prove contentious as lawmakers examine the impact of the disaster, a dynamic further amplified by political paralysis in the legislature and instability overall that has produced six prime ministers in five years. A process of political realignment is under way, and a transition to a new generation of leaders may generate the confidence and creativity that will anchor the new economy.

One source of encouragement in the wake of the disaster was the performance of Japan's Self-Defense Forces (SDF). The government dispatched 100,000 soldiers to the northeast to conduct search and rescue operations and provide humanitarian assistance. The SDF also conducted a series of rescue and relief operations with thousands of U.S. forces in the largest bilateral mission in the 50-year history of the U.S.-Japan alliance. And SDF personnel were even involved in efforts to contain the emergency at the Fukushima Daiichi nuclear power plant.

The expertise displayed by the SDF can translate into enhanced leadership credentials for Japan in the area of humanitarian assistance and disaster relief. The extent of U.S.-Japan military cooperation also speaks to the importance of interoperability, and this experience can inform bilateral security dialogue as the two governments work toward a joint vision for the future of the alliance.

This is a time for the United States to be fortifying a partnership with Japan.

These are just a few of the policy questions subject to examination "post-3/11." The impact of the triple disaster will be felt for years to come, and one can predict detailed analysis of the government's response to document lessons learned. Yet given Japan's economic and strategic importance as a leading nation of the Asia-Pacific, it is equally important to concentrate on the way forward and help forge a path toward long-term recovery.

On April 11, 2011, in collaboration with Japan Business Federation (Keidanren), CSIS launched the "Partnership for Recovery and a Stronger Future," a task force of senior experts from business, civil society, and the policy community to focus on areas where the United States and Japan can cooperate in support of Japan's recovery and restoration efforts.

The task force is convening a series of meetings on Japan's requirements and the prospects for U.S.-Japan cooperation in several areas to include disaster relief and prevention; macroeconomics and financing reconstruction; energy; health; civil society; and alliance coordination. The task force will publish a report with recommendations this fall with the hope that project findings encourage further research and partnerships in these fields.

In opening remarks at the inaugural meeting of the task force, Dr. Zbigniew Brzezinski, CSIS counselor and trustee, captured the essence of this initiative when he stressed that this is a time for the United States to be fortifying a partnership with Japan, America's closest partner and ally in Asia. Historically, Japan has proven resilient in times of crisis, and that capacity to gain strength from adversity coupled with a strong partnership for recovery augurs well for a dynamic economic future and continued leadership in the international system. ■

Authors

TIM ADAMS is managing director of the Lindsey Group, an economic advisory firm, and a nonresident senior adviser at CSIS. Previously, he served as under secretary of the Treasury for international affairs and as chief of staff to both Treasury secretary Paul O'Neill and Treasury secretary John Snow. He was policy director for the Bush-Cheney reelection campaign and earlier served in the White House under President George H.W. Bush at the Office of Policy Development.

JON B. ALTERMAN is senior fellow and director of the Middle East Program at CSIS. He previously served as a member of the Policy Planning Staff at the Department of State and as a special assistant to the assistant secretary of state for Near Eastern affairs. Before entering government, he was a scholar at the U.S. Institute of Peace and at the Washington Institute for Near East Policy.

DAVID BERTEAU is senior adviser and director of the Defense-Industrial Initiatives Group at CSIS. He focuses on defense management, programs, contracting, and acquisition as well as national security economics and industry. Previously he was director of national defense and homeland security for Clark & Weinstock, director of Syracuse University's National Security Studies Program, a senior vice president at Science Applications International Corporation (SAIC), and principal deputy assistant secretary of defense for production and logistics.

ERNEST Z. BOWER is senior adviser and director of the Southeast Asia Program at CSIS and is recognized as one of the world's leading experts on economics, politics, and business in Southeast Asia. Prior to joining CSIS, he served for a decade as president of the U.S.-ASEAN Business Council. During that time, he established a unique network of leaders of governments, businesses, media, and civil society organizations throughout Asia and the United States.

MEREDITH BROADBENT is a senior adviser and holds the William M. Scholl Chair in International Business at CSIS. She came to CSIS from the Global Business Dialogue, a multinational business association focusing on international trade and investment issues. From 2003 to 2008, she served as assistant U.S. trade representative for industry, market access, and telecommunications. Previously she served as a senior professional staff member for the House Ways and Means Committee.

