

PREVIEW
EDITION

GLOBAL STRATEGIC ASSESSMENT 2009

AMERICA'S SECURITY ROLE IN A CHANGING WORLD



INSTITUTE FOR NATIONAL STRATEGIC STUDIES



Inside back cover (top to bottom): Japan Air Self Defense Force F-2 fighter at Andersen Air Force Base, Guam (U.S. Air Force/Courtney Witt); German Kosovo Force soldier checks identification papers (KFOR/Christian Korff); China readies Long March 2F rocket for country's third manned spaceflight (Imaginechina via AP Images /Xu Haihan); and self-propelled, semisubmersible craft seized by U.S. Coast Guard in eastern Pacific joint drug interdiction operations with USS *McInerney* (U.S. Coast Guard).

Back cover (top row, left to right): antiterrorist squad members take positions after report of attack, Mumbai, India (AP Wide World Photo/Rajanish Kakade); skyline of Sao Paulo, Brazil, overlooking Favela Morumbi slum (AP Wide World Photo/Alexandre Meneghini); welders work on new natural gas pipeline in Russia (AP Wide World Photo/Misha Japaridze). Bottom row: devastation in Port de Paix, Haiti, after four storms struck in one month (U.S. Navy/Emmitt Hawks); refugees flee fighting in Democratic Republic of Congo (AP Wide World Photo/Karel Prinsloo); and infrared satellite image of Tropical Storm Gustav, August 2008 (U.S. Navy).

At the official release, the full contents of *Global Strategic Assessment 2009: America's Security Role in a Changing World* will be available on the Institute for National Strategic Studies Web site:
www.ndu.edu/inss/index.cfm.

In addition to the complete document (in PDF, Word, and HTML versions), the Global Strategic Assessment site will provide—on an ongoing basis—additional resources cited by authors, interviews with key contributors, and numerous supporting links to related strategic knowledge areas. Video segments of the April 2009 Symposium also will be featured.



Global Strategic Assessment 2009: America's Security Role in a Changing World

Introduction

By Patrick M. Cronin

This preview edition of *America's Security Role in a Changing World: A Global Strategic Assessment* is offered in advance of a 20-chapter volume that will follow in a few weeks. It contains the first three chapters of the final edition: chapter 1, "The Global Redistribution of Economic Power"; chapter 2, "Political Flux in a Nonpolar World"; and chapter 3, "The Impact of the Information Revolution." These exemplary samples preview the larger effort to survey and assess the security challenges and opportunities confronting the new administration of President Barack Obama.

This Global Strategic Assessment provides a way to organize our thinking, solutions, and efforts regarding the preservation of American national security. It is designed to serve the needs of the new Obama administration, as well as to appeal to a broad national and international audience. It lays out approaches to the international security environment in three ways:

- Functionally, by considering eight strategic trends that are shaping both near- and long-term challenges and opportunities
- Regionally, in a survey of the world that highlights key issues, uncertainties, competitions, and partnerships
- Illustratively, suggesting an intellectual construct of potential approaches to the challenges facing the administration of President Obama.

This is an intellectual document, not a policy prescription. Its overriding message is to emphasize global complexity and America's vital and yet limited role in coping with that complexity. Albert Einstein once said that given an hour to save the world, he would devote 59 minutes to thinking about the problem and 1 minute to resolving it. The complete volume hews to that advice by allowing some 125 authors, each an expert, to contribute to a portrait of the world that pays homage to the breadth and diversity of issues driving tomorrow's security environment, and yet is also accessible and constructive. It presents a coherent whole, but it does

not attempt to speak with one voice. The breadth of this approach is meant to provide decisionmakers with a full palette of the circumstances that they face and options to consider.

Complexity is the watchword of our century, and the various interdependencies and cross-cutting impacts of some issues upon others require in the first instance a general appreciation of that complexity. No single essay in the full collection ever provides the depth that some experts require. Instead, the attempt is to cover enough issues and areas of the world to review the intricacies of global security. In so doing, this edition makes an obvious case for all-of-government and coalition-based solutions.

This Global Strategic Assessment provides a purposefully broad point of departure for many national security functions: subsequent analysis, interagency coordination, policy derivation, coalition-building, reorganization, long-range planning, and operations. The need for more strategy seems apparent to this author and my colleagues in the Institute for National Strategic Studies (INSS) at the National Defense University (NDU). But equally important will be the need to mobilize partners, to conduct serious planning, to integrate a rich variety of disciplines and actors, to follow through with a focus on implementation, and to assess actions so that there is a record of lessons identified and an appreciation of history. Again, this assessment is not a policy document, but it does set out the terms of the debate in which the administration must forge security strategy. This is the requisite first step to confronting challenges, exploiting opportunities, and keeping America secure.

This should be a familiar process: on the modern battlefields of Iraq and Afghanistan, a deep understanding of what U.S. and coalition forces were facing had to emerge before any hope for a coherent and successful strategy was possible. The Global Strategic Assessment aspires to get this strategic learning process off the battlefield to the maximum extent possible and appropriate.

These challenges are great, but so are the opportunities. The world is changing, but the United States remains far more capable than any other nation of coping with these vicissitudes, leading responses, and making the world a safer place.

This assessment should be a healthy reminder of just how complex—and dangerous—a world we live in. That complexity (such as “the fox’s ‘many things’”) itself can serve as an organizing principle. Preparing for and dealing with such profound complexity require particular capabilities, approaches, and proclivities: cultural, developmental, experiential, technical, organizational, political, and operational. These attributes can be selected, cultivated, and enhanced, and it seems that they will have to be if we are to survive, let alone succeed.

In addition to the elaborate interrelatedness of international security, this Global Strategic Assessment should remind us of the enduring realities of American power. There is nothing permanent about the U.S. global security role, and there are no guarantees in international security, but no other nation has America’s unique attributes: a global zeal to make the world a better place; potent expeditionary forces to project power on all continents and oceans; a large and open economy; and a melting-pot society built on freedom and the rule of law. As the Nation is refocusing its foreign policy on diplomatic rather than military capabilities, the fact remains that formidable military power has supercharged our diplomacy and remains key to providing the Obama administration with far more purchase than other countries. Whether through settled or ad hoc collective security arrangements, no other country appears ready to mobilize its instruments of power to address threats posed by state and nonstate actors. Even as American power measured as a percentage of the global economy has declined, its comparative advantage in terms of hard military power has expanded.

Although the weight of these diverse chapters may leave some wondering about America’s future, there is inherent in this document a good deal of optimism: that problems can be resolved or at least better managed; that a more humble America that is more sensitive to diverse views from around the world is ready to work together with others; and that despite America’s relative decline in perceived and actual influence, perhaps, there is every reason to believe that the United States will remain a unique contributor—albeit one among others—to global security.

We can afford to be upbeat. President Obama himself, in his first address to Congress, emphasized optimism. Referring to the state of the economy, but relevant to this assessment as well, he said, “We will rebuild, we will recover, and the United States of America will emerge stronger than before.”

The effort embodied in this Global Strategic Assessment harkens back to the origins of INSS, which was

established 25 years ago by then–Chairman of the Joint Chiefs of Staff General Jack Vessey, who understood long before whole-of-government approaches became fashionable that planning and assessment needed to take full advantage of diverse expertise, cutting-edge research, and a blend of civil-military teamwork. As General Vessey mentioned in early 2009: “the [geographic and functional commanders in chief] were constructing our war plans in basement rooms around the world with, except for Stratcom [U.S. Strategic Command], staffs equipped with #2 pencils and yellow foolscap.” Responding to the inherent challenge presented by General Vessey, INSS published a series of annual assessments over the last decade. In 2008, the Office of the Secretary of Defense asked the institute to prepare another assessment that would provide a broad and diverse understanding of the international security environment in the decade ahead, specifically designed for use early in the term of the new President. It is a great privilege to be able to share this volume with the widest possible audience.

To express thanks and give credit for the work that has produced such a comprehensive volume would take many pages. I urge you to inspect the table of contents for the full volume included in this preview edition, which contains the names of all of the more than 125 contributors of each of 20 chapters. As a group and to a person, they rose to the occasion, exceeded every expectation of the Defense Department, and performed brilliantly in their writing, analysis, and insights. They are not the only world-class experts on these issues, but there are none better. They deserve all of the credit for this contribution. I trust that you will be moved to consult with them early and often in pursuit of strategies and solutions that emerge from the complexity of the international security environment they have presented so coherently.

In conclusion, I want to acknowledge the efforts of INSS in bringing together a document of this magnitude and importance to the Nation. The staff of NDU Press played a key role in its preparation. It would not be possible to overstate the importance to the project of their meticulous attention to detail and schedules, or of their professional care of logic, grammar, graphics, and composition. Finally, it is with sincere and profound fondness and respect that I applaud the contributions of the institute’s senior fellows, all of whom have been pressed into service, and who met every challenge and deadline with skill and equanimity. For this and all of their myriad contributions, I am profoundly humbled and very grateful. [gsa](#)

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Section I.

Adapting to Eight Global Challenges



Secretary of Defense Robert M. Gates (right) and British Defence Secretary John Hutton talk during the non-NATO International Security Assistance Force meeting in Krakow, Poland, February 2009.

Over the coming decade and beyond, world leaders will face enormously complex global security challenges. A mixture of enduring and emerging threats and challenges will mean that policymakers are increasingly operating in terra incognita. The United States and other states will have to adapt to eight broad trends driving the future security environment:

- a global redistribution of economic power from the West to the “Rest”
- the partial emergence of a multipolar world
- an information revolution that leaves modern societies vulnerable
- the acceleration of an energy and environmental security tipping point
- the mounting challenges emanating from many fragile states and ungoverned spaces
- the increasingly transnational dimensions of terrorism
- the changing character of conflict from conventional to irregular and hybrid warfare
- the potential further spread of nuclear and biological weapons.

First, a global redistribution of economic power is under way. The subprime mortgage crisis, the

Wall Street meltdown, the temporary freezing of credit markets, and the reverberations around global markets are all reminders that economic power is the bedrock of sustainable military and political power. Much of the past 500 years of history has been dominated by the rise of the West, including the Industrial Revolution. More recently, however, economic power has shifted increasingly to “the Rest,” especially Asia. Nations that had spent decades on the periphery of the global economic and trading system, including China, are now critical production centers. Capital is flowing out of emerging nations and into the developed world and is being used to recapitalize the rich nations’ founding banking systems. Even while the Group of 7 or 8 is being enlarged if not overtaken by an emerging Group of 20, there are also roughly a billion people in some 60 countries, mainly but not exclusively in sub-Saharan Africa, who are being left behind.

Second, it is fashionable to point to the declining influence of the United States over the past decade and in the decades ahead. The world is no longer bipolar, as it was during the Cold War’s East-West divide, although concerns about the durability of major power peace are far from dormant. It is not unipolar, with the United States a sole superpower convincing other powers to coalesce around Washington’s agenda. But it is also not truly multipolar,



Traders deal in crude oil futures pit at New York Mercantile Exchange



Head of Zimbabwe’s Movement for Democratic Change announces launch of fund to help displaced victims of political violence

with political power residing in the hands of several world capitals attempting to preserve global order. Many of the emerging or resurgent powers—including China, Russia, India, and Brazil—either lack the desire to assume the mantle of global management or do not enjoy a seat at the international high table. Meanwhile, there are increasingly global and transnational challenges—from nuclear proliferation and climate change to terrorism and global poverty—that make national security interdependent with global security. In short, the post-World War II international security system is in transition, with the key question being, “Toward what?”



Members of Internet Corporation for Assigned Names and Numbers, the key Internet oversight agency, relaxed rules to permit new domain names

A third global trend centers on the information revolution and technology. Modern network technologies are shifting power to the edge, allowing decentralized networked groups to compete with hierarchical structures. The globalization of communications and computing infrastructure is allowing nonstate groups—including terrorists, criminal organizations, antiglobalization movements, pernicious hackers, and others—to directly threaten national security and international stability. Three trends in this information revolution are particularly relevant to strategic concerns: ubiquitous connectivity, transparency, and cyber warfare. In 2008, the number of people owning a cell phone exceeded the number of people who did not. It was only a few years ago when half of the world had never heard a dial tone. Ubiquitous and instantaneous communications are also increasing global transparency; it is not clear how anything on the future urban battlefield can be kept

secret for longer than it takes to establish a cell phone connection. But modern information technology and Internet systems are increasingly vulnerable to cyber attack, and new complexities make cyber attack both increasingly possible and hard to trace.

Fourth, the emerging energy system is far more complex and global than the industrial-era system that it is slowly replacing. Today, when security planners talk about energy security, they are as likely to be referring to carbon emissions and diminishing water supplies as energy self-reliance and affordable oil. Moreover, the energy and environmental security problems that are emerging are increasingly beyond the ability of any single country to control. Significant increases in the price of oil have weakened the global economy, contributed to a sharp rise in global food prices, and transferred trillions of dollars to autocratic oil-exporting regimes. Energy diplomacy has become increasingly confrontational as states jockey for control of gas and oil markets and pipelines. Meanwhile, concerns about pollution and greenhouse gases have strained diplomatic relations with other nations and are forcing fundamental changes in energy policy. Water is another critical resource. China has more than 22 percent of the world's population and only 8 percent of the world's fresh water; water shortages are causing rising food prices and migration. In India, urban water demand is expected to double and industrial demand to triple by 2025. And in the Middle East, between 1985 and 2005, the overall per capita fresh water availability was cut in half and was expected to be cut in half again well before 2025.



Brazilian police guard raft loaded with logs illegally cut during government's fight against deforestation in the Amazon

Fifth, since 9/11, fragile states and ungoverned spaces have risen in stature as a serious challenge to security. Everywhere, it seems, the nation-state is under siege: from below by aggrieved national groups pressing upward; from above by international bodies and global advocacy groups; and from the side by global society's empowered private actors, both licit



UN (Robert Sullivan)

United Nations personnel help displaced persons return to homes in Pristina, Kosovo

and illicit. There is no easy answer to state weakness and no surefire way to build effective states. Oversimplification of cause-and-effect relationships between weak states as a group and the universe of “spillover” threats often attributed to them forms a poor basis for public policy decisionmaking. Even so, fragile states may aid and abet a host of other problems, from piracy in the Gulf of Aden and Strait of Malacca, to trafficking in illegal commodities, to incubating terrorism and pandemics. Indeed, a nation-state's capacity to govern effectively faces no stiffer test than its ability to manage infectious diseases crises. Pandemics require unprecedented multiagency communication, expertise, and collaboration at the state, regional, and international levels, all of which are crucial for containment of the disease and mitigation of its consequences. A growing need to address state weakness seems a likely bet for the next half-century.

A sixth trend relates to transnational movements and terrorism. National and international security now involves nonstate actors to an extent unprecedented in modern history. Transnational movements and substate actors have tremendous power both to contribute to the greater good and to bring about violence. The most prominent such threat arises

from transnational Salafi jihadism, of which al Qaeda is the standard bearer. Al Qaeda and likeminded groups boast as members only a fraction of 1 percent of the 91 million Muslims who may have celebrated the events of September 11, 2001. While familiarity with al Qaeda tends to breed contempt, there remains a great concern about terrorists acquiring and using weapons of mass destruction (WMD). Successful responses to and prevention of this emerging threat will probably have to aspire to be an all-of-society or whole-of-government approach. Ironically, our greatest strength—military power—has become our greatest liability because extensive use of military power can help to mobilize Muslims to become Salafi jihadists. Our most important partners are Muslims, and we will have to continue to find ways to support ongoing Muslim efforts to marginalize the Salafi jihadist ideology across the Islamic world while taking prudent actions to inhibit catastrophic terrorism.

AP/Wide World Photo (Manmohan Singh)



Pigeons scatter as Taj Hotel burns during terror attacks in Mumbai, India, November 2008

Seventh, the character of war is changing. The most complex challengers of the future could involve synergies from the simultaneous application of multiple modes of war. The most capable opponents may seek to pursue what has been called hybrid warfare—the combination of conventional, irregular, and catastrophic forms of warfare. We have certainly seen a recent revival of irregular warfare, and not only in Iraq and Afghanistan. For instance, during the 34-day-long war in southern Lebanon in 2006, Hizballah demonstrated the ability of a nonstate actor to deconstruct the vulnerabilities of Western-style militaries by mixing an organized political



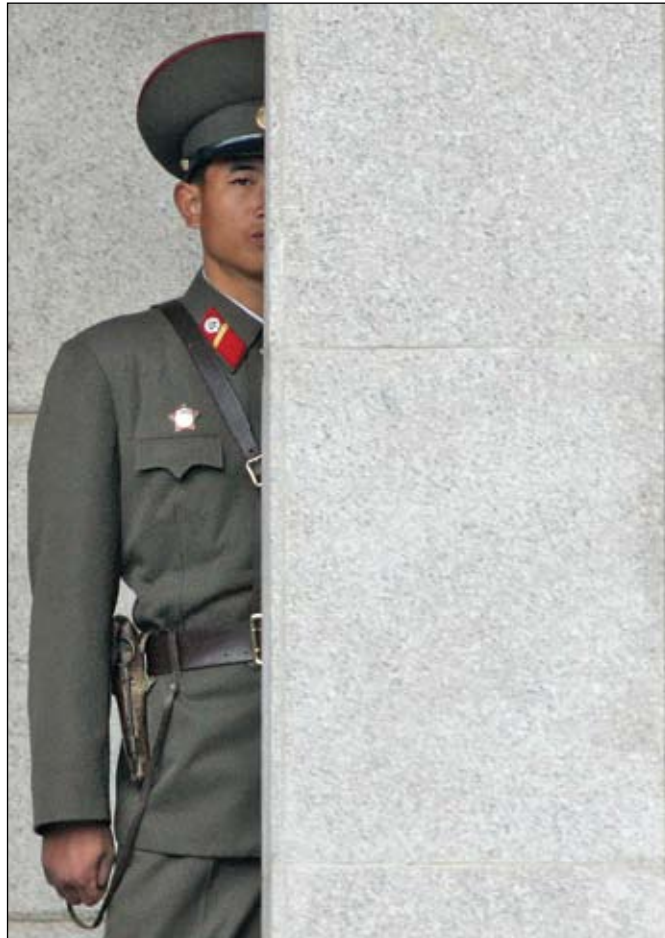
U.S. Navy (Christopher Menzie)

U.S. Navy SEAL trainee in close quarters combat exercise at Naval Special Warfare Center, Camp Pendleton, California

movement with decentralized cells employing adaptive tactics in zones outside the local government's control. Hizballah, like the jihadist defenders in the battles of Fallujah, Iraq, during April and November of 2004, skillfully exploited the urban terrain to create ambushes, evade detection, and hold strong defensive fortifications in close proximity to non-combatants. But this does not mean that traditional forces are irrelevant—far from it. Beyond the resurgence of ground forces with respect to wars such as those in Iraq and Afghanistan, trends suggest that the importance of seapower in relation to the global economy is growing. Similarly, it can be argued that airpower's ability to contribute to the course and outcome of combat operations at the higher end of the conflict spectrum is also expanding. Meanwhile, at the lower end of the conflict spectrum, complex operations and humanitarian problems have been constant companions of military operations in the past two decades, and this trend is likely to continue in the coming decades, requiring new blends of military and civilian forces acting together.

An eighth trend shaping tomorrow's security environment is WMD proliferation. Our worst fears regarding the proliferation and use of nuclear weapons have not been realized to date, but important developments have made it increasingly possible that nuclear or biological weapons may be used in the next half-century. The absence of catastrophic WMD use is the most positive trend of recent years, and everything should be done to preserve it. As disruptive and costly as the 2001 anthrax letters incident proved, only 5 people are known to have died and 22 to have sustained injury. North Korea became the

first state ever to withdraw from the Nuclear Non-proliferation Treaty regime, and the path ahead for denuclearizing the Korean Peninsula remains long and treacherous. Iran's continued highly enriched uranium program has made it a virtual threshold nuclear power, and it is believed to be capable of building a nuclear weapon within the next several years should it so choose. We can prevent a second nuclear age, and perhaps an expansion of a costly proliferation of military platforms in space, but it will take considerable effort. In the meantime, and more ominously, we still do not fully understand how the rapid advances in biological and chemical science and technology will change the landscape for biological and chemical weapons. The nature of life sciences is such that even a few individuals could inflict untold damage if armed with the right unconventional weapon. [gsa](#)



AP/Wide World Photo (Ahn Young-joon)

North Korean soldier monitors South Korean side of border at Panmunjom

Chapter 1

The Global Redistribution of Economic Power

Economic power is the bedrock of sustainable military and political power. The severity and expected duration of the financial crisis that gripped the world in 2008 make it all the more imperative to understand the national security implications of U.S. and global economic trends. This chapter focuses on selected economic issues from a broad strategic perspective. The topics are diverse, ranging from extreme poverty to high finance, but together they illustrate a key theme of this study: the global redistribution of power.

The chapter begins with a definition of economic power and an exploration of its use and limits. It continues with a historical overview of the rise of the West, beginning with the Industrial Revolution, and the subsequent shift of economic power from the West to “the Rest,” mainly Asia. Along the way, living standards on average have vastly improved, and new sources of wealth have arisen. Globalization has greatly accelerated these positive trends, but it has also created new sources of instability.

The third and fourth segments and a sidebar analyze one of these sources of instability: the rapidly changing world of finance. A sound and prospering financial system is an indispensable foundation of economic (and therefore military) power, but the size and speed of borderless financial markets far outstrip the resources available to slow-moving national governments and international institutions. As the current financial crisis has shown so vividly, the speed of global financial flows exposes participating economies to sudden job losses and extreme volatility in equity markets.

Nowhere is the global redistribution of economic power more evident than in the world of finance. Although the role of governments remains crucial, the size and speed of private transactions mean that financial power has largely shifted from public entities to the private sector. In addition, a role reversal has occurred: financial institutions in the developing world have helped rescue Western banks and financial institutions. As of late 2008, China had accumu-



AP/Wide World Photo (Achmad Ibrahim)

Trader reacts to activities on floor of Indonesia Stock Exchange

lated almost \$2 trillion of foreign exchange reserves, out of a world total of about \$7.3 trillion. Taken together, Taiwan, India, South Korea, Singapore, and Hong Kong accounted for another trillion.

Although the fundamental strengths of the U.S. economy are still in place, American-style capitalism has suffered a loss of prestige. The subprime mortgage crisis of 2007–2008, the Wall Street meltdown that began in September 2008, the collapse or near-bankruptcy of hallowed firms, the freezing of credit markets, the massive size of proposed bailouts, and the gyrations of stock markets around the world—all complicated by a U.S. Presidential transition—damaged U.S. economic power and thus undermined Washington’s global influence.

The fifth section of the chapter, on economic security, documents another source of instability: poverty. Within the developing world, economic success is accruing to some countries but not to others. Roughly 1 billion people in some 60 countries, mainly but not exclusively in sub-Saharan Africa, are being left behind. Some of these countries are subject to repeated civil wars; some provide havens for non-traditional threats to U.S. national security, such as terrorism, illegal trafficking, and pandemic disease; and some generate calls for humanitarian intervention. The analysis concludes with several policy recommendations and a plea for the more coordinated use of military and civilian instruments.

The chapter ends with a look at one U.S. reaction to the redistribution of economic power away from the West: protectionism. With the U.S. economy slowing to a crawl, trade is virtually the only source of growth. Measures to restrict trade and investment inflict damage on not only the American economy, but also U.S. power and influence. Vigorous and farsighted leadership will be required to reverse this trend and strengthen America’s ability to lead.

What Is Economic Power?

There is general agreement that in the 21st century, economic power is an important strategic asset. But what is economic power? How is it changing? And how can it be measured?

Economic power can be broadly defined as the ability to control or influence the behavior of others through the deliberate and politically motivated use of economic assets. *National economic power* implies that a government is in a position to use, offer, or withhold such assets even when they are in private hands (for example, by mandating trade embargoes or imposing controls on exports to targeted

countries). In fact, the exercise of economic power may well have economic costs because almost by definition it entails interfering with decisions made for economic reasons.

Economic power can also be thought of as the ability to *resist* external control or influence because dependence on external suppliers is sufficiently diverse to preclude vulnerability to outside pressure. The United States, for instance, imports about two-thirds of its oil from foreign sources and is thus vulnerable to oil exporters as a group (although not to any one country). But what is sometimes forgotten is that sellers need markets. If the United States were to significantly reduce its appetite for foreign oil, it would gain relative economic power over these suppliers. Persuading others to establish a “consumer cartel,” as some have suggested, would have an even greater effect on the balance of economic power.

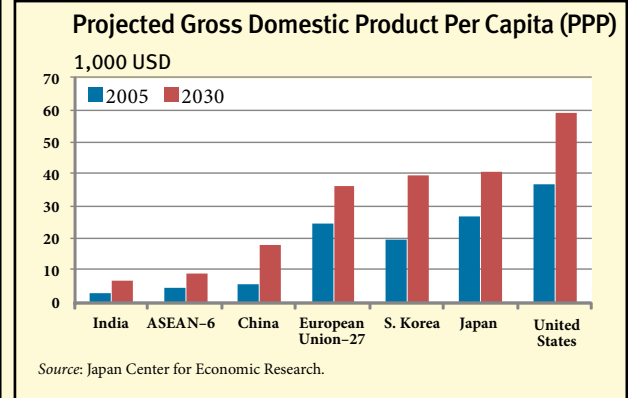
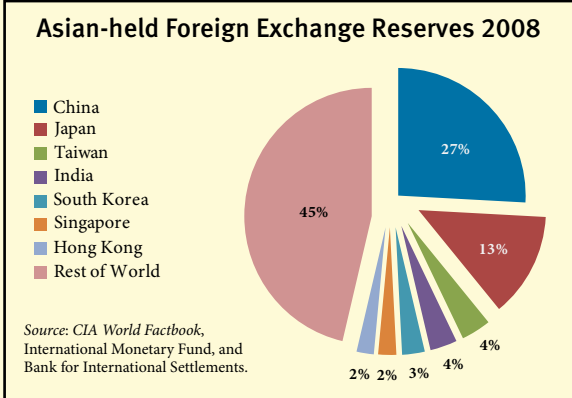
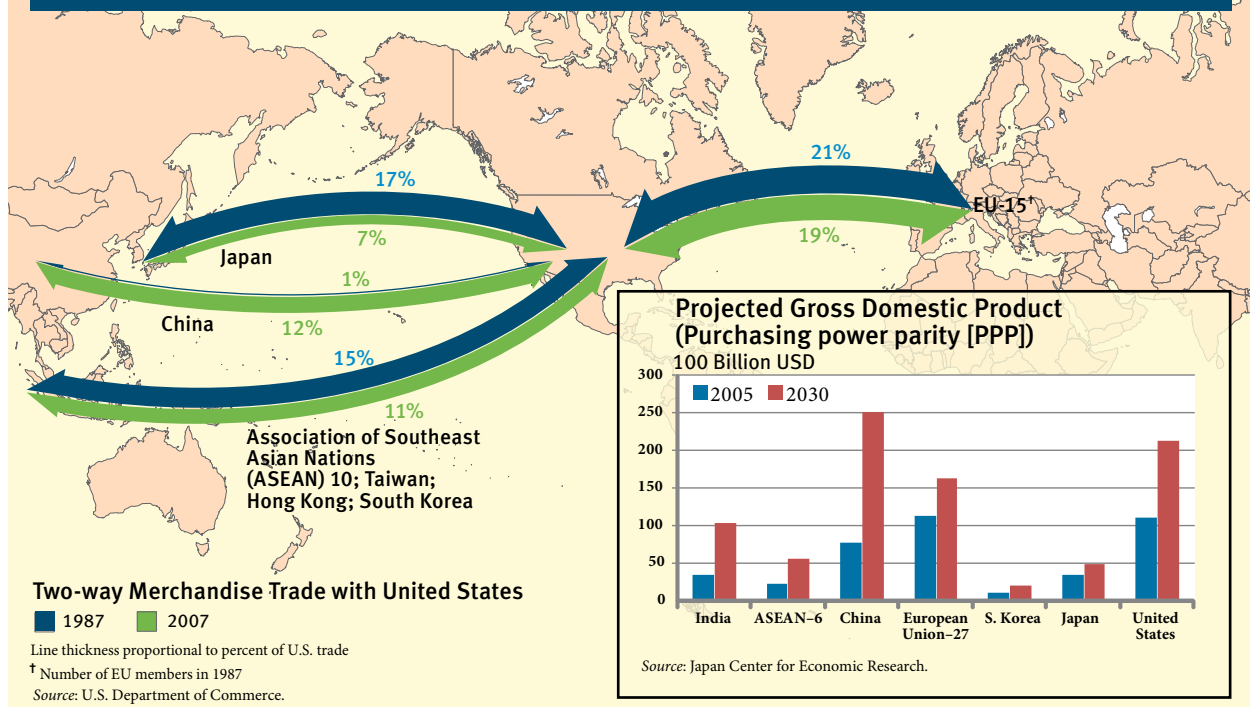
An extreme example of the ability to resist external control is economic self-sufficiency. Certain great empires of history, such as imperial China, were almost entirely self-sufficient. But in today’s world, the pursuit of economic self-sufficiency results in lower levels of technology and productivity and a greater degree of poverty than would otherwise be the case (North Korea is a perfect example). If market forces are allowed to operate, some countries will be more self-sufficient than others, but none will be completely self-sufficient in all sectors.

National economic power has often been used to punish other governments. Whenever another government behaves in a way that violates international norms, a common U.S. response is a call for economic sanctions. Certain “smart sanctions”—such as denying U.S. visas to family members of dictators and freezing their bank accounts—may have some effect. But efforts to apply trade embargoes and other forms of economic coercion to influence another country’s political or military behavior fail more often than not, especially when the targeted regime perceives that the reforms sought by the outside world threaten its survival. Worse still, economic sanctions often end up enriching elites, who have ready access to the black market, and impoverishing everybody else.

Globalization and Economic Power

Throughout much of recorded history, the assets associated with economic power consisted primarily of land, natural resources, and the ability to spend more than one’s adversaries spend on weapons and wars. In a global economy, these elements, while still

World Economic Trends



Economic and Social Indicators

Country	GDP per Capita (PPP)	Broadband (per 100 people)	Cellphones (per 100 people)	Median Age	Population (millions)	Life Expectancy
United States	\$45,800	23.9	83.5	36.6	305.7	78.06
Hong Kong	\$42,000	26.4	149.2	41.2	7.0	81.77
Canada	\$38,600	27.6	61.7	39.1	33.4	80.34
Japan	\$33,500	22.1	83.9	43.5	127.7	82.07
Europe / EU	\$32,700	14.2	109.6	37.7	494.8	78.70
Taiwan	\$30,100	20.9	106.1	35.5	23.0	77.56
South Korea	\$25,000	30.5	90.2	35.8	48.2	79.10
Russia	\$14,800	2.8	114.6	38.2	141.9	65.87
Mexico	\$12,400	4.3	62.5	25.6	106.7	75.84
Brazil	\$9,500	0.4	63.1	28.6	188.1	72.70
China	\$5,400	5.0	41.2	33.2	1,327.5	72.88
India	\$2,600	0.3	20.0	24.8	1,141.1	68.59

Source: Broadband and cellphone data from International Telecommunication Union. All others: CIA World Factbook, most recent data as of October 2008.

important, contribute less to overall economic power than what societies and governments can create for themselves: sound financial and macroeconomic policies, an educated and adaptable work force, market-based competition, a supportive infrastructure (including transportation, communications, and energy distribution), and a stable and welcoming investment climate, backed by good governance and predictable rules.

These self-created assets virtually guarantee a competitive niche in the global economy. They fueled the remarkable performance of Japan and the “four tigers” (South Korea, Taiwan, Hong Kong, and Singapore) during the 1970s and 1980s. Similarly, the reforms launched by Deng Xiaoping in the late 1970s transformed China from an autarkic economic backwater to the economic powerhouse that it has become today. Thanks in part to China-centered production networks and widespread pro-market reforms, Asia has experienced robust growth. Its success should not be exaggerated, however; the region suffers from a variety of economic, political, and demographic weaknesses. It is highly dependent on the global economy and remains vulnerable to internal and external shocks.

Just as globalization has altered the content of economic power, so it has limited the sovereignty associated with it. A single nation has only a partial ability to claim autonomous economic power and to use it unilaterally. China, for instance, still depends heavily on markets in North America, Europe, and Japan. This means that China’s national economic power cannot be wielded autonomously and at will because doing so would undermine the confidence of foreign investors and thus retard the economic growth that the Chinese leadership needs to maintain its legitimacy. China’s alleged “dollar weapon” is not a weapon at all.

Until fairly recently, products were made in one country and sold to customers in another. But thanks to the revolutions in transportation and information technology, most of the world’s biggest companies now operate in numerous countries. Although the components of a product may come from multiple sources, that product’s label usually records only the point of final assembly and shipment. Interdependence also characterizes the operation of international financial markets. The first decade of the 21st century has witnessed a major shift in financial power from the West to other parts of the world, particularly Asia. Countries in the region hold roughly two-thirds of the world’s foreign exchange reserves.

Peering into the Abyss: Implications of the Global Financial Crisis

The 2008–2009 global financial crisis may one day be remembered as the greatest setback to the world economy since 1945—and perhaps even the Great Depression. It has already inflicted considerable pain on many countries, thereby jeopardizing their social and political stability as well as their commercial prospects and eroding what was a remarkably widespread consensus in favor of market capitalism. The sudden slump in global growth has also undermined U.S. prestige and influence and will complicate Washington’s diplomacy and security relationships for years to come.

Overview

Typical recessions are officially induced. Monetary authorities see that the economy they oversee is overheating and starting to generate inflationary momentum. They react by tightening the flow of credit, which causes corporations and households to curtail their expenditures and hence retards the pace of gross domestic product (GDP) growth. When inflationary pressures abate, the central bank loosens policy and allows private-sector demand to resume its upward trajectory. The present disaster, by contrast, stems from the simultaneous and cataclysmic resolution of two distortions in the global economy. The unique elements of this crisis ensure that its impact will be much deeper and more enduring than that of ordinary recessions.

Of Leverage and Deleverage

The first structural flaw was a gradual rise in leverage—borrowing money to finance extra consumption and investment—that occurred over decades as households, corporations, and governments assumed ever more debt. This phenomenon accelerated in the 1990s and early 2000s, when deregulation and the development of new financial products emboldened financiers to take on more risk and allowed households in the most liberal economies to borrow against the equity in their homes in order to enhance their purchasing power and raise their standards of living. The ratio of debt to global GDP accordingly rose to unprecedented heights. This increase in leverage occurred, furthermore, beyond the ken of regulators who chose to close their eyes to new developments and consequently failed to appreciate the dendritic connections that were forming between the various new markets. So while many observers accurately perceived parts of the problem, few if any understood the combined magnitude of the stresses that were building in the international financial system.

The reversal of that trend through almost universal deleveraging—that is, the attempt by borrowers to reduce their debts

▼ *Continued on p. 13*

to more comfortable levels—is what differentiates the current crisis from normal recessions, and puts it in the same category as the Great Depression and Japan’s “lost decade.” In this latest instance, the crisis started when the bubble in the American subprime residential market began to deflate in 2006. This damaged the balance sheets of the many American and European banks and non-banks that owned subprime mortgages, and compelled them to seek to strengthen their balance sheets by selling off other assets and calling in loans. In the autumn of 2007, some parts of the credit market therefore froze, causing costs for other corporations and financial institutions to surge even as the stocks, bonds, derivative securities, and real estate in their various portfolios depreciated. Soon, even richly capitalized enterprises with no exposure to dubious American properties were seeing the value of their assets erode, and they felt compelled to join the wave of deleveraging.

As was the case in 1990s Japan, the usual governmental remedies lost their efficacy in the face of such inexorable debt repayment. Lowering short-term interest rates toward zero cannot stimulate credit creation in such an environment because lenders do not want to incur new financial obligations at any price. Nor is bank recapitalization an adequate countermeasure, since banks comprise such a small part of the spectrum of indebted financial and nonfinancial entities—investment banks, credit card companies, consumer financing outfits, automobile manufacturers, and many others—that are withdrawing credit and divesting assets. So conventional efforts must be supplemented with “quantitative easing,” the practice whereby monetary authorities stop focusing on short-term interest rates and start trying to reduce long-term rates by purchasing stocks, bonds, currencies, or even real estate and other tangible things. The objective of this “unconventional” policy is to push down credit costs for mortgage holders, corporations that raise their money directly from capital markets, and government. But while this bold approach, in conjunction with aggressive fiscal policy, may cushion the macroeconomic impact of deleveraging and prevent the onset of a depression, it probably cannot precipitate a sustained recovery until firms and households have approached their target debt ratios and are no longer determined to sell off their investments. This adjustment, sadly, probably will not reach completion until at least 2011.

A Precarious Imbalance

The deleveraging process would have been traumatic enough had it not interacted destructively with the extremely rapid resolution of a second structural problem: namely, the global financial imbalances. The consensus view as recently as a year ago was that those imbalances resulted from excessive consumption in the United States and a few other countries. American households, in particular, borrowed and spent so copiously that the country ran an enormous current account deficit—peaking at 6 percent of GDP in 2006—which sucked up the liquidity that the high-saving economies were so much more responsibly and magnanimously providing. An equally valid explanation for the problematic pattern of capital flows, however, works in precisely the opposite direction. In that view, the world suffered from a glut of capital in the 1990s and 2000s, as aging people in China, Japan, and elsewhere saved a disproportionate fraction of their income in anticipation of retirement; and developing economies, frightened by the exchange rate crises of the last decade, insisted on generating current account surpluses and amassing ever larger foreign reserves for use in the event of an emergency. Then came the commodity boom of recent years, in which oil producers and some other exporters of raw materials reaped windfall profits so large that they could not exhaust them domestically and were forced to ship much of their surplus income abroad. But since savings represent foregone consumption and investment, the resulting glut of capital in the international market could easily have caused world demand to fall structurally below supply, and hence caused a protracted recession—and perhaps even deflation. The only way to avoid this outcome would be for someone, somewhere, to absorb the surfeit of capital and expend it on goods and services.

This is where the leverage and current-account stories converge. Over the last two decades, central banks pumped vast amounts of liquidity into the world economy, where financial institutions used new products and ever-increasing leverage to expand the supply of new credit still further. That money poured into the most liberalized national markets, meaning primarily the United States, United Kingdom, Australia, and Spain, where it produced conspicuous bubbles in local real estate markets. The citizens of those countries availed themselves of this appreciation and the availability of home equity loans to finance additional consumption, which pushed their national current accounts into deficit and soaked up the rest of the world’s exports of goods and services.

Everyone accepted this situation because it raised standards of living in the deficit countries while permitting the parsimonious countries to achieve rapid GDP growth even as they built up their foreign reserves. The United States and the other spendthrift economies thus served as the engine of global commerce in the 2000s.

A Dismal Outlook

That engine has now stalled. By destroying something approaching \$15 trillion in American wealth (a figure that could rise higher), the crisis has impoverished American households and caused them to curtail consumption and to begin ratcheting up their savings rates. This year's current account deficit will accordingly decline by more than two-thirds from the 2006 peak of 6 percent of American GDP. The sharp contraction in demand for foreign exports already has eviscerated international trade, which was increasing at an average annual pace of over 8 percent in 2006 and 2007, but will actually decrease this year and perhaps next year as well. At this point, the data suggest that 2009 will be a dismal year, with GDP contracting by at least 2 percent in the United States, European Union, and United Kingdom—and Japan's economy shrinking by two or three times that figure. Even the speed of China's economic expansion will fall by well over half from its peak early last year of 13 percent. As a result, the global rate of GDP growth this year, measured at prevailing exchange rates, will fall below zero for the first time since World War II.

The immediate recession may end in late 2009 or 2010, but an early return to trend growth will not then ensue. A sustained weakness in international demand is portended by not only the steadily rising savings rate in the United States, but also the much larger loss of one-third of worldwide wealth that has simultaneously occurred. While corporate profitability and savings rates around the globe may fall, newly impoverished households in Japan, China, and the other aging countries will hardly increase their consumption and residential investment. Meanwhile, the 8 to 10 percent shrinkage in Ireland's GDP that seems likely to happen this year cannot help but underscore developing countries' fear of liberalization and their consequent desire to amass more foreign reserves. The global imbalances will doubtless decrease in size, since by definition the sum of all surpluses must fall to the level of the overall deficit registered by the more profligate countries. But this change will occur through an economic slowdown that presumably will last well into the next decade.

Broader Implications

Today's crisis should not prove as disruptive as the Great Depression, but its global scope assuredly entails more international problems than did Japan's 1990s stagnation. Among the most salient of the impending events are changes in the structure of financial markets; more activist and intrusive government; more protectionist sentiment around the world; movement away from American dominance in multilateral forums; and a marginal diminution in global political stability and international cooperation.

Financial Markets. The crisis has virtually wiped out investment banks, whose dependence on short-term funding proved fatal when credit markets seized up in late 2007 and 2008. Even such flagship enterprises as Goldman Sachs have transformed themselves into more conservative institutions with more traditional fundraising and operational schemes. At the same time, the implosion of the worldwide bubble has devastated the private equity and hedge funds, whose portfolios depreciated precipitously and whose sources of capital must inevitably dwindle. All of these industries will revive eventually, albeit in diminished form and with much less leverage, and hence lower profitability. Even the fledgling sovereign wealth funds will lose prominence, both because the trade surpluses



AP/Wide World Photo (Richard Vogel)

Circuit City store in Richmond, Virginia, advertises going out of business prior to filing bankruptcy

that produced their capital are shrinking, and because they, too, relied on aggressive leverage to improve their returns—leverage that is no longer readily available. The world therefore will emerge from the present crisis with a less dynamic and volatile financial system that also contributes somewhat less to GDP growth.

Governmental Intrusion. To maintain economic stability amid plummeting consumption and investment, the world's governments will expand their spending considerably over the next few years: in the United States and United Kingdom, for instance, official budget deficits could reach 10 percent of GDP in 2009, and will remain voluminous for some time thereafter. Bank recapitalization, meanwhile, will give the authorities big equity stakes in many countries' financial enterprises. Regulators also will become more intrusive in their relations with private enterprise. The virtually universal failure of oversight agencies to monitor and discourage the increase in leverage within and between economies is already perceived as having contributed to the genesis of the crisis. It follows that political pressures will mount for governments to impose new laws and regulations in order to forestall a recurrence of the current disaster. Many of these changes will of course be salubrious, but the adoption of some ill-advised rules seems inevitable. There will, in short, be some degree of retreat from the norms of liberal capitalism.

Protectionism. Before the crisis unfolded, most analysts believed that the global imbalances would eventually resolve in a manner that promoted American exports. As their holdings of U.S. bonds grew ever larger, foreign investors would ultimately lose faith in the United States, sell the dollar, and move their money elsewhere. This sudden loss of confidence would depress the value of that currency, causing imports to decrease and exports to surge. The result would be a contraction in the current account deficit that benefited the American manufacturing sector.

What has now happened, though, is that the adjustment has occurred almost entirely on the import side of the ledger and with no significant benefit to American exporters. By destroying vast sums of American wealth, the crisis has crippled consumption of both domestic and imported goods even as it induced dollar appreciation and thereby disadvantaged manufacturers. The loss of the U.S. increment of international demand, in turn, has harmed the entire world. The volume of global trade was rising at an average of over 8 percent in 2006 and 2007, but decelerated somewhat in 2008 and will actually contract this year

and perhaps next. The upshot is a crushing blow to exporters everywhere, whose employees are understandably prodding their governments to protect what is left of their domestic market. Illustrative of this new mood was the attempt by many Members of Congress, backed by the steel industry, to add "Buy American" language to the infrastructure section of the Obama administration's draft stimulus bill in early February 2009. This protectionist trend will soon become more widespread because of the effect that the rapidly diminishing current account imbalances are having in all but the most isolated of countries.

American Dominance. In the short term, the crisis has reinforced the U.S. position at the heart of the global financial system, for the main beneficiaries of recent events are first the yen and then the dollar. Both currencies are viewed as safe investments that may appreciate as deflationary forces intensify; appreciation in the euro, by contrast, is constrained by rigid labor markets and the relative inflation that they entail. The yen additionally benefits from the reversal of the carry trade, in which foreigners borrowed at cheap rates in Japan and then invested the proceeds at higher rates abroad, while the dollar gains from the general expectation that the United States will be the first big economy to recover. For the time being, therefore, the dollar should retain its place as the preeminent reserve currency.

Yet Washington has certainly lost some of its prestige in the international community. That the crisis originated in U.S. real estate markets and amplified through the most liberal Western markets has, to some extent, discredited the Anglo-American regulatory system. *Dirigisme* of the French variety consequently has reared its head, and Russian and Chinese leaders have used their public pronouncements at the World Economic Forum in Davos and elsewhere to criticize U.S. capitalism. Likewise, calls are multiplying for a stronger developing-country voice in such multilateral organizations as the International Monetary Fund—whose policies in the 1997–1998 Asian financial crisis were widely seen as too austere and which appear largely irrelevant in today's debacle. In this atmosphere of skepticism regarding U.S. values and Western-sponsored organizations, the eminently reasonable and long-overdue process of giving the newly emerging economies more institutional prominence could take on a certain anti-American flavor and thus further vitiate Washington's influence.

Political Stability. While the unfolding crisis will doubtless harm the whole world, its effects on some states will be particularly pronounced. The present trauma may, for instance, be the straw that breaks the back of the Japanese party system, inaugurating a period of even weaker governance in that critically important country. Meanwhile, such commodity producers as Iran, Russia, and Venezuela are already watching their oil revenues collapse and their government budgets deteriorate markedly—with untold implications for their social and political stability as well as their foreign policies. It is true that the erosion of these states' power may advance American interests in the immediate term, but the present regimes could conceivably be replaced by even more minatory leaders. Meanwhile, the governments of such nations as China, where economic development is the main pillar of legitimacy and political stability, may also encounter more difficulty managing their domestic affairs over the next few years. Even Europe will suffer greater political strain as the economic downturn imposes disproportionate pain on the eurozone's poorer members, underscores the divergence of their interests from those of Germany, and raises questions about the utility of the currency union itself.