VICTOR D. CHA holds the Korea Chair at CSIS and is a professor of government and director for Asian Studies at Georgetown University. From 2004 to 2007, he was director for Asian affairs at the White House, where he was responsible for coordinating U.S. policy for Japan, the two Koreas, Australia, New Zealand, and the Pacific Island nations. He also served as U.S. deputy head of delegation to the Six-Party Talks and has acted as a senior consultant on East Asian security issues for different branches of the U.S. government.

CRAIG COHEN is vice president for research and programs at CSIS. He is the principal adviser to CSIS president and CEO John Hamre on the Center's research and programmatic agenda, helping to manage more than 40 substantive programs and recruit new senior scholars to CSIS. Previously, he codirected CSIS's Commission on Smart Power, and he has authored reports on Pakistan, foreign assistance, and post-conflict reconstruction.

HEATHER A. CONLEY is senior fellow and director of the Europe Program at CSIS. Previously she served as deputy assistant secretary of state in the Bureau for European and Eurasian Affairs in the Department of State, where she was responsible for U.S. bilateral relations with Northern and Central Europe. Additionally, she served as the executive director to the chairman of the American National Red Cross and was a senior associate with the international consulting firm Armitage Associates.

JENNIFER G. COOKE is director of the Africa Program at CSIS. She works on a range of U.S.-Africa policy issues, including security, health, conflict, and democratization. She has written numerous reports, articles, and commentary for U.S. and international publications. Previously, she worked for the House Foreign Affairs Subcommittee on Africa as well as for the National Academy of Sciences in its Office of News and Public Information and its Committee on Human Rights.

STEPHEN J. FLANAGAN is the Henry A. Kissinger Chair and senior vice president at CSIS. He held several senior positions in government between 1989 and 1999, where he helped shape U.S. strategy for the post–Cold War era, including special assistant to the president and senior director for Central and Eastern Europe, National Security Council Staff. Earlier in his career, he was a professional staff member of the U.S. Senate Select Committee on Intelligence.

CHARLES W. FREEMAN III holds the Freeman Chair in China Studies at CSIS. He concentrates on the political economy of China and other parts of East Asia and on U.S.-China relations, particularly trade and economic relations. Previously he served as assistant U.S. trade representative for China affairs, where he was the United States' chief China trade negotiator and played a primary role in shaping overall trade policy with China, Taiwan, Hong Kong, Macao, and Mongolia.

NATHAN FREIER is senior fellow in the New Defense Approaches Project at CSIS and a visiting research professor at the U.S. Army War College's Peacekeeping and Stability Operations Institute. He joined CSIS after a 20-year army career. Most recently, he was director of national security affairs at the Army War College's Strategic Studies Institute. He is a veteran of numerous strategy development and strategic planning efforts at U.S. Army Headquarters, the Office of the Secretary of Defense, and senior-level military staffs in Iraq.

JOSIANE GABEL is executive officer to the president and CEO of CSIS. She assists him in the daily and the long-term management of his work and supports the research and programmatic agenda of the Center. She began her work at CSIS researching and writing on international security and U.S. defense policy. Previously, she was an associate at the global business consulting firm The Cohen Group.

BONNIE S. GLASER is a senior fellow with the CSIS Freeman Chair in China Studies, where she works on issues related to Chinese foreign and security policy. Prior to joining CSIS, she served as a consultant for various U.S. government offices, including the Departments of Defense and State. Ms. Glaser has written extensively on Chinese threat perceptions and views of the strategic environment and on China's foreign policy.

MICHAEL J. GREEN is senior adviser and holds the Japan Chair at CSIS. His research and writing focuses on Asian regional architecture, Japanese politics, U.S. foreign policy history, the Korean peninsula, Tibet, Burma, and U.S.-India relations. He joined the National Security Council in 2001 and from January 2004 to December 2005 was special assistant to the president for national security affairs and senior director for Asian affairs. He is an associate professor at Georgetown University.

JOHN J. HAMRE became CSIS president and CEO in 2000. Before joining CSIS, he served as deputy secretary of defense and under secretary of defense (comptroller). In 2007, Secretary of Defense Robert Gates appointed him to serve as chairman of the Defense Policy Board.

KARL F. INDERFURTH is a senior adviser and holds the Wadhwani Chair in U.S.-India Policy Studies at CSIS. Prior to joining CSIS he was a professor at George Washington's Elliott School of International Affairs. He served as U.S. assistant secretary of state for South Asian affairs from 1997 to 2001 and was the U.S. representative for special political affairs to the United Nations. He serves on the board of trustees of the Asia Foundation.