The 2008–2009 financial crisis will inevitably complicate many forms of international cooperation, and may well threaten stability in some key regions. A number of countries will suffer wrenching economic pain and a degree of social and political unrest, while many more will become more politically self-centered and perhaps even nationalistic. This trend toward introspection will also have economic ramifications as governments, in an understandable attempt to help their peoples in this inclement global environment, become more protectionist and paternalistic. Market-oriented economic reforms will also decelerate in some parts of the world, further stunting opportunities for trade, investment, and improvements in GDP growth. In fact, it would not be surprising to see a range of states react to their straitened conditions by reducing their military budgets, withdrawing from some of their overseas commitments, and scaling back their investments of time and energy in multilateral diplomacy. Overcoming this new reticence and the resentment against the United States engendered by the crisis will be critical to the success of the Obama administration's foreign policy.

▲ *Continued from p. 9*

Well over half of those reserves are denominated in dollars, and much of that is recycled back into the U.S. economy. Foreign governments therefore have a large financial as well as a commercial stake in the health of the American economy.

Security ties help to explain the continuing predominance of the U.S. dollar as a major reserve currency. Other governments' decisions to accumulate dollar reserves and to link the management of their currencies to the movement of the dollar rest in part on the belief that the United States remains the predominant, if not the sole, provider of security. They watched in dismay as the fall in the value of the dollar caused the value of their dollar-denominated assets to tumble. In the future, their mix of reserve currencies may well continue to shift toward the euro and the yen. Nevertheless, security ties with Washington will likely prevent them from tilting too far in this direction.

What governments can do to exercise financial power is extremely limited compared to the burgeoning size, speed, and pace of innovation in private capital markets. In the past, finance more or less followed trade flows, but financial flows now occupy a separate and ever-expanding universe. Private capital resources dwarf anything that governments and international institutions such as the World Bank and the International Monetary Fund (IMF) can provide. Governments with sufficiently good credit ratings prefer to borrow from private sources, thus avoiding the politically onerous conditions often placed on support packages negotiated with the IMF or the World Bank.

Financial flows provide needed liquidity (ready cash) to international markets, but they can be extremely destabilizing. As Asians learned in the financial crisis of 1997–1998, the sudden withdrawal of private capital can topple governments and send economies reeling. The proportion of Indonesians living in absolute poverty, for example, doubled almost overnight, from 13 to 26 percent. The credit crisis of 2008 stemmed from risky behavior on Wall Street, but stock markets around the world plunged.

Measuring Economic Power

The national security implications of economic power transcend the ability to finance a higher defense budget and field expensive weaponry. Signs that a country is on the road to economic power include a strong and stable currency, adequate foreign exchange reserves, inflows of foreign investment,

rising productivity, manageable inflation, and a declining level of poverty. Other indicators reflect the degree of urbanization, levels of education, social indicators such as life expectancy, and others. All of these can be measured.

The most common indicator of economic power is the size of a country's *gross domestic product* (GDP), defined as the sum of consumption, gross investment, government spending, and net exports, or alternatively, as the sum of all goods and services produced in a given year. GDP is calculated in two ways: by measuring output in terms of prevailing exchange rates, or by calculating the purchasing power parity of each currency relative to some standard (usually the U.S. dollar). To simplify, one measures how much a nation's output is worth abroad (usually in dollars), and the other measures how much people in one country have to pay for a given basket of goods compared to what people in other countries have to pay.

The rate of GDP growth is also a key measurement. As a general rule, developing countries grow faster than highly industrialized ones, provided that they have reasonably good economic policies and a functioning government in place. Such countries start from a low base; double-digit growth, while impressive, is not uncommon.

GDP per capita is also widely used. Economists have predicted that several decades from now, China's GDP will surpass that of the United States. This achievement certainly signifies China's growing economic power. But because of China's huge population, when this threshold is crossed China's GDP per capita will likely be only about one-quarter to one-third of the U.S. level. Which figure matters more to perceptions of economic power? The answer will vary according to the values and goals of the observer.

Several yardsticks have been developed to measure various other contributors to economic power, such as market-oriented policies and low levels of corruption. The World Economic Forum's *Global Competitiveness Report* measures "the productive potential of nations." Top marks in 2008 went to the United States, Switzerland, Denmark, Sweden, and Singapore, while China came in 30th and India 50th out of 131 countries polled. The International Finance Corporation's 2007–2008 report on the ease or difficulty of doing business abroad names Singapore, New Zealand, and the United States as the top 3 among the 181 economies that were ranked, with Guinea-Bissau, the Central African Republic, and the Democratic Republic of Congo bringing up the rear; China and India are ranked 83^d and 120th, respectively. Another index, produced by

the Heritage Foundation and the *Wall Street Journal*, measures "economic freedom": top winners in 2008 are Hong Kong and Singapore, with the United States ranked fifth.

Good governance is a key pillar of durable economic power. Politicians who demand huge bribes and send millions of dollars to foreign bank accounts stunt their countries' development in multiple ways. An index developed by Transparency International measures perceptions of corruption. Based on a scale of 1 to 10 (10 means least corrupt), top prizes in 2008 went to the Nordic countries, New Zealand, and Singapore. The United States trails at 7.3 points, and China and India earned scores of 3.6 and 3.4, respectively.

Concern for the environment has given rise to several indices of "sustainability." The idea here is not only that the environment should be protected, but also that GDP growth will falter if a government depletes its natural resources and sickens its people.

Small countries may get high marks in these various contests, but size matters. It used to be said, for example, that a large population of poor people was a liability. But as markets grow, large numbers of people who are eager for jobs, education, and training are now seen as an asset. From this perspective, China, India, the United States, Russia, and Indonesia all carry economic weight no matter what they do.

Finally, two related elements of economic power are popularity and prestige. If a given country is highly anti-American, resistance to U.S. economic power will be stronger. A trade minister from a country whose press spews forth daily attacks on the United States will have less freedom to make trade "concessions" than a trade minister from a country where the United States is admired and liked.

Prestige has been a longstanding American asset. Thanks to its huge market, skilled manpower, and ever-growing stock of leading-edge technology, the United States is still an economic powerhouse. But huge trade and budget deficits, heavy dependence on imported oil, record-high consumer debt, and rising levels of protectionism have tarnished America's economic reputation and undermined U.S. influence abroad.

American prestige suffered a further blow in 2007, when the U.S. subprime mortgage crisis sent many major U.S. financial institutions to Asian banks for relief. In September 2008, the crisis ballooned. The dramatic financial crash and associated bailouts shook Wall Street to its foundations and seriously undermined America's economic image. Although the shakedown can be seen as a healthy corrective, it has diminished America's near-term economic power.

Economic Power and National Security Strategy

In today's world, economic power has become largely synonymous with successful engagement with the global economy. Paradoxically, the greater such engagement becomes, the more limits governments face when they contemplate using their country's economic resources as a coercive tool to influence the behavior of other governments.

Used constructively, however, U.S. economic power bolsters Washington's influence abroad. But sustaining such influence depends critically on sound policies at home. The risky behavior and lack of oversight that ultimately ignited the financial crash of 2008 damaged America's relative power and influence. Restoring them requires paying heed to the old adage, "Physician, heal thyself."

Sustained economic power is at the root of sustainable military power. Strategic planners need to overcome stovepipe thinking that consigns economic and security issues to different mental boxes. They must understand global economic trends and incorporate them—not as an add-on, but as a core element of their analysis. Drawing on this broader concept of national security, America's elected lead-

ers will be better equipped to make decisions about using economic power. They will also understand that America's economic vitality, flexibility, and spirit of innovation are the true foundation of U.S. economic power, and that adopting the right mix of policies to sustain them is a national security imperative.

The Rise of the Rest

The 1990s were marked in the West by triumphalism. The "end of history" thesis, articulated by Francis Fukuyama, argued that a combination of liberal democracy and market capitalism had become so dominant that, with communism and fascism vanquished, the Western way of governance would no longer face significant challenges. This thesis held that the West, and specifically the United States, had no effective rivals and for the indefinite future could rule at will.

Most noteworthy in the first decade of the new century, however, has been the appearance of nascent power centers outside the traditional Western sphere, especially in Asia. On balance, this is a positive trend, but it poses a long-term challenge to the U.S. global standing.



AP/Wide World Photo (Stephen Jaffe)

International Monetary Fund financial committee meets in Washington, 2008

Background

The current dominance of the West has its roots in the Industrial Revolution of the 19th century, and specifically in Britain's newly acquired ability to grow its economy by around 2 percent per year. That capacity spread to much of Europe and the United States on the heels of industry and capital. Britain's capacity for regular growth provided the economic foundation of the British Empire. Broader Western growth at 2 to 4 percent, in contrast with the economic stagnation of most of the Middle Eastern, Asian, African, and Latin American regions, underlay global dominance by the West in the 19th and 20th centuries. The Industrial Revolution was, of course, fueled in large part by the



Executives from Big Three manufacturers and United Auto Workers union testify before Senate Banking Committee on auto industry bailout, December 2008

wealth and raw materials that the colonial powers stripped from those regions. Still, this concatenation of Western dynamism with Confucian and Islamic stagnation was historically unusual. In the pre-Renaissance Middle Ages, the reverse had occurred.

Japan's successful industrialization in the Meiji era created an alternative power center in the first half of the 20th century. Alone among South and East Asian countries (except for Thailand), Japan maintained its independence from Western domination. While Thailand remained poor and underdeveloped, Japan borrowed Western techniques and became a modern power. After its defeat in World War II, the Western consensus was that Japan would remain a backward agricultural economy and a minor power indefinitely. Japan began to grow 10 percent per annum, however,

and quickly became treated as a major power—for instance, as one critical leg in institutions such as the Trilateral Commission and as leader of the Asian Development Bank. Japan's emergence initiated a new era of postwar history.

Gradually, South Korea and Southeast Asia adopted policies that resulted in 7 to 10 percent annual growth, or about three times the rate that underlay Western dominance. In the 1980s, China's new generation of leaders learned to emulate the dynamic growth techniques, and in the 1990s India, responding to the sudden loss of patronage from the Soviet Union, began to emulate China by dismantling the complex and bureaucratic business licensing system called the "license raj," welcoming foreign investment, and abandoning socialist planning. Even Pakistan managed to raise its growth rate. Now nations encompassing about 3 billion people, roughly half the human race, were growing at several times the rate that underlay Western dominance.

Implications

What are the implications of this new era of rapid growth in "the Rest," especially Asia?

First, *the consequences of the "Asian Miracle" have so far been extremely stabilizing*. Rapid growth has stabilized the internal politics of countries from Japan to Indonesia. As late as the mid 1960s, Japan's internal stability seemed to be in doubt. Moreover, Indonesia contained both the world's third largest communist party and more Islamic militants than the rest of the world combined. Following a severe crackdown on the communist party in 1965, the Suharto government launched an era of rapid growth that significantly diminished political unrest in most of the country. Economic growth has also stabilized regional geopolitics. Ideological demagoguery and proselytizing have declined throughout the Asian Miracle region. The ability to achieve national prestige and influence rapidly by focusing on economic growth, together with the costs that modern military technology imposes on any attempt to achieve those goals by military means, has led to a vast shift of strategy from geopolitical aggressiveness and territorial disputes to economic priorities.

This shift has occurred throughout the entire Asian region. South Korea moved from a failed strategy of military priorities under Syngman Rhee to a brilliantly successful economics-focused strategy under Park Chung Hee and his successors, leaving the economy of the once hapless South Korea over 22 times larger than that of its formerly superior north-

ern rival. Other regional successes have included Indonesia, which abandoned territorial claims covering most of Southeast Asia, and China, which has settled 12 of its 14 land border disputes to the satisfaction of the other parties and which has embarked on a remarkably successful campaign of “friendship diplomacy” in order to focus on economic development. India, which has also adopted “friendship diplomacy,” shows early signs of making a similar shift, despite greater difficulty. None of the rapidly rising Asian powers has yet shown any inclination to revert to obsolete territorially focused strategies. This shift toward stability appears to belie the argument among prominent realists that rising powers are invariably disruptive. Asia’s shift to stability shows that similar economic progress could stabilize other regions.

Second, most of these great economic successes have been based on movement toward integration into the Western-style market economy and acceptance of the basic institutional arrangements that the West created after World War II: relatively open trade and foreign investment, a competitive internal market, market-driven domestic pricing for most things, Western-type law, a substantial degree of freedom of inquiry, considerable freedom to travel and exchange ideas, Western-style capital markets and banking systems, and engagement with the most important Western economic institutions (notably the IMF, the World Bank, and the World Trade Organization [WTO]). None of these movements is irreversible, but the dominant trends in these success stories have included rejection of autarky (Burma vs. Thailand), xenophobia (Sukarno vs. Suharto), the command economy (North Korea vs. South Korea), arbitrary personal rule (Mao Zedong vs. Hu Jintao), and other forms of behavior that are antithetical to the modern market economy.

Third, convergence in economic policy has been accompanied by some elements of convergence in systems of governance. So far, all of the fully successful industrialized Asian economies, from Japan to Indonesia, have adopted variants of democracy from fully competitive democracy (Taiwan, South Korea, Indonesia) to dominant-party democracy or quasi-democracy (Japan, Malaysia, Singapore). Those in earlier stages of development have all had to accept key elements of the Western system of governance, such as some degree of freedom of inquiry, increasing transparency, Western-style legal norms, reduction of arbitrary rule, and the like. But the degree to which China and Vietnam will be compelled to follow the paths of South Korea and Taiwan remains open to question.

Although the eventual degree of convergence remains quite controversial (can China and Russia sustain capitalist autocracies?), the degree that has already been reached constitutes a substantial triumph of Western norms. The argument can be made that, on the one hand, continued success on the part of the rising powers will require a good deal more convergence with Western political norms. On the other hand, the successful emerging economies may also develop competitive advantages that force traditional Western systems to bend some old norms. European-style pension systems and adversarial unionism are potential candidates for Darwinian decline, along with American-style lack of national infrastructure planning and low educational standards.

Finally, the balance of influence in all the major institutions of the post-World War II world—the IMF, World Bank, WTO, United Nations, and others—will have to shift; those institutions must either bend or break.

Crucial Uncertainties

Projecting economic growth is rife with uncertainties. A generation ago, many people believed that Japan’s continued success would make it the world’s leading economy. There are even greater uncertainties about how economic prowess will translate into geopolitical influence. A few of these uncertainties will be highlighted here.

Most obviously, both the success of the West and the rise of “the Rest” have depended on the steady progress of globalization. So long as globalization advances, the most open economies win, but by the same token, they will be the ones most damaged by a crisis of globalization. Singapore, Hong Kong, South Korea, and Taiwan would be devastated. The trend toward competing geopolitically on the basis of economic priorities rather than military ones would surely be reversed in many places. Raw materials producers would suffer severely from declining demand and radical price collapses. Financial markets would suffer catastrophic reversals, with the United States, Germany, and the United Kingdom probably hurt the most. The reverse sequence is also possible: the financial crisis that exploded in the late summer and early fall of 2008 could deal a serious blow to globalization, depending how quickly recovery proceeds and confidence in the financial system is restored.

A second great source of uncertainty is the impact of demographic differences. Many countries, including most of the rich ones, are graying, meaning

that the number of productive workers is declining relative to the number of elderly retirees. In countries such as Japan, where there is resistance to immigration and radical domestic productivity reforms, graying implies relative economic, and probably geopolitical, decline. In the United States, tendencies toward graying have so far been more than offset by immigration and rising productivity.

The greatest contrast in approaches to demographic challenges is between India and China. India is betting on continued population growth to avert graying, but it has so far failed to provide the education and infrastructure to ensure that its large and youthful workforce will have the requisite ability to work competitively and productively. India's risk is that whole population segments and geographic regions will be left out of or prove unable to cope with global competition, and that severe social unrest will ensue. An indigenous Maoist insurgency is already taking advantage of popular disaffection in some of India's poorest states. China, on the other hand, has recently recommitted itself to a "one-child" policy (a partial misnomer) that ensures a rapid decline in the ratio of the working population to the nonworking. China is betting that rapid progress in education, infrastructure, urbanization, and globalization, combined with a relative reduction in environmental stress, will raise productivity and offset the effects of graying. These contrasting strategies comprise one of the most consequential bets in human history and may largely determine Asia's and the world's future economic and geopolitical balance.

A third source of uncertainty centers on energy and food prices. The 2008 upsurge proved a temporary phenomenon, but future spikes are possible once global growth resumes. The effects will vary enormously from country to country. Moreover, the long-term consequences of sustained high prices depend heavily on whether today's primary consumers compete destructively or, for instance, collaborate on clean coal technologies that could shift the economic and geopolitical balance away from the Middle East and toward the United States, China, and India. The world's future economic and political balance hangs on these multiple layers of uncertainty.

Finally, climate change is another great unknown. Desertification, declining fish populations, the melting of the polar ice cap, and other aspects of climate change are to the advantage of some groups economically, while giving the disadvantage to others, and will potentially cause political strife both within and between countries. Governments are

already jockeying over competing claims to possible energy resources under the ocean floor, while access to water is an increasingly potential source of conflict across many parts of the world.

Despite these uncertainties, Asia's political evolution and economic success seem almost certain to bring new stability to key areas of the world by persuading its governments to selectively adopt market-oriented economic policies and substantial elements of Western-style political management. Such a transformation will gradually diversify the economic basis of geopolitical influence to an extent that permanently reduces Western dominance of global prestige and power. Paradoxically, the relative decline of the West represents the victory of what Singapore's Kishore Mahbubani calls key Western contributions to the "march to modernity": free markets, science and technology, meritocracy, pragmatism, a culture of peace, the rule of law, and education.

Issues for the New Administration

The rise of new powers and the failure of others to adapt create profound challenges for the new administration. First, continuation of the virtuous circle whereby globalization creates economic takeoffs, and economic takeoffs in turn stabilize world politics, can only occur if the United States leads. But instead of celebrating their successes, Americans have fallen into a mood that assumes, falsely, that the United States cannot compete successfully against rising economic powers and that the emergence of new powers inevitably brings increased risks of violence and instability. If the current defeatism is not overcome, the United States will suffer disproportionately in any crisis of globalization. Reversing this defeatist mood will require strong, positive political leadership.

More specifically, the executive branch and Congress will have to work together to find new ways to distribute the fruits of globalization. Doing so will require major changes in tax, welfare, and education policies. There will also be a need for a Presidential campaign to educate the public about the changing global economy. The President will have to explain why Americans should welcome, rather than fear, rapid economic growth in China and India. He will need to point out, for example, that surging Asian demand for African energy and raw materials is boosting growth rates in Africa and reducing the risk that jihadism will spread throughout the continent.

Second, economic and geopolitical changes will challenge many assumptions and force many insti-

tutional changes. The governance of all major global institutions will have to be revised to accommodate the new powers. Otherwise, these institutions will become ineffective and discredited.

Third, the President will need to find ways to draw more of the Islamic world into the global economy. It was economic globalization that substantially ameliorated radical Islamism in Indonesia, Malaysia, and India.

Finally, there is no possibility that the United States will be able to extend its military dominance to every country in the world. It needs allies more than ever. But the U.S. alliance system will have to adjust to the relative decline of Japan, an important partner that in some ways is failing the test of globalization, and to the emergence of China, which is embracing globalization relatively well and which, despite its serious domestic challenges, will necessarily be a principal U.S. partner on a range of global issues.

Finance and Power

A critical challenge for the new administration will be to reassert American leadership in the international economy and rebuild America's financial health. Economic strength has underpinned the national power and influence of every state in history. Economic strength, in turn, is driven by a strong financial system, capable of raising large amounts of capital and efficiently deploying it. No nation has long maintained its strategic or military dominance after it has ceased to be the world's foremost financial center. If a nation allows its financial system to weaken, it undermines its economic strength, and by extension its ability to project its power and influence into the larger world.¹

Wars put heavy stress on financial markets and fiscal resources and also put national prestige at risk. Great Britain learned this lesson going into World War II: when combined with economic depression, systemic fiscal and financial frailty, and a decline in the global power of one's currency, war can become a mile marker for hegemonic decline, even in victory.

To some extent, the costs of the conflicts in Iraq and Afghanistan also weigh down U.S. prospects for a quick economic recovery. Although the upfront costs of those wars and related military responses following 9/11 are far less than those of World War I, World War II, or the Vietnam War, they still are considerable, amounting to \$859 billion thus far (or roughly 6 percent of GDP).² The price tag for rebuilding America's military forces in the wake of this conflict will add greatly to this figure.

In 1992, Clinton administration advisor James Carville said that in his next life, he wanted to come back as the bond market so that he could scare everyone. His comment, although framed as a joke, was a stark admission that finance was already driving U.S. policy and that no major decision could be made without taking the reaction of the bond market into account. When Carville made his comment, global financial assets, including the market for U.S. Government debt, totaled about \$42 trillion, and the combined GDP of the world was \$21 trillion. If these huge numbers worried Carville in 1992, he would likely be panic-stricken to face a world where financial assets are now over \$167 trillion with a global GDP of \$48 trillion. These numbers represent not only huge growth in a short time, but also a divergence of the financial market from the underlying real economy.

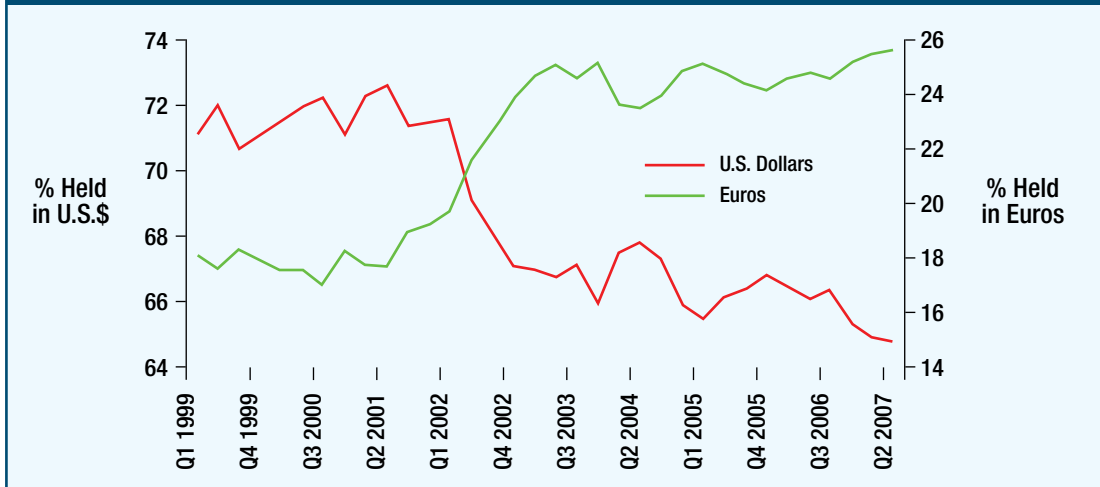
When Ronald Reagan assumed the Presidency, global GDP and financial assets were relatively equal. By the time Bill Clinton became President, the ratio of financial assets to GDP was 2:1, and by 2008 it was closing in on 4:1. How the United States adjusts to this rapidly changing and little understood world of global finance will determine its strategic influence in the 21st century.

Unfortunately, for at least the past decade, the United States has set itself squarely on the path of wrecking the financial system that has maintained its global prominence for the past seven decades or more. Drastic action is now required in order to change course in time, for once economic rot sets in, it is historically very difficult to reverse. If the United States is to have any chance of doing so, policymakers must first understand how the global financial system works and how much it has changed since Carville first voiced his trepidation about the bond market.

A number of measures reveal that America's leadership position in the international economy has gone through a remarkable period of decline over the last decade. This is best reflected by the value of the dollar, which from 2001 to 2008 depreciated by 56 percent against the euro, 30 percent against the Canadian dollar, 24 percent against the British pound, and 4 percent against the Japanese yen. Remarkably, although the trade-weighted value of the dollar against all currencies declined by over 23 percent in that period—which should have given U.S. exporters a large competitive boost—the U.S. trade deficit nearly doubled before exports began to rise in 2008.

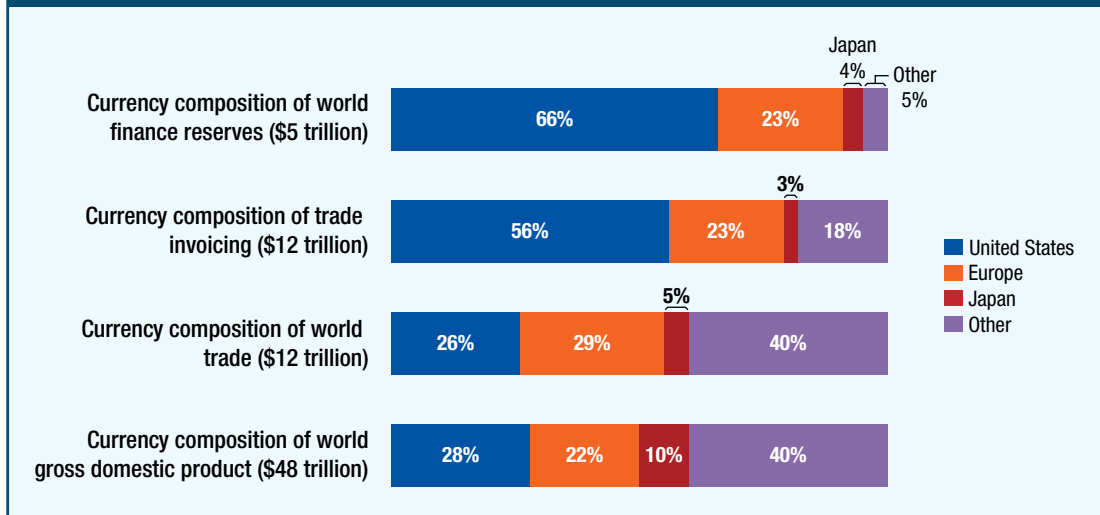
Likewise, the cheapening dollar is becoming progressively less attractive as a store of value for

Figure 1–1. Currency Composition of Global Foreign Exchange Reserves (percent)



Source: Independent Strategy Ltd.

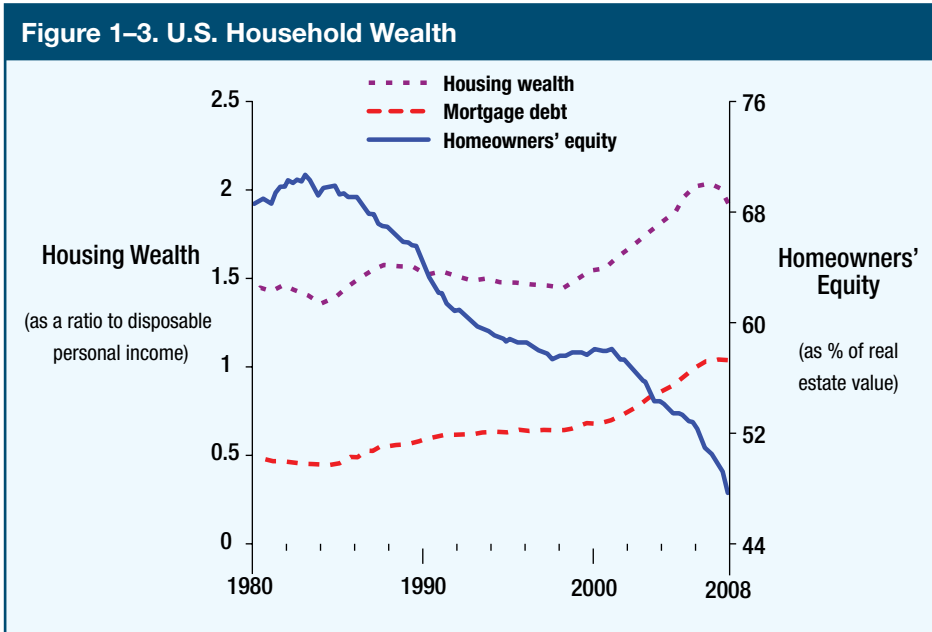
Figure 1–2. The Hegemony of the Dollar



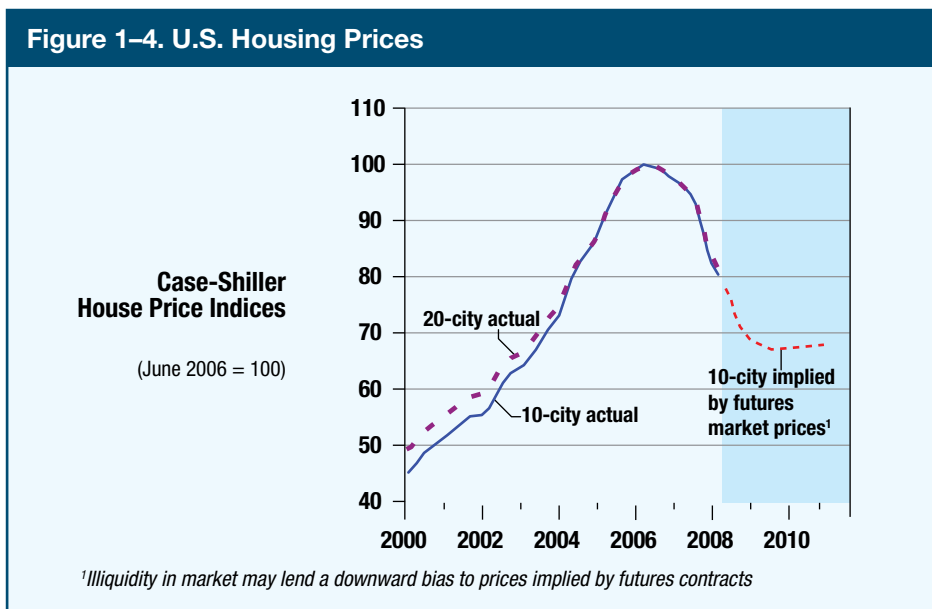
Source: Independent Strategy Ltd.

other central banks. Markets are already adjusting to the fact that a weakening dollar is being increasingly replaced as a reserve currency by a strengthening euro (see figure 1–1). Since the turn of the decade, reserve holdings of the dollar have fallen approximately 8 percent, while euro holdings have risen in rough proportion. Although the dollar remains the chief currency for global trade finance, this leading status has come under stress (see figure 1–2). Presently, the United States accounts for only about a quarter of world trade, while over

half of global commerce is dollar-based. This strategic advantage could dissipate if confidence in its reliability as a storehouse of value slips further. As economist Barry Eichengreen notes, “Never before have we seen the extraordinary situation where the country issuing the international currency is running a current account deficit of 6 percent of GDP. Never before have we seen the reserve currency country so deeply in debt to the rest of the world.”³ By 2008, that ratio had fallen to 5 percent, but unless these trends are more substantially reversed,



Source: International Monetary Fund/Haver Analytics.



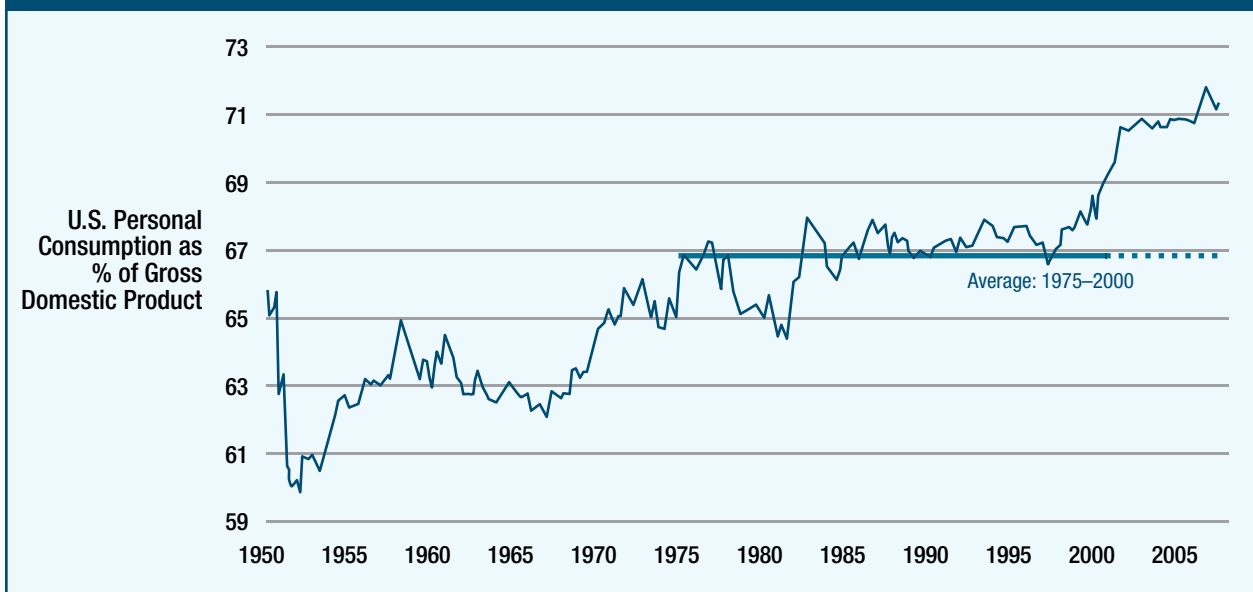
Source: International Monetary Fund/Haver Analytics.

the dollar's dominant position in global trade will rapidly erode.

Making matters considerably more challenging, America's financial system and private finances have entered their darkest period in decades. In the last decade, Americans became more financially leveraged than at any time since World War II. Before the housing bubble burst in 2007, consumer and business debt had jumped by nearly 50 percent—twice

the run-up experienced in the 1980s (see figure 1–3). Household mortgage debt accounted for the largest percentage of total private debt by far (see figure 1–4). In turn, the ready availability of subprime and adjustable rate mortgage financing drove a major increase in home ownership and sent property values skyrocketing. Consumers substituted these rising home values for savings, which at both the national and household levels are at 75-year lows. The abil-

Figure 1–5. The U.S. Consumption Binge



Source: Morgan Stanley Research.

ity to cash out home equity also drove a personal consumption binge of historical proportions (see figure 1–5). Even as the national savings rate turned negative, consumption accounted for ever greater amounts of GDP (over 71 percent in 2008). Consumption as a percentage of GDP reached 4 percent over its 25-year average, far higher than at any other point in American history.

In June 2007, the housing bubble burst. In the next 15 months, home prices fell by 7 percent nationally—the first sustained decline since the Great Depression. The housing crisis, in turn, triggered a string of bank failures. The first casualties were the large regional bank Indy Mac and the famed investment bank Bear Stearns. Unfortunately, in succeeding months, the Treasury and Federal Reserve still failed to get ahead of a crisis they hardly understood. Two U.S. Government–sanctioned institutions, Freddie Mac and Fannie Mae, saw their capital wiped out and had to be nationalized at a cost to the taxpayer initially estimated at over \$200 billion.

Even those steps did not stem the tide. In September 2008, two more large investment banks vanished, and the world’s largest insurance company was taken over by the Government. The details of the largest government-led market intervention in history were recently hammered out with Congress. As a result of these negotiations, the U.S. Government initially announced that it would

begin recapitalizing the banking system through a combination of direct capital injections (\$250 billion) and purchase of certain financial instruments (\$450 billion) currently sitting on banks’ books in order to set a price floor under the debt market.

In April 2008, the IMF estimated that the total cost of the U.S. subprime crisis could amount to over \$1 trillion, but it is now clear that this was a lowball estimate. Worse still, the subprime blowout is buffeting other financial markets: the Standard & Poor 500 index fell to levels last seen in January 2001.

The U.S. Government can continue to backstop the market without imperiling its fiscal position, as a debt-to-GDP ratio of under 70 percent still gives financial officials some room to maneuver. It will become increasingly difficult, however, for the Government to absorb the costs of the largest financial bailout in history while dealing with slipping tax revenues, slower economic growth, and increasing public sector imbalances. It should be remembered that Japan went from having the best fiscal position in the Group of Seven (G–7) in 1990 to the worst in 2000, because, in response to its own financial and banking crisis, it mismanaged and delayed writeoffs and selloffs. Combined with the long-term funding challenges of entitlement programs such as Social Security and Medicare, the United States may be laying the groundwork for the emergence of an even worse financial crisis.

The implications of America's financial distress for the world economy are considerable, not simply because of the role that U.S. consumers play in driving global growth, but also because the entire global financial system has become leveraged to the U.S. household sector. This situation arose largely as a result of the explosive growth in financial instruments linked or leveraged to U.S. property markets, which were marketed heavily to foreign investors by U.S. investment banks. There were myriad strategies that offered apparently low risks and high returns (but, in hindsight, had high risk and potentially no positive return). These included "structured investment vehicles" that many banks used as a way to earn money off their balance sheet, arbitraging their ability to plow low-cost, short-term capital into longer dated and high-yielding asset-backed securities. These worked until the market for asset-backed securities imploded.

Another supposedly low-risk investment class was in collateralized debt obligations (CDOs), instruments issued by investment banks and backed by U.S. subprime loans, mortgage-backed securities, commercial mortgages, debt financing, and leveraged buyouts. Pools of CDOs were packaged into super-leveraged instruments called "CDO squared" or even "CDO cubed." Incredibly, these CDOs were given AAA ratings by the rating agencies, which implied almost no probability of default, because investors in CDOs had taken out insurance with bond insurers. Ironically, investors would learn, when it was too late to change anything, that these insurers had inadequate capital to cover a default, and that they would head toward bankruptcy themselves. Chasing these Ponzi-like schemes were pension funds, banks, insurance companies, and other supposedly smart institutional investors that bought into the assumption that financial risk could be largely engineered away. Many of these investors came to realize gigantic losses. Investment banks such as Citigroup, Bear Stearns, and Merrill Lynch that were involved in selling CDOs also got clobbered. With the market for selling CDOs gone, Merrill Lynch decided in July 2008 to liquidate its mammoth unsold inventory of CDOs at 20 cents on the dollar.

The financial crisis of 2008 revealed that perhaps the fastest growing segment in the rapidly expanding derivatives universe was also its most dangerous: credit default swaps. In simple terms, they are a type of insurance policy contracted between two parties, whereby one guarantees a payment to the other in the event of a default, in exchange for an insurance premium paid along the way. The Bank for Interna-

tional Settlements estimated that, as of the end of 2007, there was over \$57.8 trillion in credit default swaps outstanding—a fourfold increase over the level at the end of December 2005.⁴ Large financial firms such as the now-defunct Lehman Brothers and Bear Stearns issued massive amounts of these swaps to cover their myriad risks. Among the biggest buyers of these default swaps were the banks and insurance companies, which also had snapped up the aforementioned CDOs. The net result was that when Lehman and Bear collapsed, already beleaguered banks and insurers were left holding the bag, with an expected payout on the failure of Lehman's credit default swaps alone of over \$365 billion.⁵

In summary, the U.S. housing finance bubble propelled asymmetric growth in the market value of derivatives contracts globally, which rose from \$382 billion in April 2004 to \$516 trillion in June 2007—a jump of 135 percent.⁶ Today, the notional value of the derivatives market adds up to 976 percent of world GDP—a nearly tenfold increase since 1990.⁷ In Berkshire Hathaway's annual report to shareholders in 2002, Warren Buffett pointedly described derivatives as "financial weapons of mass destruction." Buffett further commented:

Unless derivatives contracts are collateralized or guaranteed, their ultimate value also depends on the creditworthiness of the counterparties to them. In the meantime, though, before a contract is settled, the counterparties record profits and losses—often huge in amount—in their current earnings statements without so much as a penny changing hands. The range of derivatives contracts is limited only by the imagination of man (or sometimes, so it seems, madmen).⁸

As a result of the derivatives boom, financial distress in the U.S. household and banking sectors has been magnified globally, adding to the stresses facing European and Asian economies. The potential unwinding of the globalization of financial leverage threatens the success of economic globalization itself.

At risk is the almost-century-long U.S. primacy as the world's foremost financial power. If that primacy declines, economic growth will slow as capital becomes more costly and harder to obtain. Furthermore, as Cicero pointed out 2,000 years ago, the key to success in war is "endless streams of money." That remains as true today as it was then. If raising capital in vast amounts becomes harder, America's ability to finance the military forces it requires in the future will be more difficult.

The United States has always snapped back following times of economic doubt and apparent decline. The stagflation and stagnation of the 1970s produced in the wake of the Vietnam War, the 1973 oil shock, and the decisive break with the fixed exchange rate system were followed by the economic boom of the 1980s and victory in the Cold War. There is no reason to believe that recovery should be any different in the coming decade. But understanding the scope of the problems—and devising and implementing a strategy to solve them—will be imperative.

Noted economic historian Charles Kindleberger observed that nations that have turned back negative economic tides and emerged stronger from moments of seeming decline are those that possess flexibility and adaptability, rather than passivity and rigidity.⁹ Americans are known for being flexible and adaptive. Unfortunately, however, the scale and scope of America's global economic and financial challenges are considerable and they will defy any easy or rapid solution.

Brave New World

What has happened to the American economy?

As of late 2008, four of America's great money center banks had ceased to exist, the entire banking system was going hat in hand to emerging economies to beg for multibillion-dollar bailouts, inflation was rising, housing prices had collapsed, thousands of people were losing their homes, and the U.S. Government had launched the largest market intervention in history. Meanwhile, the price of gasoline soared to over \$4 a gallon before falling back to more normal levels.

Eventually, U.S. policymakers will hit upon the right measures to stabilize the system, and markets will once again demonstrate their remarkable resilience. But a major lesson of the credit crisis is that the monetary and financial levers that policymakers have used for the past generation were rather ineffectual and in some cases downright harmful. More importantly, these levers will become ever more obsolete with time, leaving the United States (along with the rest of the global economy) at risk of further financial shocks that will undermine our economic strength. And as goes the U.S. economy, so goes U.S. military strength and strategic influence.

To maintain the United States as the preeminent economic and financial power in the world (and by extension, a global military power), policymakers must come to grips with a financial system unlike anything in their prior experience. If they fail to grasp how financial markets have changed, it will

be impossible for them to emplace the regulatory and oversight structure that will allow the financial system and the economy to adapt to future crises, which are sure to arise as the pace of innovation and change accelerates.

For the past two decades, the world of finance has mutated to the point that an investment banker from 1980 would not recognize it. Innovation has taken place at such a dizzying pace that very few outside of the world's money center institutions understand it at all. This is a remarkably dangerous situation. Policymakers, reeling from the public reaction to the 2007–2008 credit crisis, are promising increased regulation of an industry they do not even comprehend. Too many of them are apparently formulating policy based on the global financial system enshrined in the 1944 Bretton Woods agreements, which fixed exchange rates, established a new gold standard, and created the IMF and World Bank. Globalized markets killed off that orderly world some time ago.

Unfortunately, however, the relics of that era, in the form of the IMF and World Bank, still exist, and their global employees are constantly casting widely for a new mission. Detailing what is wrong with these two entities would fill many books. Suffice it to say that organizations designed to manage global finance and postwar reconstruction while the guns of World War II still pounded are finding it impossible to find relevance today. When they were created, the dollar was king, and a billion dollars was serious money even for Congress. Today, the dollar is in competition with the yuan, the yen, and the euro, in markets that move literally at the speed of light.

When the Bretton Woods agreements were signed, the widespread assumption was that international financial flows would roughly track trade and investment flows, as they had for centuries. International trade on the eve of the financial crisis was about \$3.5 trillion a year, but currency flows are \$2 trillion a day.

Just as financial markets have been diverging from the underlying economy over recent years, international currency movements have decoupled from trade and investment for the first time in history. This development has implications that rival the challenges faced by the Bretton Woods representatives in 1944. Yet hardly any strategists are studying the implications of these changes, an oversight that leaves a giant blind spot in U.S. strategic planning.

There are sure to be new regulations on the U.S. financial system in the wake of the 2007–2008 credit crisis. Before new rules are enacted, someone must step back and ask what effects they will have

on a 24-hour trading book, which moves around the world as various markets open and close. Many problems currently plaguing the U.S. financial system, such as capital-draining “structured investment vehicles,” are a result of earlier ill-considered regulations. In effect, any new U.S. regulatory regime that tries to constrain traders or place barriers in front of market liquidity can and will be circumvented by traders, who will just move their operations (or simply their domicile) into countries whose regulatory systems are more accommodating. Such “regulatory arbitrage” will further weaken U.S. dominance of the global financial system.

Structural Changes

The last two decades have witnessed a major structural shift in the global economy and a realignment of the relative influence of various countries. Nations that had spent decades on the periphery of the global economic and trading system, China in particular but also several others, are now critical production centers. Although several serious scandals have revealed that its product safety regulations are poorly enforced, China remains highly competitive.

In the years and months leading to the financial meltdown of 2008, a number of new players began to adopt asset allocation programs that shifted capital flows away from traditional avenues. (That is, there was less reliance on safe U.S. Government debt and a greater willingness to seek higher returns through investing in riskier assets.) Some of these new players, such as pension funds and hedge funds, have been part of the financial landscape for a while, but they now make up a much larger and more aggressive share of the market than in the past. Joining this trend toward accepting greater risk were the major banks, which were trading on their own account and employing significant leverage to do it, thus making themselves the functional equivalents of hedge funds.

Moreover, dozens of countries that are typically thought of as perennial debtor nations have now accumulated significant reserves of wealth. Through “sovereign wealth funds,” the governments of these countries began to deploy their cash reserves over a range of asset classes and away from U.S. Government debt. In addition, the new players made greater use of highly leveraged and increasingly exotic financial instruments (derivatives), which have deeply altered the character and risk profile of the market in ways not sufficiently understood by policymakers or, in many cases, by the market participants themselves.

Implications

What has gone practically unnoticed in the ongoing credit crisis is the international role reversal that is occurring. As the developed world searches for solutions to the crisis, it is the emerging world that is riding to the economic rescue. In an unprecedented development, capital is flowing out of emerging nations and into the developed world, where it is being used to re-capitalize the rich nations’ foundering banking systems. In recent months, estimates place emerging nations’ sovereign wealth fund investments in rich world banks at over \$70 billion. It is worth remembering that it was only just over a decade ago that the financial collapse in Mexico, East Asia, and Russia prompted a call for the rich countries of the world to deploy tens of billions of dollars to contain those multiple crises.

Today, many of these same nations have used a decade of unprecedented growth, thanks in part to soaring oil prices, to build up substantial financial reserves that will have several major effects. They have partly immunized themselves against current



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and future financial crises because these reserves give them the means to defend their currency and cushion against any future period of adaptation. An almost unnoticed effect of this development is that the IMF, as it is currently structured, has lost its original *raison d’être*.¹⁰ Emerging nations will no longer need IMF-coordinated bailouts that come with politically and often socially ruinous conditions attached.