RICHARD JACKSON is a senior fellow and director of the Global Aging Initiative at CSIS. His research focuses on the economic, social, and geopolitical implications of demographic trends in the United States and around the world. He is also a senior adviser to the Concord Coalition and the author of numerous policy studies. Previously he worked as an independent researcher, writer, and consultant on public policy issues and was a research fellow at the Hudson Institute.

STEPHEN JOHNSON is director of the Americas Program at CSIS. From 2007 to 2009, he served as deputy assistant secretary of defense for Western Hemisphere affairs. Previously, he was a senior foreign policy analyst at the Heritage Foundation and served in the Bureaus of Inter-American and Public Affairs at the Department of State. A retired U.S. Air Force officer, he was a pilot and a military attaché and was in the U.S. Air Force Reserve.

SARAH O. LADISLAW is a senior fellow in the Energy and National Security Program at CSIS, where she concentrates on climate change, the geopolitical implications of energy production and use, energy security, energy technology, and sustainable development. She manages the program's "Opportunity Tipping Point" series and coleads the program's work on secure, low-carbon pathways in Asia. She managed the CSIS end of a partnership on energy security and climate change with the World Resources Institute.

MAREN LEED is senior fellow and director of the New Defense Approaches Project at CSIS. She previously served as a doctoral fellow and analyst at the RAND Corporation, as a special assistant to the vice chairman of the Joint Chiefs of Staff, as a professional staff member on the Senate Armed Services Committee, and as an analyst in the Office of Program Analysis and Evaluation in the Defense Department.

JAMES A. LEWIS is senior fellow and director of the Technology and Public Policy Program at CSIS. His research involves innovation and economic change, Internet policy and cyber security, space programs, and intelligence reform. Previously, he was a member of the U.S. Foreign Service and Senior Executive Service. The policies he helped develop include counterinsurgency in Asia and Central America, military basing in Asia, conventional arms transfers, commercial remote sensing, high-tech exports to China, and Internet security.

HAIM MALKA is senior fellow and deputy director of the Middle East Program at CSIS. His areas of research include violent nonstate actors, the Arab-Israeli conflict, North Africa, and political Islam. Previously, he was with the Saban Center for Middle East Policy at the Brookings Institution, where he concentrated on Israeli-Palestinian issues and U.S. foreign policy in the Middle East. He lived in Jerusalem for six years, where he worked as a television news producer.

CLARK A. MURDOCK is senior adviser for the U.S. Defense and National Security Group at CSIS and director of the Project on Nuclear Issues. His research focuses on defense and national security issues, including strategic planning, defense policy and governance, and U.S. nuclear weapons strategy and policy. He directed the four-phase study on Defense Department reform, "Beyond Goldwater-Nichols: USG and Defense Reform for a New Strategic Era," which released multiple reports from 2004 through 2008.

JANE NAKANO is a fellow in the CSIS Energy and National Security Program. Her research interests include the geopolitical implications of energy production and use, nuclear energy, energy security in the Asia-Pacific region, and climate change. Previously, at the U.S. Department of Energy, she was responsible for day-to-day operations of the U.S.-China Strategic Economic Dialogue, the U.S.-Japan Energy Dialogue, and covered various aspects of U.S. engagement with Indonesia, the Six-Party Talks' Energy Working Group, and the Asia-Pacific Economic Cooperation forum.

RICK "OZZIE" NELSON is director of the Homeland Security and Counterterrorism Program at CSIS. He is a former Navy helicopter pilot with more than 20 years of operational and intelligence experience, including service in Afghanistan. His last military assignment was with the Joint Special Operations Command. He also served in the National Counterterrorism Center's Directorate of Strategic Operational Planning and in the Office of Combating Terrorism on the National Security Council staff.

JOHANNA NESSETH TUTTLE is vice president for strategic planning at CSIS, where she leads the Center's relationships with corporate and foundation partners. She also directs the CSIS Global Food Security Project, which puts forward policy approaches that can effectively enhance global food security. She is also an associate with the CSIS Seven Revolutions Initiative, a broad-based effort to forecast key trends, including global resource trends, to the year 2025 and beyond.

DAVID PUMPHREY is a senior fellow and deputy director of the Energy and National Security Program at CSIS. Previously, he was deputy assistant secretary for international energy cooperation at the Department of Energy. While with the federal government, he led the development and implementation of policy initiatives with individual countries and multilateral energy organizations. He was responsible for policy engagement with key energy-producing and energy-consuming countries.