Newly accumulated reserves, coupled with the increasing wealth of many persons in emerging nations (the middle classes of both China and India

now exceed the entire U.S. population), will increase the amount of domestic consumption in these countries. This means that many of these nations will start shifting production away from exports and toward domestic consumers. This, in turn, will relieve pressure on politicians to implement new protectionist policies and will help reduce the U.S. current account deficit without having to further erode the dollar's value. Moreover, these nations will begin to break free of their reliance on the United States as their ultimate market as their future growth becomes increasingly driven by internal rather than external demand.

As these accumulated reserves exceed what emerging nations consider prudent cushions against exogenous shocks, they will be deployed through sovereign wealth funds into a variety of asset classes in pursuit of higher returns. This activity presents a new challenge to national security planners. Although such funds in and of themselves are not a *threat* in the classic definition of the term, they do introduce some major concerns if they are used for strategic advantage.

One concern is that sovereign wealth funds will not only seek superior returns, but also will be used to purchase strategic assets that will give the nations controlling these funds access to classified information and critical military technology, diplomatic power over weaker nations, and enhanced access to scarce resources. Moreover, there is a risk that some nations will use their intelligence services to help bolster the returns of the sovereign wealth funds. For instance, if Russia were again to use its control of gas pipelines to limit supplies to Ukraine or threaten cutoffs to Europe, an official might first tip off Russian fund managers so that they can position themselves for the impact that such a move would have on the energy market. The potential interaction among intelligence services, sovereign wealth funds, and national banks strongly suggests that the United States should redouble its efforts to surveil global financial movements.¹¹

What Must Be Done

The United States needs to reorder its policies and diplomatic initiatives to adapt to a world where economic power is shifting from the West to “the Rest,” particularly Asia. This new and rapidly changing world will eventually require significant adjustments to the system that emerged as a result of the 1944 Bretton Woods Agreements:

- The United States must recognize that the economic power of many G-7 members has been eclipsed

by several emerging nations who will have considerable impact on the future global economy. Either the G-7 has to be reorganized, or the United States must develop new structures that involve these new financial and economic powers as full members.

- The Federal Reserve has to complete a full analysis of the global financial system and get legislative approval for the use of new policy levers that are more finely tuned than current instruments and that will be more effective in the new environment. Moreover, the Federal Reserve and U.S. Treasury need to increase levels of international cooperation to ensure a more coordinated approach to future financial imbalances.

- The IMF and World Bank find themselves in an environment in which emerging nations do not need their services. The IMF is being made obsolete by emerging nations whose reserves are such that they can forego IMF funding and its stringent conditionality clauses. As for the World Bank, the amount of investment funds available to emerging nations through the capital markets dwarfs anything it can bring to the table. The best future for these institutions would likely be to have them reestablish themselves as facilitators of multilateral restructuring endeavors. In effect, they would use their technical expertise and international reputation to provide support and political cover for policymakers to undertake required structural adjustments that might otherwise be politically difficult to enact without the backing of a multilateral institution.

- The financial plumbing (back room operations) and risk management processes of all major players in the global financial system need to be upgraded and made more transparent through appropriate regulation.

- Concerns over the use of sovereign wealth funds must be addressed before they kick off a destructive round of financial protectionism and/or increased regulation aimed at limiting global capital flows. Either one of these outcomes would unleash a dangerous reversal of the globalization process, which has raised the living standards of several billion people. As a starting point, managers of these funds need to sign off on an internationally negotiated code of conduct and become more transparent in their activities.

Prospects

Such radical changes in the U.S. and global financial systems will be hard, but they will inevitably be made. The question is whether they will be accomplished in an orderly manner or forced on policymakers in the face of another crisis. As matters stand now, policymakers are trying to deal with the “brave new world” of finance without any real understand-

ing of how the old world is evolving. Even as the 2008 financial crisis is forcing adjustments on its participants, policymakers must undertake a thorough analysis of what the crisis signified, how the financial system is changing, and where it is likely to go.

Once that analysis is complete, strategists can begin to analyze and understand how the developing financial environment affects national security now and in the future. Only then will policymakers be able to get ahead of these changes and avoid reacting to them in ways that further damage America's financial health.

Economic Security

Challenges

Many states are not capable of providing conditions in which the bulk of their citizens can achieve an adequate degree of economic security. Economic insecurity implies poverty so pervasive and persistent that it breeds a wide array of social and personal ills: child malnutrition, low life expectancy, limited education, and little potential for a better future. Societies burdened by economic insecurity are more likely than others to experience civil war and cross-border conflict.

Although there are pockets of such insecurity in most societies, in approximately 60 countries a large majority of people are stuck in these conditions. Their societies are too poor for the redistribution of assets to solve the problem. And they remain stuck because, for the past 40 years, per capita incomes have been practically stagnant. The combined population of these 60 countries is around 1 billion people, sometimes referred to as "the bottom billion." Seventy percent of them live in sub-Saharan Africa. The extent of global poverty is, of course, much wider than just the bottom billion; for example, there are still many poor people living in China and India. There is a strong case, however, for focusing the efforts of the developed world on the bottom billion.

First, a key difference between being poor in China and being poor in Chad is whether a credible basis for hope exists. A poor family in China has reason to hope that its children will grow up in a society that is economically transformed. In contrast, based on the past 40 years' experience, a poor family in Chad does not have good reason for such hope. The critical task is to provide credible hope to such people.

Second, many countries inevitably experience adverse shocks that inflict harm on economically insecure people, who then require assistance from the state. In the societies of the bottom billion, however, the state itself is impoverished and usu-

ally ineffective. Hence, these countries are prone to humanitarian crises that can only be addressed by rapid international intervention. Increasingly, thanks to global media coverage, the citizens of developed countries expect their governments to act, but budgetary and logistical restraints sometimes stymie rapid action. The military is the main governmental organization capable of rapid, large-scale delivery of relief supplies, but recipient governments sometimes resist the entry of foreign military forces, even for humanitarian purposes. In 2008, for example, the Burmese government refused to permit Western military ships and aircraft to deliver relief supplies to victims of a devastating cyclone.

Third, because most citizens of the poorest nations are economically insecure, the state becomes politically insecure. For example, we now know that in years of poor rainfall, the risk of a civil war increases. This may be because rebel organizations find it easier to recruit when conditions get desperate. Once civil wars start, they tend to continue for about a decade, further damaging the economy and thus compounding the problem of insecurity. Where rebellion is easy to ignite, hostile neighboring states tend to use it as a form of clandestine international warfare. For example, for many years Uganda and Sudan engaged in low-level international warfare by supporting each other's rebel groups.

In some cases, the weak state becomes a tempting target for neighbors, as was the case with the Democratic Republic of Congo (formerly Zaire). Taking advantage of Zaire's vicious civil war between the postcolonial dictatorship and a popular insurgency, neighbors Rwanda and Uganda contributed forces that first helped topple the regime and then went after its successor. Several other countries threw their weight in as well, and the fighting spread across the region, devastating already weak societies.

Until the end of the Cold War, the international community was not in a position to intervene to end such wars, and as a result the rate at which they started exceeded the rate at which they stopped. By the end of the 1990s, the international community had succeeded in bringing some pressure to bear to resolve these conflicts, and by the turn of the millennium many were settled.

Unfortunately, postconflict situations are typically even more fragile than the preconflict societies of the bottom billion. In the past, 40 percent of all postconflict situations have reverted to conflict within a decade. The typical postconflict society is critically impoverished, and its state institutions are ineffective.

Afghanistan is one example. There are currently over 100,000 United Nations (UN) peacekeeping troops serving in postconflict situations around the world. Hence, the insecurity of the 60 or so countries housing the bottom billion poses an important security challenge for developed countries.

The fourth, and most basic, reason for focusing on the countries of the bottom billion is that by better understanding them, the developed world will be better able to do something about them. In the past, because these countries are individually marginal, they have been neglected as a group.

Reasons for Failure to Develop

Most developing countries have done just that: develop. There is no one overarching explanation of why some 60 nations of the world have stagnated.

One problem is the lack of accountability in government. Even where elections are held, the elites who run in them have learned how to game them with a mixture of bribery, ballot fraud, and intimidation, as happened in Kenya and Zimbabwe in 2008. Because governments have avoided being accountable, they are not forced to provide effective economic policies.

The problem of unaccountable government is particularly severe in countries with large revenues from exports of valuable natural resources. Potentially, this is an opportunity for transformation, but because the revenues accrue to the government, harnessing the opportunity for development depends on good governance. To date, the possession of valuable resources has usually proved to be a curse. Nigeria, a major oil exporter, is probably the most obvious example: by any reasonable counterfactual, its citizens are now poorer than they would have been if oil had not been discovered there 40 years ago. The key problem is that valuable resources controlled by the government become a honeypot contested by different groups, usually organized along ethnic lines. Not needing broad-based taxation, the state never provokes citizen scrutiny; in many cases, mechanisms for such scrutiny do not exist. Rival elites jockey for power, divorced from the interests and concerns of ordinary citizens.

At a deeper level, the problem is that these countries are structurally insecure. On the one hand, many African countries are too large to be unified by a sense of nationhood, in that their citizens identify more strongly with subnational ethnic and religious groupings than with the nation. This situation is a result of the artificial borders imposed by the European colonial powers, without regard to historical tribal and ethnic boundaries, during the land grabs of the

18th and 19th centuries; Kenya is an example. On the other hand, the countries of the bottom billion are too small to be effective states. They have tiny, typically agrarian and extractive economies—often smaller than a medium-sized American city—and so cannot reap economies of scale in the provision of key public goods such as military security.

A further problem is geography. Many of the poorest countries are landlocked, which makes it difficult for them to integrate into the global economy. Their access to major roads and ports may depend on hostile neighbors; for example, Ethiopia cannot use the closest port because it lies in Eritrea, which is a bitter enemy. Many of them suffer from widespread disease (notably malaria and AIDS), which drains manpower and resources and thus inflicts high economic costs.

Issues Deserving Early Attention

The international community has four policy instruments for dealing with these problems: foreign aid (publicly funded development assistance); trade policy; military security; and rules and codes of governance. To date it has relied excessively upon foreign aid relative to the other three. Multilateral leadership in the provision of foreign aid has shifted from the United States to Europe and Japan: for example, Britain now provides the most money for the World Bank's International Development Association, which is the main multilateral source of grants and soft loans for the world's poorest countries.

Trade policy has never been effectively focused on the poorest countries; the WTO is basically a bargaining forum in which the countries of the bottom billion have little influence and the developed countries have other priorities than assisting them. The international provision of military security has lurched between excessive caution, as in Rwanda, and military intervention, as in Somalia and Haiti. The international provision of rules and norms of governance has largely bypassed the countries of the bottom billion: the ruling elites have preferred to protect their power by hiding behind national sovereignty, and the international community has not assigned a high priority to overcoming economic security.

Although there is plenty of scope for using all four policy instruments more effectively, four issues seem ripe for action.

Improving the Conduct of Elections. Three recent African elections (Nigeria in 2007 and Kenya and Zimbabwe in 2008) have all been fiascos. Kenya and Zimbabwe were such high-profile disasters that they provoked international outrage and eventual inter-

vention by members of the African Union. The African Union alone is unlikely to resolve the problems entirely, however, because it harbors too many vested interests in preserving business as usual. While international action in support of democratic institutions is necessary, the United Nations is unlikely to be a viable route because China routinely opposes any action that it believes infringes on national sovereignty; in the case of Zimbabwe, for example, Beijing blocked proposed UN Security Council decisions aimed at putting pressure on the Robert Mugabe government to honor the country's election laws.

The international community has probably over-sold elections relative to other important attributes of good governance, such as the rule of law and financial transparency. Because elections are such high-profile events, they have come to be seen as the defining feature of good governance. It would be helpful to shift the prestige away from elections per se, to elections that are reliably judged to meet international standards.

On this issue, it should be feasible to get Europe, Japan, and the large emerging market democracies such as India and Brazil to be supportive. A possible way forward is to encourage a "democracy club," not in the form of a military alliance such as the North

Atlantic Treaty Organization, but rather as a group committed to enforcing democratic standards and norms among its own members. Countries that claimed to be democracies could join, thus committing themselves to certain minimum standards. Their electoral performance would then be monitored by election supervisors.

The principle of supervised elections is already well established, but at present there is no coordinated assessment. (The European Union conducts an official assessment, but no larger group does so.) Nor is an adverse assessment linked to any consequences, such as expulsion from a group; the worst that an offending government can expect is international condemnation. Whether such an approach can work would depend in part on whether governments other than established democracies chose to sign up to the commitments. It can be assumed that some would. For example, President Mwai Kibaki of Kenya would probably have committed himself to signing when he was running for office in 2002 in order to reassure voters of his willingness to abide by democratic norms.

However, elections, even if well conducted, are not enough to guarantee real democracy; it is important to supplement them with checks and balances on government power. In some societies, elections can



AP/Wide World Photo (Chen Xiaodong)

Workers process piles of carrots in China as wholesale market price hit lowest point in 15 years

be polarizing because leaders have yet to build a sense of common nationhood. Nevertheless, improving the conduct of elections is both highly topical and supportive of many other reforms, and so it is a good place to start the long process of making democracy work.

Securing Postconflict Societies. Postconflict societies are fragile. Currently, there are a lot of them, so developed countries should do what they can to avoid a repeat of past disasters. For example, southern Sudan may well head back into war.

Three types of actor determine whether postconflict situations result in a durable peace: providers of peacekeeping troops, providers of postconflict aid, and postconflict governments. The actions of these three are mutually interdependent. Prolonged peacekeeping is needed to create an environment in which development assistance can work. Peacekeeping is effective in radically reducing the risks of further conflict, but to date it has been conducted in a hit-and-miss manner. Postconflict aid for reconstruction can foster the economic growth that provides a workable exit strategy for peacekeepers. Even where postconflict aid is effective, however, often it is allowed to taper off too soon.

Decent governance, including the reform of bad economic policies imposed during wartime, is also necessary for rapid recovery. All too often, postconflict governance is weak, corrupt, or more dedicated to revenge and spoils-taking than rebuilding a damaged nation. The Peace-Building Commission of the United Nations, established in 2005, provides a possible forum in which these mutual responsibilities could be recognized. It established a form of compact analogous to the UN Global Compact founded by Secretary-General Kofi Annan in 2000, which links corporate behavior to 10 universally accepted principles of human rights, labor standards, environmental protection, and anticorruption measures. Together with some minimum standards and norms, the mutual recognition of responsibilities would provide a mechanism to improve the management of postconflict situations.

Guiding the Commodity Booms. The commodity booms taking place in some African countries present an opportunity to alleviate economic insecurity. Angola alone is getting more money in oil revenue than the entire stock of foreign aid flowing to the 60 or so poorest countries. The recent fall in prices shows that the large pulse of income was mainly temporary, and so it is vital to save and invest it rather than simply increasing consumption in an unsustainable way. Much of the recent revenues have yet to be

spent and so the decision as to how to use the revenue will be taken in the coming months. It is vital that the history of mismanagement not be repeated. Brave people in these societies are struggling for change and the key decisions are being taken now.

The developed democracies can help the forces pressing for reform by establishing voluntary international standards and codes that can be used to guide economic decisions. One such code, the 2002 Extractive Industries Transparency Initiative, has already prompted 23 governments to pledge adherence to a standard of revenue reporting. There is an urgent need to build on this success with new codes that focus on how revenues are used.

Harnessing Social Enterprise for the Delivery of Basic Services. In recent years, there has been a huge growth in social enterprise, especially in the United States. This kind of initiative has the potential to deliver basic social services in those environments where government provision has broken down beyond immediate repair, as in Liberia. Currently, there is no organizational model that connects publicly funded development assistance with social enterprise on a national scale, in a way that could transform the provision of basic services in such societies. Such aid tends either to remain channeled through traditional agencies of government or to be provided piecemeal and in an ad hoc fashion to particular initiatives. There is an urgent need to develop a 21st-century model of social funding acceptable to and inclusive of government. It should create genuine, measurable competition among different social entrepreneurs seeking funds. And it should be capable of pooling aid inflows from public *and* private donors and directing them on a sustainable basis to the purchase of services for ordinary citizens in the most difficult environments.

The developed world has a range of policies with which to tackle the problems of the bottom billion, yet to date they have not been coordinated. U.S. operations have often demonstrated how detached military policy was from the development instruments needed to rebuild a poor country's postconflict infrastructure. The same could be said of the other three instruments: foreign aid, trade, and codes of governance. Sometimes the United States has overrelied on the military, sometimes on aid. It has tended consistently to underplay trade and governance codes.

Coordinating all these instruments would not only promote poverty relief, but also reduce the likelihood of further civil wars and cross-border conflict. Usually, difficult situations require a package of policies. Only heads of state can bring about such a profound

change in political and bureaucratic culture. A shared commitment to launch such a coordinated initiative has become increasingly urgent.

Protectionism

The promotion of protectionism in the U.S. Congress and in the public at large has reached the point where it seriously threatens America's strategic interests as well as its economic leadership. An immediate challenge facing the U.S. administration is to channel the political pressures fueling protectionism away from broadside attacks on trade expansion and other forms of international economic engagement and toward the enactment of meaningful measures to help U.S. workers and companies adjust to rapid globalization.

Why Protectionism Harms U.S. National Security

Protectionism is usually seen as a trade issue best left to trade negotiators and their counterpart committees on Capitol Hill. But protectionism should also be seen as a national security issue because it endangers U.S. domestic and global security interests in a variety of ways:

- Protectionism undermines the image of the United States as a global leader. It belies the generosity, openness, and optimism once associated with postwar American leadership.

- Protectionism damages U.S. relations with allies and friends. Since the United States preaches free trade and aggressively pursues the opening of markets for its own products and services, protectionism fuels charges of hypocrisy and double standards.

- Protectionism deprives poor people in developing countries of the chance to compete. It stunts job creation in those countries, thus undermining the stability of governments still struggling to consolidate legitimacy. The prospect of long-term unemployment makes it more likely that frustrated young people, especially men, will take to the streets or join radical movements.

- Protectionism gives other governments an excuse to delay opening their markets and provokes retaliation against U.S. exports, thus stifling U.S. job growth in the most competitive sectors of the economy. By shielding the weakest companies within a given sector, protectionism effectively punishes more competitive ones. By reducing competitive pressure, it slows the drive to improve productivity and develop more advanced technology.

- Protectionism sets a poor example for governments striving to make a transition away from socialism and find a niche in the global economy. These governments face stiff resistance from vested interests, who seize on protectionism elsewhere in the world to shield themselves from competition.

- Protectionism limits choices that would otherwise enhance U.S. military capability. "Buy American" and other protectionist laws and regulations impose costly procurement requirements on the U.S. Armed Forces and preclude purchase of the best products, technologies, and services.

- Protectionism contributes to inflation and harms the poor because it makes imports more expensive and thus raises the price of basic items such as clothing and shoes.

- Export protectionism (restricting certain exports on national security or other grounds) burdens U.S. high-tech companies, creates political tensions with other governments, and hampers military-to-military cooperation.

- Investment protectionism discourages the inflow of foreign capital into key sectors and inspires or reinforces corresponding barriers to U.S. investment abroad.

- Incoming-visitor protectionism (the denial of visas to would-be visitors and students) creates much ill will and reinforces the widespread view that Washington overreacted to 9/11.

Declining Political Support

Examples of protectionism in 2008–2009 include the insertion of "Buy American" language in President Obama's stimulus bill; congressional resistance to a major free trade agreement with South Korea; calls to postpone or reopen other free trade agreements negotiated in good faith, including the North American Free Trade Agreement (NAFTA), signed in 1993; efforts to halt or retard the offshoring of U.S. jobs by threatening to impose tax penalties on offending U.S. companies; opposition to certain incoming foreign investment bids; and alarm over the perceived threat posed by sovereign wealth funds (funds held by governments or government-affiliated entities). The combination of agricultural protectionism at home and aggressive market-opening demands on poor countries partially contributed to the 2008 collapse of the ongoing Doha Round of multilateral trade negotiations under the auspices of the WTO.

More damaging in the long run, perhaps, is that Congress has refused to renew the procedure, formerly known as "fast track" and now called Trade

Promotion Authority, which effectively permits the President to negotiate new trade agreements. In 2008, a dispute between Congress and the White House over the proposed U.S.-Colombia free trade agreement became so hostile that the White House submitted the agreement without the usual consultation, prompting the leadership of the House of Representatives to revoke Trade Promotion Authority's time-honored procedural rules.

Not all trade restrictions should be labeled protectionist. WTO rules permit the temporary imposition of import restrictions, known as safeguards, to cope with sudden import surges. Certain other agreements permit the use of trade limits in response to subsidies, violations of intellectual property, and other trade-distorting measures. Governments can invoke national security to block certain imports or to restrict foreign investments in militarily critical industries. New issues are arising that may justify expanding the scope of existing trade-limiting measures, such as disease control and climate change. Legislation calling for steep duties on imports from China to offset its determination to restrain the pace of currency appreciation is in a category by itself; some economists with impeccable free trade credentials support congressional action to impose a corresponding tariff on Chinese imports.

But leaving aside these exceptions, U.S. political support for engagement with the global economy in general has eroded so badly in the last 15 years or so that Congress has bottled up new agreements or passed them by a handful of votes after fierce and divisive debate. This hostility to deeper international economic engagement has spilled over into investment and finance.¹² Meanwhile, the list of technologies, systems, and components requiring U.S. export licenses remains too long despite decades of effort to narrow it down to truly critical items. U.S. military commanders complain that the unnecessary classification of entire systems impedes their ability to conduct joint exercises and training with other countries' forces.

The international scene is not promising either. As of 2009, the Doha Round was likely to fall far short of its original goals even if negotiators revived it. A trans-Pacific free trade area, originally adopted as a goal by the leaders of the Asia Pacific Economic Cooperation (APEC) forum in 1993–1994 and endorsed by President George W. Bush and others in 2005–2006, is still in the study phase. A few U.S. bilateral and regional trade agreements have been negotiated and ratified, but others have run aground.

The most important of those still awaiting congressional approval is the Korea-U.S. free trade agreement, which would be the largest single trade deal since NAFTA.

Causes of the Protectionist Upsurge

Growing doubts about the benefits of international economic engagement reflect a general loss of American faith in U.S. competitiveness. According to one series of polls, 10 years ago, 58 percent of Americans thought that growing engagement in the global economy was “good” (because of new markets and jobs associated with exports), as opposed to “bad” (because of unfair competition and cheap labor). By December 2007, that figure had dropped to 28 percent.

Current economic conditions contribute to the new pessimism. Prior to the current financial crisis, these included long-term wage stagnation and a decline in the number of manufacturing jobs, white-collar layoffs, record U.S. trade and current account deficits, spikes in food and energy prices, soaring health care costs, and the huge income gap between the working class and the super-rich. Many blamed these trends on the globalization of production of goods and services and the spectacular rise of Asia, particularly China. Adding to the malaise are massive job losses, foreclosures, and business failures stemming from the severity and expected duration of the financial crisis.

Jobs. The most powerful driver of U.S. protectionism is the actual or feared loss of U.S. jobs, particularly in the manufacturing sector. It is a political fact of life that the jobs lost to import competition or outsourcing are far more visible than the jobs created either by imports (port services, retail, distribution, trucking, insurance, and so on) or by new export opportunities.

Like other industrialized countries, the United States has experienced a long-term increase in manufacturing productivity, and consequently a long-term decline in manufacturing employment. In the period 1940–2000, the proportion of workers employed in manufacturing declined from 32 percent to just below 13 percent, while manufacturing output increased elevenfold.¹³ Wage stagnation, which began 10 to 15 years before NAFTA, has fed a widening income gap between blue-collar workers engaged in manufacturing and those in the higher end of the services sector.

Trade Deficit. In the last few years, the U.S. trade deficit has soared to record levels, cresting at over 6 percent of GDP in 2005. As long as Americans con-

sume more than they produce, and invest more than they save, they will necessarily depend on imports to fill the gap. They pay for these imports by sending dollars abroad, putting huge piles of dollar-denominated assets into foreign pockets.

Much of the trade debate seems to rest on the obsolete assumption that goods are produced in one country alone. Most Americans, for example, would assume that a product bearing the label “Made in China” was wholly manufactured there. In reality, one-half to two-thirds of Chinese exports consist of imported materials and components. A similar proportion of China’s exports are produced by foreign-invested enterprises investing in China, with or without a local Chinese partner. In 2007, for instance, almost half of what the United States imported from China flowed between parent companies and their subsidiaries. In other words, bilateral U.S.-China trade statistics disguise both the role of U.S.-based multinational companies and the region-based content of China’s exports.

Even less well understood is the highly linked nature of trade and investment. Well over half of China’s exports are produced by multinational companies, either alone or in joint ventures with Chinese partners. According to the U.S. Census Bureau, in 2007 trade between parent companies and subsidiaries accounted for 29.6 percent of U.S. exports (China was eighth on the list) and a whopping 47.4 percent of U.S. imports (China was fourth on the list).

In the year following the outbreak of the credit crisis in 2007, trade accounted for roughly three-quarters of U.S. growth.¹⁴ The low value of the dollar stimulated a U.S. export boom and helped to keep an otherwise reeling economy growing. But this clear illustration of the value of trade evidently did little to dispel the appeal of protectionism.

Protectionist Rationale. The *-ism* in the world *protectionism* suggests an ideology of sorts, a systematic set of ideas and goals. But the people seeking protection from competition represent widely different interests; textile and apparel workers, for example, have little in common with sugar growers.

What unites protectionist forces is a sense of unfairness. It is only natural for people who lose their jobs to feel upset. But when lobbyists who represent them come to Washington, they tend to embed job losses in a broader narrative that runs something like this: Americans play by the rules, but foreigners do not. Americans are naive, but foreigners are sophisticated. Americans are willing to compete on a level playing field, but that field is tilted against them.

Americans believe in decent wages and working conditions, but foreign workers are willing to put up with exploitation. Because of this inherent unfairness, Americans have lost tens of thousands of jobs.

In some cases, the argument goes, national security is at stake. The United States is very vulnerable. We should not allow foreigners—even friendly ones—to acquire an influential role in any sector that is vital to America’s military self-sufficiency. Whereas American companies are market-driven, foreign companies may become tools of their governments, whose hidden goal is to acquire and exercise political leverage. And if foreigners win a major defense contract, American military forces would become dangerously dependent on others and might not be able to operate freely in wartime.

When it comes to particular industries, this rationale attracts bipartisan sympathy. At a rhetorical level, one political party extols free trade and the other rallies around “fair trade,” but that contrast quickly blurs when specific complaints arise. The Congressional Steel Caucus, for example, contains members of both parties. The result is a form of mercantilism: one-sided rhetoric that aggressively promotes exports abroad but justifies protection at home.

Priority Issues for the New Administration

Holistic Strategy versus Stovepipe Decisionmaking. The new administration needs to draw up a comprehensive, Government-wide strategy that integrates both military and economic components of U.S. foreign and domestic policy and deals with protectionism in that context. Such a holistic approach is particularly urgent in the case of U.S. policy toward Asia, where economic and security perspectives go hand in hand.

Implementation of such a strategy should be designed to overcome traditional stovepipe decision-making, which perpetuates turf battles and segregates decisions that ought to be made within a broad strategic framework. The new President should signal his intentions by revamping the staffing and organization of the National Security Council to fully reflect the intersection of political-economic and political-military issues. Decision memoranda brought to his desk should routinely incorporate both perspectives. He should also direct the relevant departments and agencies to ensure that trade policymaking is consistent with broad strategic concerns; narrow the scope of export controls and visa denials; and improve the review of incoming foreign investments by develop-

ing and applying key judgments consistently, such as degree of dependence, foreign availability, and industry concentration, among others.¹⁵

Embedding responses to protectionism in a broad domestic and strategic context means paying more attention to the legitimate political and economic needs of poor and middle-income countries. The result will be a negotiating posture that is a little less demanding, less fearful, and more generous.

Calibrating the new approach with the demands of good trade policy should not go too far. Many domestic reformers in other countries rely on American pressure to strengthen their case for carrying out needed changes in economic policy. Similarly, foreign entrepreneurs whose opportunities are currently blocked by domestic protectionist measures that favor vested interests would not support retaining the commercial status quo.

The main obstacle to such a shift in the tone and content of the U.S. negotiating posture is Congress. A new international economic policy will be dead on arrival unless the President and his top officials reach beyond trade subcommittees and appeal to a broad spectrum of members. They must justify the policy shift as a key element of a global national security strategy. They should point out, for instance, that a “kinder, gentler” trade policy would provide a constructive counterpoint to China’s highly successful commercial diplomacy.¹⁶ At the same time, they must bracket trade expansion with a far-reaching, comprehensive package of adjustment measures.

Comprehensive Domestic Adjustment. The long-term solution to protectionism lies in better education and domestic adjustment measures such as portable pensions, affordable health care, some form of wage insurance, and lifetime learning for all workers, not just those affected by trade. New legislation will require substantial efforts to overcome the current congressional gridlock. But since many Members of Congress are sympathetic to domestic adjustment measures and dislike having to cast trade votes, prospects are reasonably promising.

Ratification of Korean-U.S. Free Trade Agreement. The controversy surrounding the Korean-U.S. (KORUS) free trade agreement, and especially a dispute over the safety of eating American beef, has inflamed Korean public opinion and hobbled President Lee Myung-bak’s ability to work constructively with Washington. The United States should not walk away from an agreement negotiated in good faith with an important ally. The President may have to include KORUS in some kind of package deal to get it rati-

fied. Passage of other trade agreements will probably depend on the vigor of the initiatives recommended above.

Revitalization of the Multilateral Trading System. Bilateral free trade agreements are no substitute for global and trans-Pacific trade liberalization. They effectively penalize countries that are left out. Complex rules of origin requirements are particularly burdensome for small countries. Wrapping up the Doha Round of multilateral trade negotiations should be the top priority, followed by trade and investment liberalization across the Pacific. Rather than spending political energy pushing for a trans-Pacific free trade agreement all at once, Washington has wisely decided to join the trade-liberalizing Transpacific Strategic Economic Partnership, initiated within APEC by Brunei, Chile, New Zealand, and Singapore.

Reducing protectionism to a politically manageable level is a strategic imperative. Telling people that “open markets are good for you” just does not work. Devising a multifaceted domestic adjustment policy, embedding trade and investment policy in a broader strategic policy framework, and explaining these vitally related initiatives to a skeptical Congress and the public are strategic imperatives. [gsa](#)

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NOTES

¹ An efficient financial system can make up for a number of other strategic deficiencies. For instance, France, during the Napoleonic era, was more populous and had a far larger economy than Great Britain. Throughout the Napoleonic Wars, however, Britain consistently raised more capital than France—cash that William Pitt used to fight a global war, while also subsidizing most of Britain's continental allies. It stands to reason that the opposite—that weak financial institutions undermine a nation's strengths—is also true.

² With enactment of the Fiscal Year (FY) 2008 Supplemental and FY2009 Bridge Fund (H.R.2642/P.L. 110–252) on June 30, 2008, Congress approved about \$859 billion for military operations, base security, reconstruction, foreign aid, Embassy costs, and veterans' health care for the three operations initiated since the 9/11 attacks: Operation *Enduring Freedom* (OEF), for counterterrorism operations in Afghanistan and elsewhere; Operation *Noble Eagle*, to provide enhanced security at military bases; and Operation *Iraqi Freedom* (OIF). This \$859 billion total covers all war-related appropriations from FY2001 through part of FY2009 in supplemental appropriations, regular appropriations, and continuing resolutions. Of that total, the Congressional Research Service (CRS) estimates that Iraq will receive about \$653 billion (76 percent), OEF about \$172 billion (20 percent), and enhanced base security about \$28 billion (3 percent), with about \$5 billion that CRS cannot allocate (1 percent). About 94 percent of the funds are for DOD, 6 percent for foreign aid programs and Embassy operations, and less than 1 percent for medical care for veterans. As of April 2008, DOD's monthly obligations for contracts and pay averaged about \$12.1 billion, including \$9.8 billion for Iraq and \$2.3 billion for Afghanistan. See Amy Belasco, *The Cost of Iraq, Afghanistan, and Other Global War*

on Terror Operations Since 9/11, CRS Report RL33110 (Washington, DC: CRS, July 14, 2008).

³ Barry Eichengreen, "Is the Dollar About to Lose its International Role?" April 14, 2005, available at <www.econ.berkeley.edu/~eichengr/reviews/handelsblatt5apr29-05.pdf>.

⁴ See Statistical Annex to Bank for International Settlements Quarterly Review, September 2008, 103, available at <www.bis.org/publ/qtrpdf/r_qa0809.pdf>.

⁵ Heather Landy, "Lehman Credit-Default Swap Payout Could Climb as High as \$365 Billion," *Washington Post*, October 11, 2008, D3.

⁶ Bank for International Settlements, "Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity in 2007—Final Results," December 19, 2007, available at <www.bis.org/press/p071219.htm>.

⁷ "The New Monetarism and the Credit Crunch," October 20, 2007, Independent Strategy, London.

⁸ Berkshire Hathaway, Inc., 2002 Annual Report, available at <www.berkshirehathaway.com/2002ar/2002ar.pdf>.

⁹ Charles Kindleberger, *World Economic Primacy, 1500–1900* (Oxford: Oxford University Press, 1996), 36.

¹⁰ The original purposes of the IMF, listed in Article I of the IMF's Articles of Agreement, include "to promote exchange stability," to provide fund resources to members "to correct maladjustments in their balance of payments," and "to shorten the duration and lessen the degree of disequilibrium in the international balances of payments of members." Today, private capital markets dwarf IMF resources.

¹¹ Note that neither of these potentialities is currently being manifested by any sovereign wealth fund.

¹² Agitation in Congress was mainly responsible for the withdrawal or cancellation of at least three major investments: the would-be purchase of Unocal by China's national offshore oil company in 2005; also in 2005, Dubai Port World's purchase of the U.S. portion of a London-based company that manages six major American ports; and Bain Capital's planned purchase of 3Com with a minority interest held by a Chinese company.

¹³ Kristin J. Forbes, "U.S. Manufacturing: Challenges and Recommendations," Council of Economic Advisers, March 25, 2004, 3.

¹⁴ Krishna Guha, "Revision Puts Focus on Global Conditions," *Financial Times*, August 29, 2008.

¹⁵ See, for example, Theodore H. Moran, "Three Threats: An Analytical Framework for the CFIUS Process: Identifying Genuine National Security Risks and Threats, Dismissing Implausible Allegations," July 8, 2008, unpublished paper originally prepared under the auspices of the International Business Advisory Panel, National Intelligence Council.

¹⁶ See Ellen L. Frost, James J. Przystup, and Phillip C. Saunders, *China's Rising Influence in Asia: Implications for U.S. Policy*, Strategic Forum No. 231 (Washington, DC: National Defense University Press, April 2008), 4.

Chapter 2

Political Flux in a Nonpolar World

A Nonpolar World?

The gradual emergence of a multipolar world is likely to continue in the decade ahead. The age of Cold War bipolarity has ended even though serious tensions among the major powers remain. The myth of unipolarity was derived through a process of subtraction while the world succumbed to the sway of multiplication, which gave rise to aspiring and new centers of power. But the advent of a functioning multipolar world in all probability will take years to realize.

Today, the world is more nonpolar than multipolar, with no one power capable of mobilizing others around its agenda. The world also remains nonpolar in that most powers are reluctant to assume the role of global leader or security guarantor outside their borders. Even internationalist Europe is constrained by its lack of political consensus and its limited capacity to act decisively. Within these centers of power the general predilection, at least by default, is assigning the global security role to the United States, albeit in a

fashion that suits their common norms and interests. While political power has fragmented, emerging or re-surgent powers—China, Russia, India, and Brazil—do not possess the determination or capacity to take on the mantle of global leadership. Even though America is the strongest military power in the world, military power alone cannot be used outside of a political context. When considering the global, regional, and local political environment, military strength can become as much a liability as an asset. Moreover, the Nation does not have the capabilities to act as the principal security guarantor, at least on the level seen in past decades. Among other realities, the post-World War II security system is on its last legs, unable to keep astride of traditional threats as well as emerging threats of the 21st century.

While America will remain the single most important actor, especially militarily, its relative power has declined together with its political and moral influence. Thus, even though the Nation is



NATO foreign ministers meet to discuss enlargement and operations prior to Bucharest Summit, March 2008

unmatched in terms of military power projection, it has had difficulty translating its power into influence. The perception that the United States may contribute more to instability than to efforts to resolve it has eroded its claim on legitimacy and raised the transactional cost of action.

Some may regard U.S. military preponderance as inhibiting, but the fact is that America spends about 50 percent more on defense than China, Japan, India, Russia, France, Germany, Italy, and the United Kingdom combined. The global economic slowdown and looming world recession, however, may well start to reduce this asymmetry, but it is unlikely to change rapidly. Similarly, it is difficult to imagine any other nation or group of nations providing nearly the number of boots on the ground that the United States can mobilize in conflict and peacekeeping zones. No other country has provided even 10 percent of the deployed forces that America has in recent years. The next most significant troop contributor, the United Kingdom, labors under severe pressures and is hard pressed to honor its commitment in Afghanistan. Even if Europe contributes larger expeditionary forces, their impact will be qualitative and not quantitative. While China and other Asian powers maintain large armed forces, they are unlikely to commit large numbers of them far afield.

Europe is the obvious alternative center of power, with leaders in Paris, London, and Berlin proposing new ideas and in some cases making bold statements on the role that their nations, individually and as part of the European Union, can play in addressing traditional and nontraditional security challenges. France appears to be working in concert with rather than competing with American power, and Britain remains focused on the long haul in Afghanistan even while it pursues a vital role in a global agenda centered on economics, energy, the environment, trade, and development. For all the concern expressed in recent years over the fact that Europe lacks a serious capability to intervene militarily outside its borders, the countries of Europe manage to deploy almost half the number of troops abroad as the United States, and with less than half the defense spending. Although European nations are well positioned to assume some of the security burdens that America is currently shouldering, the political will and popular consensus lag behind.

The resurgence of Russia has been focused on presenting a counter to American leadership, in particular through military posturing and leveraging energy supplies to reclaim authority in the so-called

near abroad. While the conduct of Moscow can be explained, its willingness to resolve international security challenges outside its immediate sphere of influence is questionable given its ambivalence in joining with Europe, the United States, and to a certain extent even China in cooperating on critical issues such as the disputed Iranian nuclear program. Defining a realistic, limited strategic partnership with Russia may prove to be as difficult as it is important.

Some consider the ascent of China as a global power to be an alternative to American influence in the world. Even if such a transfer occurred, and assuming that China embraced the values of the Enlightenment, Beijing definitely is not about to seek, accept, or be given chief responsibility for global security leadership in the foreseeable future. China's decision to help combat piracy by sending ships to the Gulf of Aden and Red Sea is a potential barometer of its willingness to contribute more to international security, as well as of the international community's willingness to make room for that role. As China's stake in the global economy has grown, so has its awareness that it has a common stake in protecting sea lines of communication that are vital for trade and energy supplies. But fathoming China's long-range intentions is difficult, and the direction of the People's Liberation Army may or may not be on the same trajectory as a cautious Communist Party or a more mercurial Chinese society. The meteoric rise of China since Deng Xiaoping opened the country in 1978 to impressive economic growth and created a challenging range of domestic environmental, social, and political concerns. The downturn in the global economy has deeply influenced the views of the Chinese leadership, which is hopeful but no longer supremely confident that tapping into huge cash reserves and pushing more competitive exports will circumvent systemic trouble.

Other emerging power centers such as India, Brazil, South Africa, Japan, Indonesia, and even Iran are flexing their muscles, but none is able to secure peace within its respective region on its own, and in the case of Iran, peace may not be the objective that some leaders have in mind—all of which underscores that the United States remains unique in its military prowess. But even though there is still no alternative to America as the leading enforcer of the world order, it would be risky to assume that it will take on international security missions simply because others will not or cannot. The United States has too many challenges to cope with and too few resources to apply to them. Redefining complex problems,

exercising strategic restraint, mobilizing new power centers, and employing more leverage strategies will be crucial if the United States is to help balance its ambitious objectives with more constricted means.

In the decade ahead and most likely beyond, the United States will be the dominant military power on the international stage. But dominance is not what it used to be; the ability of military power to address modern security challenges is open to debate, and America has had difficulties in converting preponderance into influence. The change in Presidential administrations might turn the tide with regard to American legitimacy, but whether such a reversal of fortunes can be held together by a limited political consensus around the world remains to be seen. To the extent that the failure of the United States to achieve its security objectives has been the result of a breach of moral legitimacy among its closest allies, especially in Europe, there is an opportunity to mobilize international support around a common goal. As Sir Michael Howard opined:

American power is indispensable for the preservation of global order, and as such it must be recognized, accommodated, and where possible supported. But if it is to be effective, it needs to be seen and legitimized as such by the international community. If it is perceived rather as an instrument serving a unilateral conception of national security that amounts to a claim to world domination . . . that is unlikely to happen.

The evolving relationship among the major powers, the role of power centers and institutions in grappling with various traditional and global issues, the ability of nation-states to be effective political actors, shifting political norms, and the impact of religion and transnational forces are all salient issues that national security decisionmakers and military planners will be called upon to confront in the future. Some of the major questions that arise from a world in political flux are the following: how an expanding concept of responsible sovereignty may be useful in fashioning greater multilateral cooperation to tackle transnational challenges; the continuing relevance of shifting international norms; the evolving role of the nation-state and nationalism; the relationship between politics and religion, particularly Islam; and the complex political challenge posed by the fundamental problem of food security. The contributions that follow highlight these and other key issues.

International Cooperation in an Era of Transnational Threats

The greatest test of global leadership in the 21st century will be the way in which nations act in the face of threats that transcend international borders, from nuclear proliferation, armed conflict, and climate change to terrorism, biological hazards, and abject poverty. Today, national security is interdependent with international security. Globalization has led to unprecedented advances in every sector of the economy. The ability to use global markets for capital, technology, and labor has allowed the private sector to accumulate wealth unfathomable 50 years ago: it has helped lift hundreds of millions of people in emerging economies around the world out of poverty.

The forces of globalization that stitch the world together and drive prosperity could also tear it apart. In the face of new transnational threats and profound security interdependence, even the strongest countries rely on the cooperation of others to protect their national security. No nation, including the United States, is capable of successfully meeting the challenges, or capitalizing on the opportunities, of this changed world alone. But American foreign policy lags behind these realities. A new approach is required to revitalize alliances, diplomacy, and global institutions central to the inseparable relationship between national and international security. Leadership by the United States is indispensable in managing threats for the world. Yet that leadership must be focused on traditional partnerships with allies in Europe, Asia, and Latin America as well as on new relationships with ascendant powers such as China, India, Brazil, Russia, and South Africa. The attitudes, policies, and standards of major states will exert a disproportionate influence on whether the next 50 years move toward international order or entropy. Actions by the President, working in collaboration with the leaders of many traditional and rising powers, will profoundly influence the course of international security and fruits of prosperity in a global age.

Responsible Sovereignty

Spirited interdependence does not make international cooperation inevitable. Instead, shared interests must be turned into a common vision to revive an international security system that will profit everyone. Foresight, imagination, pragmatism, and political will, fueled by effective American leadership, established a new international era after World War II. Institutions such as the United Nations,

International Monetary Fund, World Bank, and General Agreement on Tariffs and Trade (now the World Trade Organization) contributed to economic growth with extraordinary results and prevented another conflict among major powers.

However, the vision for an international security system is clouded by the mismatch between post-World War II multilateral institutions premised on traditional sovereignty—a principle that says borders are sacrosanct and that insists on noninterference in domestic affairs—and the realities of a transnational world where capital, technology, labor, disease, pollution, and nonstate actors traverse national and regional boundaries irrespective of the intentions of sovereign states.

The domestic burdens inflicted by transnational threats such as poverty, civil war, disease, and environmental degradation point toward cooperating with global partners and strengthening international institutions. Entering into agreements or accepting help from other states does not weaken sovereignty—it is exercising sovereignty to protect it. The project on Managing Global Insecurity calls for building international cooperation on the principle of responsible sovereignty. This means taking responsibility for the external effects of one's domestic actions: sovereignty entails obligations toward other states as well as one's citizens. To protect national security, even sovereignty, states must have rules to guide actions that reverberate beyond their borders. Responsible sovereignty implies a positive interest by powerful states to provide weaker states with the capacity to exercise their sovereignty responsibly, a responsibility to build.

Sovereignty is emphasized because states are the primary units of the international system. As much as globalization has diminished the power of states, there is simply no alternative to the legally defined state as the primary actor in international affairs or substitute for state legitimacy in the use of force, provision of justice, and regulation of both public spheres and private action. Responsibility is raised because adhering to traditional sovereignty and deferring to individual state solutions have failed to produce peace and prosperity. In a transnational world, international cooperation is essential for the sovereignty of states: it protects people and advances interests. Responsible sovereignty is a guidepost to creating a better international system. Just as founding members of the United Nations and the Bretton Woods institutions had a vision of international cooperation based on a shared assessment of threat and a shared notion of sovereignty,

global powers today must chart a new course to meet greater challenges and opportunities.

Agenda for Action

Global realities have led to the convergence of international interests to build a security system for the 21st century. The case for action to defuse or prevent regional and global crises is not a soft-hearted appeal to the common good, but rather a realist call to action. If short-term crises crowd out lasting reforms, nations and policymakers will be denied the tools to address future disasters. If action languishes, nationalistic opportunism may provoke unilateral actions that undermine sustainable solutions. Then conflict, isolationism, and protectionism will be imminent threats to global security and prosperity. Climate change and nuclear proliferation, for example, could become existential challenges to the planet: the clock is ticking.



UN (Joao Araujo Pinto)

Member nation flags fly at United Nations Headquarters

International cooperation requires power to underpin responsibility. This analysis identified five prerequisites: effective American policy and leadership, institutionalized cooperation among traditional and emerging powers, negotiated understandings of responsible sovereignty in threat areas, efficient and legitimate international institutions, and nations with the capacity to achieve their responsibilities toward their people and the international community. An action plan would embrace these prerequisites on parallel tracks to restore U.S. standing internationally, revitalize international institutions, respond to transnational threats, and manage future crises.