MARK QUARTERMAN is senior adviser and director of the Program on Crisis, Conflict, and Cooperation (C3) at CSIS, where he focuses on effective multilateral responses to global issues. Previously, he served in the United Nations for 12 years, including as chief of staff of the UN Commission of Inquiry into the assassination of former Pakistani prime minister Mohtarma Benazir Bhutto and as special assistant to the under secretary general for legal affairs and legal counsel.

DANIEL F. RUNDE is director of the Project on Prosperity and Development, holds the William A. Schreyer Chair in Global Analysis, and co-directs the Global Food Security Project at CSIS. He focuses on private enterprise development, the role of private actors in development, and the role of "emerging donors." Previously, he headed the Foundations Unit for the Department of Partnerships and Advisory Service Operations at the International Finance Corporation and was director of the Office of Global Development Alliances at the U.S. Agency for International Development.

THOMAS M. SANDERSON is senior fellow and deputy director of the Transnational Threats Project at CSIS. His work focuses on terrorism, intelligence, and information sharing; U.S. national security policy; and global threats and trends. Prior to joining CSIS, Sanderson was a defense analyst with Science Applications International Corporation, where he conducted extensive studies of terrorist groups for the U.S. Defense Intelligence Agency, Office of Counterterrorism Analysis.

BECCA SMITH is a research associate for the Defense and National Security Group at CSIS. She has contributed to CSIS studies on enterprise risk management, strategic surprise and Defense Department readiness, U.S. military officer management, and the future of U.S. civil affairs forces. Before joining CSIS, she analyzed National Security Council processes from Harry S. Truman to George W. Bush for the Project on National Security Reform.

SHARON SQUASSONI is senior fellow and director of the Proliferation Prevention Program at CSIS. Prior to joining CSIS, she was a senior associate in the Nuclear Nonproliferation Program at the Carnegie Endowment for International Peace. Previously, she advised Congress as a senior specialist in weapons of mass destruction at the Congressional Research Service, served in the Arms Control and Disarmament Agency, and was director of policy coordination for the Nonproliferation Bureau at the State Department.

NICHOLAS SZECHENYI is senior fellow and deputy director of the Japan Chair at CSIS. His research focuses on U.S.-Japan relations and U.S.–East Asia relations. Prior to joining CSIS in 2005, he was a news producer for Fuji Television in Washington, D.C., where he covered U.S. policy in Asia and domestic politics. Szechenyi coauthors a quarterly review of U.S.-Japan relations in *Comparative Connections*, an electronic journal on East Asian bilateral relations.

FRANK A. VERRASTRO is senior vice president and director of the Energy and National Security Program at CSIS. His experience in staff positions for the White House and the Departments of Interior and Energy includes serving as deputy assistant secretary for international energy resources. In the private sector, he has served as director of refinery policy and crude oil planning for the nation's largest independent refiner and more recently as senior vice president for Pennzoil. ■

Stay up to date in 2011

CSIS RESOURCES

CSIS.ORG

The Center's online headquarters gives you access to every CSIS program, project, and publication. Visitors will find information on upcoming events; the latest CSIS audio and video content; reports and commentaries from CSIS scholars; and general information about CSIS. Subscribe to information about events, publications, and special initiatives at **http://csis.org/**.

ITUNES U

Access the latest audio and video content from CSIS through Apple's iTunes U platform, including recordings of CSIS events and press briefings; short interviews with CSIS experts and world leaders; and podcasts on topics from political economy to the Middle East. Subscribe at **http://itunes.csis.org.**

CRITICAL QUESTIONS

Prepared by CSIS experts, *Critical Questions* are a quick, easy read designed to cut to the heart of today's "of the moment" issues. These brief analyses are delivered free to your e-mail inbox. Subscribe or read at **http://csis.org/.**

SMALL SCREEN SESSIONS

Our video podcast series puts CSIS experts in the palm of your hand. These conversations about today's top international issues keep you in touch with the latest happenings at CSIS and around the world. Subscribe through iTunes on your iPod, iPhone, or iPad or at **http://smallscreen.csis.org.**

FACEBOOK

As a center for global dialogue, CSIS relishes the input and curiosity of our Facebook fans. Join the conversation with CSIS on Facebook. Find our latest content or watch CSIS events live at **http://www.facebook.com/CSIS.org.**

RSS

Stay in touch with CSIS and find out about upcoming events, multimedia, and publications through your RSS reader. Stay in touch at **http://csis.org/rss-feeds.**

CSIS | CENTER FOR STRATEGIC & INTERNATIONAL STUDIES

1800 K Street NW, Washington, DC 20006
www.csis.org

ISBN 978-0-89206-633-9
90000
9 780892 066339