Track 1: Credible Leadership. No other nation in the world has the diplomatic, economic, and military

capacity to rejuvenate international cooperation. But to lead, the United States must reestablish itself as a good-faith partner.

Unilateral action in Iraq, Guantanamo, and Abu Ghraib as well as the sanctioning of torture, use of rendition, and linkage of the Iraq War with democracy harmed American credibility. The Nation must demonstrate its commitment to a rule-based international system that rejects unilateralism and looks beyond exercising military power. In turn, major states will be more willing to share the burden in both resources and political capital to manage global threats. Toward that end, the United States should immediately undertake a number of initiatives that include:

- sending top-level officials to consult with allies and rising powers on international priorities
- delivering consistent messages on international cooperation, including in the lead-up to the Group of Eight (G-8) and United Nations (UN) General Assembly meetings by outlining a vision for a 21st-century security system
- initiating the closure of Guantanamo and sustainable detainee policies, and committing to adhere to the Geneva Conventions, Convention Against Torture, and other traditional laws of war.

In time, the United States will need to dramatically upgrade its foreign policy apparatus, including doubling the number of Foreign Service Officers over the next 10 years and rewriting the Foreign Assistance Act to elevate development priorities and improve effectiveness.

Track 2: Power and Legitimacy. The status of international institutions must be enhanced by including representatives of emerging powers and refocusing their mandates on 21st-century challenges. Leaders and mandates of institutions from the G-8 to the UN Security Council have not kept pace with powerholders and dynamic threats in a changed world. Emerging powers are excluded from decisionmaking processes that affect their security and prosperity. The traditional powers cannot achieve sustainable solutions on issues from economic stability to climate change without new great powers at the negotiating table. Accordingly, global leaders should:

- Create a Group of 16 (G-16) to engage with Brazil, China, India, South Africa, and Mexico (Outreach 5) and the Muslim-majority nations of Indonesia, Turkey, Egypt, and Nigeria. Replacing the outdated G-8 with the G-16 would serve as a prenegotiating

forum to forge agreements on key challenges.

- Initiate voluntary veto reform of the UN Security Council as a confidence-building measure.
- End the Euro-American monopoly of the International Monetary Fund and the World Bank, and refocus the International Monetary Fund to monitor exchange rate policies and facilitate unraveling of global imbalances.
- Strengthen regional organizations, including a 10-year capacity-building effort of the African Union and support for a regional security mechanism for the Middle East.

Expansion of the UN Security Council would be a signal of the commitment to share the helm of the international system, but conditions for this reform are not likely to be propitious in 2009. However, the decisive expansion of the G-8 in 2009 would represent a credible foundation.

Track 3: Strategy and Capacity. It will be necessary to enhance international cooperation and institutions to manage the global agenda. A number of upcoming items will require action, including the UN Framework Convention on Climate Change, the Nuclear Non-Proliferation Treaty, and global trade issues. In the case of climate change, continuation of the current trends in using fossil fuels would be tantamount to a new era of mutually assured destruction. There is no doubt about the catastrophic effects if nuclear weapons are used. Global leaders should:

- Negotiate a climate change agreement under the auspices of the framework convention that includes emission targets for 2015 and 2050 and investments in technology, rainforests, and mitigation.
- Revitalize the core bargain of the nonproliferation regime of nuclear weapons states by reducing their arsenals, particularly those of the United States and Russia. Every nation should endorse the additional protocol and work to develop an international fuel bank.
- Initiate G-16 prenegotiations on an open and inclusive trade regime to conclude a round of the World Trade Organization that benefits poor countries.

In addition, progress must be achieved on other global challenges—those threats associated with the use of biotechnology, regional and civil conflict, and global terrorism—in order to:

- build local public health capacity to fully implement the International Health Regulations and

develop an interagency panel to forge consensus on the dangers and benefits of biotechnology

- increase international investments in conflict management with a goal of a reserve force of 50,000 peacekeepers and a \$2 billion fund for peace-building

- establish the post of UN High Commissioner for Counterterrorism to focus international efforts to build counterterrorism norms and capacity.

Track 4: Crisis Response. The diplomatic mechanisms for crisis response in the Middle East must be internationalized to address regional conflict and transnational threats. Global leaders must be confident that a 21st-century international security system will produce better outcomes for the crises at the top of their national security agendas. The Middle East is the most unstable region in the world and a vortex of transnational threats. The G-16, in cooperation with leading regional actors, can identify shared interests and catalyze more focused support to:

- move the Annapolis Process forward to support an Israeli-Palestinian peace settlement

- commit adequate forces and civilian capacity to create a stable peace in Afghanistan

- focus U.S. and international efforts on a political settlement and civilian surge for Iraq

- conclude successful regional diplomatic negotiations on the Iranian nuclear program

- initiate efforts toward a regional security mechanism for the Middle East to provide a process to guarantee borders and protect stability as existing crises ease.

Sequencing and Targets of Opportunity

This agenda for action is sweeping but unavoidable. It will require immediate and sustained attention, political momentum, and parallel action to achieve results across diverse issues and pending crises facing global powers. The international community will look for signs that the United States is genuinely seeking global partnerships. Accordingly, Track 1 should begin in earnest to restore the standing of America as the basis for revitalizing the international security system. The world will not support Washington's lead to make reforms if the United States does not commit itself to cooperative efforts.

The convening power of the G-16 and the weight of its collective economic, diplomatic, and military strength as well as combined populations would create an unparalleled body to mobilize international

action: an entity to navigate the turbulence of diffuse power, transnational threats, and the changing distribution of power among key states. The formation of the G-16 in 2009 would help by revitalizing international institutions (Track 2), combating transnational threats (Track 3), and internationalizing crisis response (Track 4). G-8 leaders should make a concerted effort with their Italian host to shape the agenda for the meeting in 2009 to ensure G-16 formation. But if the G-16 is not created in 2009, the United States and other powers should act as if it does exist and convene informal meetings to achieve comparable effects. That may strain American diplomacy, but it will pay dividends in making the U.S. diplomatic efforts more effective.

The international agenda will impose a schedule of action on transnational threats, including the Conference of the Parties to the UN Framework Convention on Climate Change in 2009 and Nuclear Non-Proliferation Treaty review conference in 2010. These two events provide venues to sustain dialogue and take concrete steps on climate change and nuclear proliferation. Actions over the next 2 years will determine if the Doha Round of the World Trade Organization or another trade negotiation can produce an agreement that brings poor countries into global supply chains or undermines the organization's credibility as a rule-setting global institution.

Finally, crises will continue. They will remain at the top of domestic foreign policy priorities and thus require immediate attention. Yet powerful nations such as the United States will be more likely to reach a political settlement in Iraq, address the nuclear threat of Iran, and promote civil order in Afghanistan by working through stable global partnerships and effective international institutions. Progress on a larger agenda to revive the international security system and engage rising powers in cooperative arrangements must be accomplished in parallel. The success of this global agenda will not only address crises today but will also prevent disasters tomorrow.

Global leaders face a choice: they can either use this moment to shape an international rule-based regime that will protect their global interests or resign themselves to an ad hoc system in which they increasingly find themselves powerless to influence international events. An agenda for action will not be realized in 2 years or even 10. But the longer the delay in beginning to develop approaches to counter the threats of today, the more difficult it will become to meet the challenges of tomorrow. Leaders should chart a path that combines power and responsibility

to achieve what cannot be achieved separately—peace and security in a transnational world.

The Normative Shift: Sovereignty versus Intervention

The modern world poses a set of realities for the international community that include terrorism, globalized markets, information technology, emerging powers, climate change, failing states, the changing nature of war, mass migration, proliferation, pandemics, and so forth. There is no shortage of challenges to the existing world of international law, and at the top of any list is sovereignty. For some observers, the issue for the international community is whether it can or should “recognize a responsibility to override sovereignty in emergency situations—to prevent ethnic cleansing or genocide, arrest war criminals, restore democracy or provide disaster relief when national governments were either unable or unwilling to do so.”



Anti-U.S. mural in Tehran, Iran

The Cold War Consensus

It was fashionable to think of international law as creating norms that linked a three-tiered chessboard of interconnected power with overlapping integrated values. The top board featured military power. The West coalesced under collective agreements such as the North Atlantic Treaty Organization (NATO), and security was based on a mutual assistance pact. The Soviet Union and its satellites had the Warsaw Pact. Although proxy wars or crises punctuated 60-plus years of peace, a dreaded nuclear exchange was avoided. Liberation wars occurred from Korea and Cuba to Vietnam and Laos, and aborted revolutions in Hungary and Czechoslovakia embarrassed the Western powers, but still the international system held. All agreed that the Geneva Conventions governed the law of armed conflict, and violators expected worldwide opprobrium. Even though the expansion of the Geneva Conventions and the establishment of the International Criminal Court were not supported by the United States, compromises were found to preserve the international consensus. Developments such as the Non-Proliferation Treaty, the International Atomic Energy Agency, and the Nuclear Suppliers Group supported control of the number of nuclear powers and the production of nuclear bombs, which are the ultimate weapon.

The United Nations structured the middle board or international political power game where the post-World War II great powers navigated the tricky waters of containment, mutually assured destruction, and nuclear deterrence. When conflict strained the doctrines of nonintervention and self-determination, the Security Council promoted the international consensus on the balance of power. Issues such as the Palestinian question were deferred because they threatened to unhinge the board, but shifting coalitions held the pieces together. Although there were regional groups, such as the European Union or the Shanghai Cooperation Organization, international exchanges focused on the United Nations.

The bottom board, which supported the entire structure, was the economic game. In addition to the General Agreement on Tariffs and Trade, World Trade Organization, International Monetary Fund, and World Bank were international financial institutions and economic agreements that became legal underpinnings of the world market. The U.S. dollar replaced the British pound as the international reserve currency, and the Organization of the Petroleum Exporting Countries managed oil as a

Courtesy Bertil Videt

commodity. Markets became interconnected trading emporiums that gave rise to various industries, competitors, and globalization.

Cracks Become Chasms

The three-tiered game maintained the international status quo, and a great deal of effort was expended to ensure the top board never disabled the supporting boards. The West strove for consumer expansion without socialist influence while the East attempted to have growth without liberalism. Cracks in the boards appeared, with the rise of economic actors such as Brazil, Russia, India, and China. The Security Council gradually became impotent because of the veto exercised by the great powers, who protected special relationships with client states that began to implode. Although such behavior was anticipated in the case of China and Russia, the United States also began to consider any expansion of the board games as negative. America was reluctant to be constrained on any board, rejecting international treaties such as the expansion of the Geneva Conventions (that is, Protocols I and II), limitations on landmine use, the Non-Proliferation Treaty, the Kyoto Protocol, and the UN Convention on the Law of the Sea (UNCLOS).

The triple-tiered board game and international legal system were upended by the collapse of the Soviet Union, the attacks on September 11, 2001, and more recently the fall in the dollar and oil prices. The United States chose a three-tiered board strategy that was a radical departure or transformative approach to the game. On the political level, America and Europe outflanked the Security Council and the vetoes of Russia

and China by choosing NATO, a regional security organization, to legitimize involvement in Kosovo. Subsequently, on the military level, the United States ignored the Geneva Conventions and the protections for prisoners of war using its new theory of unlawful combatants. The doctrine of self-defense was suspended to allow for preemption in an unusual expansion of the doctrine of prevention. Although the United Nations was approached on Afghanistan, the United States acted largely unilaterally in Iraq and ignored the protestations by the Security Council. In the face of a weakened Russia, and without a peer competitor on the horizon, the United States became a non-status quo power militarily.

The non-status quo power approach migrated to the political board based on military moves. Political unilateralism began to undermine the United Nations and European Union. Historic allies, members of regional alliances that once were thought to be counterweights to foes of nonliberal systems, now were seen as unwanted anchors to unfettered U.S. movement. Economically, domestic upheaval in the housing market combined with an external debt-driven growth model to devalue the dollar and spike oil prices. Although the World Trade Organization is strong and supported, it is clear the growth of globalism will entail a resource scramble to sustain economic powers that may upset the military board. These policies emboldened a rejuvenated, aggressive Russia, flush with increased oil revenues and profiting from economic and political uncertainty, to march into Georgia under the questionable justification of protecting its people from genocide. In August 2008,



Federal Republic of Germany (Bernd Kühler)

Leaders of Group of Eight leading industrialized nations gather during 2007 summit

as the world watched Russian tanks roll into Georgia and debated ways to react, some argued for sanctions on the economic board such as expulsion from G-8 economic summits while others contended that a new Marshall Plan for Georgia was needed. Although no response gelled, it was apparent that the global legal order was being tested and the international response would help define the future consensus over sovereignty versus global intervention.

Chasms and Bridges

At a conference on international law convened by Craig Allen at the Naval War College in 2006, a group of experts pondered a vision of the future global legal order. Allen boiled down the possibilities of the global legal order to six potential futures that may arise by 2020:

- no growth
- slow growth
- significant growth
- total disintegration
- fracturing the order into regional and bilateral arrangements
- no one single future—that is, constant flux.

American policies will be critical in determining which of the six futures will ascend. To some observers, the world has become a competition among three types of regimes: autocratic economies (Russia and China), Islamic traditional states (Iran and Saudi Arabia), and liberal democracies (the United States and European Union members). These groupings have internal rivalries but share certain values. Each will struggle on the three-tiered chessboard to expand power, gather satellites for alliances, and maneuver for comparative advantage.

The United States should adopt a fox bridge-building approach rather than a hedgehog go-it-alone strategy for each board. Board blending is the goal of the future whereby strategies must be understood in light of how they affect games on the other levels. On the political board, a call for a new multilateralism of both international actors and institutions is required. It should not be a council of democracies or a bloc comprised of the United States, European Union, and India versus the world. America should seek regional alliances with strategic local actors to establish agreed principles of regional intervention, which may require acceding to the International Criminal Court. More specifically, the Nation must forge coalitions to condemn repressive actions by

Sudan. The United States must work in concert with regional players in the event that national sovereignty is violated in the name of humanitarian rights.

Secondly, a number of conventions should be readopted, confirmed, and created. The Geneva Conventions and Convention Against Torture, Cruel, Inhuman and Degrading Behavior should be reaffirmed. Debate should be started on Protocols I and II, which have not been signed. The Senate should confirm UNCLOS and renew debate on the Kyoto Protocol and Land Mines Convention. Cyberspace has generated challenges that call for negotiating a convention on this new field, which can serve as an economic tool or potential weapon. Before Georgia was invaded by Russia, its infrastructure became a target of destabilizing cyber attacks. Moreover, the United States must reestablish its legitimacy through a process of reform. But the regional organization and Security Council tracks should be pursued simultaneously. Issues such as proliferation and international crime require shifting coalitions of like-minded states.

In sum, great powers and power blocs—old and emerging—must find ways to build bridges so sovereignty claims do not result in the projections of force that destroy the accomplishments of the post-World War era. Although the status quo did not help people under communism in the 20th century, it did succeed in allowing for a 21st century. The old saw that nation-states have become too small to handle global problems and too big to handle the new politics of identity has merit. Cold War institutions served their purpose but must be reformed to deal with current and emerging challenges. America will play a major role in determining the future bequeathed to the next generation, but it will not dictate its version to the world. The international community is watching to see if the United States successfully builds institutions for the next century.

The Fate of a Faith

Most great wars of the 19th and 20th centuries were waged in the name of nationalism. Moreover, they were fought by nations with large conventional forces and national liberation movements in league with insurgents. From the French Revolution and nation in arms to the anticolonial wars of the 1950s through the 1970s and beyond, nationalism and the nation-state remained front and center in the realm of international politics and the execution of military strategies.

Nationalism and the Nation-state

In the first half of the 20th century, both nationalism and the nation-state posed the greatest of all foreign challenges to the United States, culminating in two world wars. By 1910, the development of nationalism and the nation-state reached its most intense form in Wilhelmine Germany. Only the grand alliance of Britain, France, and America could marshal the forces to defeat and temporarily subdue the ferocious unity, determination, and ruthless efficiency of the German nation. And only two decades later, nationalism and the nation-state reached new heights in National Socialist Germany. Only the grander alliance of Britain, Russia, and America could assemble the means to defeat the German nation for a second time. Furthermore, almost as developed as Nazi Germany in terms of nationalism and the nation-state was Imperial Japan, which also posed an epic challenge to the United States. Indeed, in order to defeat the challenges from Germany and Japan, the United States itself developed a higher and more intense form of nationalism and the nation-state than it had in its past or has since then. It was overcoming these immense challenges that would lead to the American way of war.

The defeat of the United States in Vietnam was inflicted by a movement with international communist support that used nationalism to unify a nation by the force of arms. Unfortunately, by the 1960s, America possessed a much less vigorous nationalism and nation-state than it had only a generation before, which contributed to its ultimate defeat in Vietnam. For much of the 20th century, foreign threats to the United States came from some version of nationalism and the nation-state. But in the 21st century, transnational Islamist terrorist networks have replaced the once-central role of nationalism and the nation-state. Indeed, many political and military leaders and policy analysts have concluded that the era of nationalism and the nation-state has ended, or at least has abated with only the fading vestiges of those once-powerful forces still at play.

The ideology of nationalism and the nation-state was a product of a particular place and time. The place was Western Europe, initially Britain, then France and Germany, until all Europe was reshaped around nationalism and the efforts to institutionalize its manifestations in nation-states. The time was the high modern era from the French Revolution to World War II, which was the greatest conflict between nationalism and nation-states and was so destructive that it went far toward bringing an end to nationalism and independent nation-states in their homeland, Western

Europe. That age also corresponded to the Industrial Revolution and the eventual development of mature industrial economies as well as mature industrial military organizations and warfare.

Postmodern Era

The current post-European, perhaps even post-Western, era is marked by the great and dynamic economic and political developments found beyond Europe, particularly in the rising great powers of China and India but also in the rising transnational religion of Islam. Moreover, in regard to the societies of Europe and more generally the West, this is also the post-modern age. Ironically, the most dynamic examples of nationalism and the nation-state today are China and, to a lesser but growing extent, India. Perhaps this is because these rising powers have entered their modern age, with rapid industrialization and burgeoning business and professional sectors, at the same moment that Europe and the West have been graduating from theirs.

The Middle East and Muslim world passed through a sort of modernizing and nationalist age such as the Arab nationalism in the 1950s to the 1980s, but in reality much of the Muslim world only parodied the Western originals. Modernization and nationalism never fit Muslim societies and, after a generation, ended in exhaustion and failure to be succeeded by the Islamic revival, or more accurately by the part-traditional, part-modern ideology of Islamism, which is postnational and transnational. The only real example of strong nationalism or the nation-state in the Muslim world has been Turkey, since Ataturk established the new republic in the 1920s. But today even Turkey is being transformed by a rising Islamism, albeit one that is less militant than the Arab, Iranian, and Pakistani versions, which threaten both the United States and Western Europe.

Since 2000, classical populism and anti-Americanism have been resurgent in Latin America, the form of traditional nationalism in that region. The waves of populism and anti-Americanism have come and gone before, normally about once every generation. They have never been able to create widespread and well-grounded nationalist identities, such as Europe, or establish strong and legitimate nation-states. Finally, with regard to Sub-Saharan Africa, that vast and poor region is stuck in the era of tribalism and predator states, in which one tribe savagely preys upon the other. In Africa, nationalism and the European, modern-style nation-state are nowhere in sight.

Overall, nationalism and the nation-state were once authentic, strong, and vigorous in Europe, but they

are no longer so. Rather, they have been succeeded by a listless system composed of the supranational and spiritless European Union and by the subnational and self-centered individualism and hedonism of postmodern Europeans. In the Muslim world, Latin America, and Sub-Saharan Africa, nationalism and the nation-state were, with rare exceptions, never truly authentic, strong, and vigorous, and have almost totally disappeared in both Muslim and African countries. The one place where nationalism and the nation-state still thrive is East Asia, particularly China.

Variations on European Themes

A century ago, the one dynamic society in East Asia was Japan, which was rapidly modernizing, industrializing, and nationalizing. Japan had developed nationalism and the nation-state to an almost perfect degree by brilliantly emulating nationalism and nation-states in Western Europe. The Japanese nationalism proceeded to terrorize the rest of East Asia, especially China, for about four decades until 1945 when the U.S. military devastated this exemplar of the nation-state. The Japanese reinvented nationalism and redirected their military prowess to economic prowess. This period also lasted for about four decades until the early 1990s. But today, Japanese society has become quite postmodern, and its nationalism and the nation-state are considerably weaker than during most of the 20th century.

China is moving along a path that is similar to but more sophisticated than the one that Japan took nearly a century ago. Indeed, China exhibits similarities to another modernizing, industrializing, and nationalizing state, Germany of a century ago. But China also resembles the United States in that era. America under Theodore Roosevelt was establishing an authentic, strong, and vigorous nationalism and nation-state, which the 26th President called the New Nationalism.

Of course in the examples of Japan, Germany, and the United States in the early 20th century, vigorous industrial expansion provided newly confident nations with modern armies and fleets. Today, nearly double-digit annual growth rates over most of the last two decades and confident nationalism are facilitating the modernization of Chinese ground, sea, and air forces. However, Beijing seems to be investing in the potential of cyberwar in the information age rather than in weapons systems of the industrial era. There is increasing evidence that China intends to trump the overwhelming American advantage in the most advanced warfighting systems by achieving an equality or even superiority in new technologies and cyberwar tactics of the information age as evidenced by attacks

on Department of Defense computer systems. The increasing capacity of the Chinese to neutralize or contain traditional American military advantages within East Asia (including the U.S. Seventh Fleet in the Western Pacific) will pose a definite challenge.

The New Central Kingdom

How will nationalism and the nation-state unfold in China over the next decade, and what will it mean for the rest of the world and especially the United States? The Chinese path toward a fully developed nationalism and the nation-state may follow earlier Japanese, German, and American models, and it will make a great deal of difference to all parties concerned which of these modern countries China comes to resemble most closely.

However, China as a civilization and the Central Kingdom with its distinct way of ordering social relationships, including with its neighbors, had existed many centuries before the modern era of European-style nationalism and nation-states. For example, Imperial China traditionally ordered relations with eastern and southern neighbors (Korea, Okinawa, Taiwan, and Vietnam), not in a European-style colonial system of direct rule, but in a tributary system of indirect rule, in which local monarchs had a great deal of independence, as long as they deferred to the authority of the Emperor in Beijing and did not allow their territory to become a base for other powers to threaten China. The growing Chinese economic and cultural presence and soft-power offensive in Southeast Asia, and increasingly in Central Asia, bear similarities with this traditional manner of conducting foreign relations. In the event, both nationalism and the nation-state in China will have their own distinctive Chinese characteristics, to paraphrase the words of Mao Zedong.

In the fullness of time, China also may enter its own postmodern and postnational era, once again with its own distinctive characteristics. What China and the United States will look like at that time is almost impossible to tell. But one thing probably can be assumed. Just as China had existed as a distinct civilization long before nationalism and the nation-state came into existence, China will endure as a distinct civilization longer than nationalism and the nation-state.

Islamism and the Crisis of Governance

It is an undeniable fact that with the end of the Cold War and the eclipse of the Soviet Union, the political center of many if not all Muslim-majority nation-states has been occupied by those who see Islam not merely as a faith and value system, but also as a vehicle for

political mobilization. Therefore, Islamism is a real phenomenon that cannot be discounted any longer, nor should it be regarded as an aberration, a quirk in the developmental process of the Muslim world.

For reasons that now have become clear, the ascendancy of political Islam is not accidental: Islamists were actively courted by their respective states as well as the United States as allies in the struggle against communism from the 1960s to the 1980s. In Indonesia, Islamist organizations were instrumental in checking the advance of the communists in 1965–1970. In Pakistan, Islamist parties such as the Jama'at-e Islami and Jamiat'ul Ulema-e Islam were influential in countering communists at home and in mobilizing Afghan jihadists against the Soviet occupation. It should come as no surprise that Islamists in countries such as Pakistan and Indonesia have achieved such preeminence, given their cozy relationship with the government in the recent past.

Muslim governments faced another crisis that came about as a result of the global economy. The impact of globalization has been manifold, opening up developing economies and societies faster than ever. But it has also meant that under the liberal market regimes favored by global capital, many developing states have experienced economic governance and protectionism, which reduce the role of the state as the determining factor in the national economy. From the 1960s to 1980s, it was the relative boom in many developing economies that allowed states to maintain their grip on the local Islamist movements through the combination of coercion and cooptation. Today, as globalization renders states weaker around the globe, the capacity to control, guide, and domesticate potential Islamist opposition in their own territories has been visibly weakened.

Because much of this globalization process has been driven by Western capital, globalization has come to be conflated with Westernization and more specifically Americanization—hence the constant attacks on the emblems of global consumerism that are equated rightly or wrongly with American culture, politics, and hegemony. The rejection of globalization-Americanization is not unique to the Muslim world, for similar campaigns have been waged against American popular culture in non-Muslim countries, such as predominantly Hindu India and predominantly Catholic Latin America.

The Othering of America

Another development that has impacted directly on relations between the West and Muslim states

over the last three decades has been the gradual process of distancing or the *othering* of America, which resulted from many factors, chief among them U.S. foreign policy in the Muslim world. Research conducted over the last 7 years involving hundreds of interviews with Islamists in India, Pakistan, Malaysia, and Indonesia points to the conclusion that the United States is seen as a threat to Muslim interests and partisan in its approach to the global Muslim community. The factors accounting for this perception, which has become hegemonized and sedimented among Islamists, range from the American position on the Israel-Palestine peace settlement to interventionist policies in countries such as Iraq and Afghanistan and even Sudan.

It is important to note that this perception of the United States as a threat to Muslim identity and politics is relatively new. In the wake of World War II, America was seen in a positive light as the liberator that helped many Muslim countries remove the yoke of European imperialism or Japanese militarism. This is particularly true in the case of the biggest Muslim nation, Indonesia, where America is credited with challenging Dutch and British colonialism in the region.

America also was seen as the most important strategic ally to Muslim states and communities during the Cold War, when foreign aid and military assistance was sought by Muslim countries to fend off perceived communist threats. This was certainly the case in Indonesia and Malaysia in the 1950s and 1960s and Pakistan after the rise to power of Zia 'ul Haq. This spirit of mutual support and cooperation persisted throughout the Soviet occupation of Afghanistan and in many respects was seen as the model condition to emulate by Muslims the world over until the cessation of hostilities in Afghanistan. This also accounts for how and why so many Muslim governments turned to the United States for inspiration for their own development models, and why so many nations sent many of their students to American universities to continue their education.

The turning point came after the end of the Afghan conflict, and the period of relative neglect that followed. It was during this time that many Muslim governments began to feel the impact of their uneven development, with rising expectations that could not be satisfied because of weak political structures exacerbated by debilitating effects of a rapid globalization process.

Latent antigovernment resentment over unfair and uneven developmental policies coupled with the loss of patronage on the part of Muslim states meant

that Islamists could mobilize and challenge the state. In the process, many populist, mass-based urban Islamist movements lashed out at comprador allies and patrons in their governments, and in sweeping generalizations made against their own elites condemned close associations with foreign governments, multinationals, and international agencies, many of which were either American or U.S.-based. Support of Muslim governments, many of which had assumed the role and stature of nonrepresentative or authoritarian regimes by the 1980s, meant that condemnation of Muslim leaders such as Suharto in Indonesia also included condemnation of their American allies and strategic partners.

The failure of American foreign policy outreach was ignoring mass-based populist Islamist currents and groups that were developing in countries such as Pakistan, Bangladesh, Indonesia, and Malaysia. It is important to note that much cooperation between America and its Muslim allies from the 1960s to the 1990s took the form of government-to-government ventures, and seldom focused on the ground-level developments that were taking place in emerging urban spaces such as universities. When new Islamist groups began to appear on Indonesian campuses in the late 1990s, many Western policymakers were caught by surprise, unaware of the fact that these groups had initially begun to organize and mobilize their efforts as early as the 1970s.

The New Voice of Islamism

The relative marginalization of the official discourse in many Muslim societies means that states no longer have exclusive monopolies on communication in their respective societies. In nations such as Pakistan, Bangladesh, and Indonesia, a new generation of Islamist leaders, orators, nongovernmental organizations, civic groups, political parties, and business networks contest dialogue of the public sector, and the state has become only one voice among many. Muslim governments, regardless of their relationship with the United States, are no longer in a position to moderate or determine the tone and tenor of popular Islamist discourse in their countries and cannot be depended on to balance the negative images of America.

For this reason, alternative modes of direct engagement must be considered in reaching out to Muslim societies today. In the 1970s, for instance, American and Western agencies could still cooperate with Muslim governments and civil society networks to jointly advance progressive social reforms such as family planning, for the simple reason that the

United States was regarded as a sympathetic ally to Muslim interests. But today, any attempt on the part of America and Europe to further agendas, such as gender equality, educating women, and democracy, is seen in a negative light as part of a plot to weaken the Muslim world. U.S. policymakers must realize that because of the popular reaction to the invasion of Afghanistan and Iraq, the American image in the Muslim world is at an all-time low. American foreign policy initiatives have been cast as unilateralist and detrimental to Muslim solidarity and welfare, and reform initiatives are regarded with suspicion. Top-down initiatives through courting and coopting Muslim elites, intellectuals, and spokespersons no longer work, as demonstrated by the failure to reform religious schools or *madrassas* in Pakistan and promote liberal Islam in Indonesia. In the latter instance, previously respected Indonesian scholars and activists who were identified as model progressive Muslims or Muslim democrats were labeled as traitors and American agents not only by hardline Islamists, but also by mainstream Muslim media. The hand of America is the Midas touch for Muslim nations, and top-down modes of engagement may prove counterproductive in the short to long run.

Faced with the prospect of further alienation, American policymakers should consider means of engagement that are less controversial, direct, and restrictive. Engaging with the Islamists by listening to their grievances may be such an alternative. One example of this approach was the 2-week program for Islamists from Indonesia and Malaysia that was conducted in Berlin under the sponsorship of the Task Force for the Dialogue with the Muslim World with support from the German Ministry of Foreign Affairs. Equally needed is low-level, bottom-up engagement in the affected localities, rather than traditional inter-elite contact (often dubbed the Hilton Hotel inter-religious dialogue). Since many Muslim elites are themselves alienated from their societies and may have little credibility, the utility of such inter-elite dialogues has come into question.

Serious ground-level efforts should be undertaken in countries such as Pakistan, Bangladesh, and Indonesia to determine trends in Islamist mobilization, identify services these groups provide to meet local need, and find ways in which American agencies, nongovernmental organizations, and private groups can effectively cooperate with local Islamist movements to achieve common goals such as education and health care. These are areas where American and Western intervention is most in demand. Demon-

strating a long-lasting commitment to addressing real needs instead of abstract issues such as theological debates will offset negative images of the United States and other Western nations as potential enemies to Muslim communal and social life.

Images of America were not always negative in the eyes of Muslims, and their shifting views are the indirect result of U.S. foreign policy. If the United States chooses to maintain, improve, and expand the communication with the Muslim world, it must go beyond inter-elite dialogue and cultivate mutually supporting initiatives on the local level. This in turn requires identifying new actors and groups on the ground with attachments to communities as well as determining the aspirations and material needs that motivate the politics of those communities.

Rapid Increases in Food Prices

Basic food commodities have risen 83 percent in price in the last 3 years. The price increases have not been driven by sharp reductions in agricultural production; rather, increases have been slow over the past decade compared to previous periods, which has contributed to the stress on prices. Studies by the World Bank, International Food Policy Research Institute, and Food and Agriculture Organization attribute increases to a dramatic rise in oil prices that drives up the cost of fertilizer, rapid increases in the production of biofuels that are heavily subsidized by

Western governments, speculators looking for shelter from the weak dollar and turbulent stock and bond markets in commodity markets, export quotas and trade restrictions imposed by 48 countries on food staples, and the hoarding of grain supplies in anticipation of further price increases.

Most analysts believe that pressures driving higher prices are unlikely to subside any time soon, although the level of future increases is a question of some debate with no obvious answer. Three factors will determine the impact of the increases: their steepness, their rapidity, and the level of poverty and destitution among the population prior to the food crisis. As a general rule, the steeper and more rapid the price increase and the poorer the people before the crisis, the more severe the nutritional, economic, political, and security implications.

This general rule applies only in states whose economies are integrated into the international food system. In developing countries depending on international food markets, price increases could have serious consequences. In rural areas engaged in subsistence agriculture and isolated from markets, rising food prices will have only minimal adverse effects because they grow and consume their own food. This is particularly true for Sub-Saharan Africa where 60 to 70 percent of the population live in rural areas, use minimal if any chemical fertilizer (the price of which had rapidly increased with the



IRIN (Jamal Osman)

Displaced people wait for food during distribution organized by UN and USAID, Mogadishu, Somalia

price of oil), and consume what they grow with only small surpluses, which they sell in urban centers. Increased food prices may raise the income of rural farmers in some parts of the world to the disadvantage of urban dwellers who pay higher prices.



IRIN (Manochoer Deghafi)

Food is plentiful in Nairobi’s many restaurants and supermarkets, but not all residents have access to it

Famines

Although pressure on agriculture commodity prices is unlikely to cause famines in all but three or four countries, they could occur if short-term prices spike. Thus, the dynamics of famine, which follow common patterns, could become relevant. Famines and food crises are not necessarily driven by reduced production. In one of the most celebrated formulations in famine literature, Amartya Sen, who won the Nobel Prize in economics for work on entitlement theory of famines, wrote: “Starvation is the characteristic of some people not having enough food to eat. It is not the characteristic of there being not enough to eat. While [the] latter can be a cause of the former, it is but one of many possible causes.” His research indicated that famines have occurred in periods of increased food production when access by the most destitute people to food through purchase or trade collapses because of rapid decline in household income or massive increase in food prices over a short period of time, or both.

Poor families that are food-insecure even in good times have developed coping mechanisms to

deal with periodic shocks associated with famine. Typically, families under stress will reduce food consumption from two to one meal per day, then one meal every other day, or in extreme cases stop feeding the weakest family members, a survival technique to preserve enough food to keep everyone else alive. These families will sell household furniture, clothes, tools, and jewelry to buy food. Farmers and herders will sell domesticated animals, which are a form of savings in developing nations, creating gluts in the market as animal prices collapse. In extreme situations, some parents sell their children, or men sell their wives to get money to buy food and to reduce the number of mouths to feed. In the early stages of famine, men and teenage boys often migrate to urban areas in search of work. In later stages of a famine, the remaining people in a village or neighborhood will leave in mass population movements to urban areas in search of food.

The mass population movement has the most profound consequences. Coping mechanisms often result in economic havoc for families using them to survive, deepening their destitution, and making it difficult to recover from the loss of assets before another nutritional crisis occurs. But people who starve or suffer acute malnutrition in rural areas often suffer in silence because of their isolation. If mass population movements drive people to urban areas or food prices spike in urban markets where a sizeable population of poor people live, the risk of political upheaval increases exponentially as hungry and dying people become visible, demonstrate and congregate in displaced persons camps which become radicalized, and have access to media and government officials. It is also the case that disparities of wealth are more obvious in urban

IRIN (Hugo Ramil)



Inadequate public health care facilities in Kisangani, Democratic Republic of the Congo, offer little help to poor patients

areas and may increase popular anger and frustration. Although most famines have occurred in rural areas, the nature of current price increases will likely create crisis in urban areas and spare the rural areas. The consequences of famine will be manifest in different ways depending on the political system in a given country. Indeed, rural areas that supply surplus food at market prices to urban areas could grow more prosperous as prices increase, which might redress the traditional disparity in developing nations between low incomes in rural areas and higher incomes in urban areas.

Democracy versus Totalitarianism

Some argue that famines do not occur in democracies because popular pressure on elected officials and media coverage of the crisis force governments to act. In addition, feedback in democratic systems, even when weak, gets messages to political leaders through multiple avenues about what is happening in society. Conversely, five famines occurred under totalitarian regimes in the 20th century: Russia during the forced collectivization in Ukraine in the early 1930s; China from 1958 to 1962 during the Great Leap Forward, which killed 29 million people (one of the worst famines in history); Cambodia under the Khmer Rouge in the 1970s; Ethiopia during the mid-1980s; and North Korea in the mid-1990s. These famines were prolonged, characterized by high mortality rates, and accompanied by repression designed to ensure the famine did not lead to political instability. Since totalitarian regimes exercise such extraordinary control over their populations and all sources of power and influence, none of them has been overthrown by popular unrest. Most famines, however, were followed by campaigns of terror waged by totalitarian leaders who exercise total control over the political apparatus of the state that may have been lost or declined to some extent because of the crisis.

While there remain four or five totalitarian states in the world, of these only North Korea is seriously at risk of famine. Between 1994 and 1998, it experienced the worst famine in the late 20th century, in which nearly 10 percent of the population died. The factors that led to that famine have not changed: the country has not abandoned its inefficient collectivized agriculture system that makes poor use of one of the lowest ratios of arable land to population in the world. Pyongyang continues to denude its mountains of ground cover, which causes extensive flooding that destroys crops, reducing already-meager harvests; and it refuses to move to a market economy, which might increase revenue to purchase food abroad. The precipitating factors that have led to this dramatic crisis in North Korea include

China prohibiting grain exports because of increased prices, South Korea abruptly ending food aid and fertilizer after the election of a new president, severe seasonal flooding that reduced production, depleting reserves for the military, and rising prices that restrict the amount of food that can be bought internationally with limited resources. The United States announced a 500,000-ton food contribution to the World Food Programme in 2008 after Pyongyang agreed to accept international standards for the monitoring and management of international food assistance. Other countries may follow suit. This could forestall a famine if food arrives quickly and is distributed to the most vulnerable members of the population.

In fragile and failed states, famines often result in rebellions or coups because their political systems are too weak institutionally to respond to the crisis or repress popular outrage caused by crises. During the great West African Famine of 1968–1974, every government in the Sahel Belt with the exception of Senegal fell to a rebellion or coup, including the government of Emperor Haile Selassie of Ethiopia. African states are not well integrated into international food markets probably because they do not have the currency reserves or private capital to purchase food on international markets, and are less at risk than those fragile and poor states in other regions of the world that are dependent on these markets. Africa could be indirectly affected by food price increases because it receives 75 percent of all U.S. food aid, mostly for emergencies involving refugees and internally displaced people, and the total tonnage of assistance is declining again because of increased prices. This loss has caused major deficits in food within the international aid system that if not remedied could have serious nutritional consequences in Africa.

Productivity and Investment

Starting in the late 1980s, Western bilateral aid agencies and the World Bank began a precipitous drop in investments in agricultural development, particularly in Sub-Saharan Africa, which remains the most food-insecure region of the world. Although some of that insecurity is attributable to civil conflict, state failure, and regressive agricultural policies, it is obvious that reduced investment is also to blame. One striking example is Ethiopia, which is perhaps the most food-insecure country in Africa. Nonetheless, the U.S. Agency for International Development allocates 50 percent for the HIV/AIDS program, 28 percent for food aid, and only 1.5 percent for agricultural development because the White House and Congress have failed to fund the proposed agricultural programs in

the annual budget for foreign assistance.

A major commitment by the United States to increased spending on agricultural development in Africa should advance a number of proposals for action, including the following:

- Support large and small farms, research on genetically modified organisms, local scientific capacity-building in African governments, and rural roads, which are essential for development.
- Provide scholarships for students from developing countries at U.S. colleges and universities to rebuild human capital in the agricultural sector, which has suffered from neglect for two decades.
- Eliminate production subsidies, impediments to free global trade in agricultural products, and ethanol subsidies for corn, given that subsidies account for 30 percent of increases in corn prices.
- Purchase up to 25 percent of American food aid locally in developing countries, which will increase the amount of aid that can be bought with a fixed appropriation given that 20 to 30 percent of the cost of U.S. food aid is for transportation.
- Introduce market intervention plans developed by nongovernmental organizations, the World Food Programme, and the United States that auction food aid in local markets to stabilize prices and force hoarded food onto markets. [gsa](#)

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Chapter 3

The Impact of the Information Revolution

One of the most challenging issues for international security today is the information revolution. Although no single assessment can investigate every implication of this issue, this chapter highlights potential opportunities and dangers posed by the information revolution that will challenge the international security arena.

The chapter begins by focusing attention on the nexus of the information, technology, and defense sectors. It then explores ubiquitous cell phone connectivity, transparency, and cyber warfare—all trends in networked communications that indicate the information revolution is no longer limited to the West but involves every corner of the world. The next section looks at the threats posed by hackers. It suggests that the tendency toward overclassification actually intensifies these threats. The following section examines threats caused by the shift from hierarchical systems to networks and decentralized edge networks of hackers that operate beyond the reach of traditional control mechanisms. The responses to these threats will require standardizing international laws, sharing intelligence, and widening edge-to-edge contact at relatively low levels among nations, organizations, corporations, and individuals.

The use of the Internet by al Qaeda and its sympathizers is the topic of the next section, which offers a glimpse of the ways in which communications among people on the edge can turn into violence. Internet design precludes eliminating such conversations, and thus it is wiser to exploit them. The ensuing section considers space-based capabilities integral to the information revolution, including the global positioning system, video over the Internet, and global communications. Understanding the potential of space is essential in the development of a global information network. The final section, on the relationship of technology and the changing character of war, investigates how genetics, robotics, and nanotechnology have advanced through the information revolution. Technology, like information itself, will soon present both benefits and risks from public and private entities as well as corporate and individual actors using commercially available technology. And a peer competitor may arise from any of these areas.

The Information Environment

Thirty years ago, U.S. defense planners envisioned a military transformation in which war would be conducted by weapons infused with electronics and driven by information. Then, 15 years ago, graduate students created the first visual Web browser known as Mosaic that popularized Internet access. Today, the relationship between technology, information, and defense shapes the world and U.S. national security policy (see figure 3-1). Three trends in this information revolution are relevant to strategic concerns: ubiquitous cell phone connectivity, transparency, and cyber warfare.

Ubiquitous Connectivity

Just a few years ago, half of the world population had never heard a dial tone. In 2008, the number of people who own cell phones exceeded the number who did not. Places such as Africa and rural India, barely touched by the Industrial Revolution, are plunging headlong into the information revolution with the help of cell phones. Even where cell phone ownership is relatively expensive, many have found ways to enjoy its benefits through the work of institutions such as Bangladesh's Grameenphone that help micro-entrepreneurs lend phones on a per-call basis.

The full effect of ubiquitous person-to-person communications can only be guessed at, but some effects are already noticeable. Farmers and fishermen, for instance, are now plugged into local and even international markets on a nearly real-time basis—their incomes have risen 5 percent on average from simply being able to sell into the best markets. Rural parents are much better connected to their children who have moved to the city. Evanescent trading and employment opportunities can be communicated far more easily, lubricating the accommodation to the inevitable shifts wrought by globalization. Large political groups are capable of mobilizing their membership in protest (as they have done in Burma, Thailand, and the Philippines).

One would think that the ubiquity of cell phones—in 5 years Iraq (or at least that part controlled by Saddam Hussein) went from zero to 12 million cell phones—would be the insurgents' friend. With these devices, insurgents could acquire a command and

control system that would rival U.S. and Iraqi government forces. Of late, the contrary has proven true. Indeed, insurgents have targeted cell phone towers and eliminated service in places such as Ramadi (Anbar Province), but motivated locals were using cell phones to provide intelligence on insurgent identities and whereabouts

Moreover, cell phones offer ways to combat terrorism by identifying dangerous individuals. The phones are hardware-dependent and need a handset and subscriber information module (SIM) that can be matched to cell towers and switches. Every time a cell phone is used, switches identify the phone and SIM card of the caller, the phone called, and the location of each phone through the global positioning system (GPS) and triangulation. Moreover, if it was possible to connect the identity of individuals with SIM chips, phone companies could learn more about customers. Although such knowledge can be used for nefarious purposes, it also could deliver government services, prevent illicit use of cell phones, inhibit insurgent use of cell phones, and provide forensic evidence and immediate intelligence to security forces. Influence over the cell phone screen and favorable billing policies can make it easier to establish neighborhood watch groups and provide feeds from approved sources. In more affluent countries, mobile communications are proliferating. Adolescents are more likely to use phones for texting than for talking. Phones with GPS capabilities can locate anything from the nearest Starbucks to the local hospital. Between the wired Ethernet, wireless short-range Bluetooth, medium-range WiFi, and long-range WiMax, it is hard to roam beyond Internet range. Social networking sites based on Web 2.0 such as Facebook, MySpace, LinkedIn, and Twitter make it possible to reach out and touch *everyone*.

Who will benefit more from this trend: we or our enemies? Once there were fears that terrorists would disrupt the Internet because it is a symbol of open societies. Instead, they have adopted it as a means of communication and recruitment. Tens of thousands of jihadist Web sites have sprung up to transmit messages, motivate sympathizers, and recruit new adherents. Many terrorists drawn to Iraq, and to a lesser extent Afghanistan, were attracted through these sites. However, the digital footprint left by jihadist use of the Internet has been a way of tracking would-be terrorists in the United States and Great Britain. Sunni jihadists and al Qaeda in Iraq among others use the Internet to influence supporters and threaten enemies. Fortunately, data can differentiate one group from another and provide intelligence on group dynamics.

Transparency

U.S. forces in Vietnam could enter and leave a village before anyone outside the area was aware of their presence. Given today's ubiquitous and instantaneous nature of communications systems, such opacity has disappeared. In fact, it is unclear if anything on a future urban battlefield can be kept secret for longer than it takes to establish a cell phone connection.

Global transparency is also increasing. The launch of several satellites with resolutions better than 1 meter makes quality imagery available to anyone with a credit card. Both Google and Microsoft supply the Internet with imagery via the Internet-based application, Google Earth. Although the U.S. Government has persuaded these companies to reduce the resolution of some pictures and established right of first refusal on real-time battlefield shots, the overall result is the same: no place on Earth can be hidden. Imagery has been used by non-governmental organizations to monitor disaster sites and hold governments accountable for sins of omission and commission. The ability to get the word out with cell phones and the Internet makes official secrets difficult to maintain. In the case of Zimbabwe, where repression of political protesters and the press would have gone unnoticed, transparency and connectivity revealed the problems internationally. Nevertheless, determined authorities can resist the global transparency of the Internet. In the People's Republic of China, censorship remains effective despite the efforts of individual users to circumvent its restrictions.

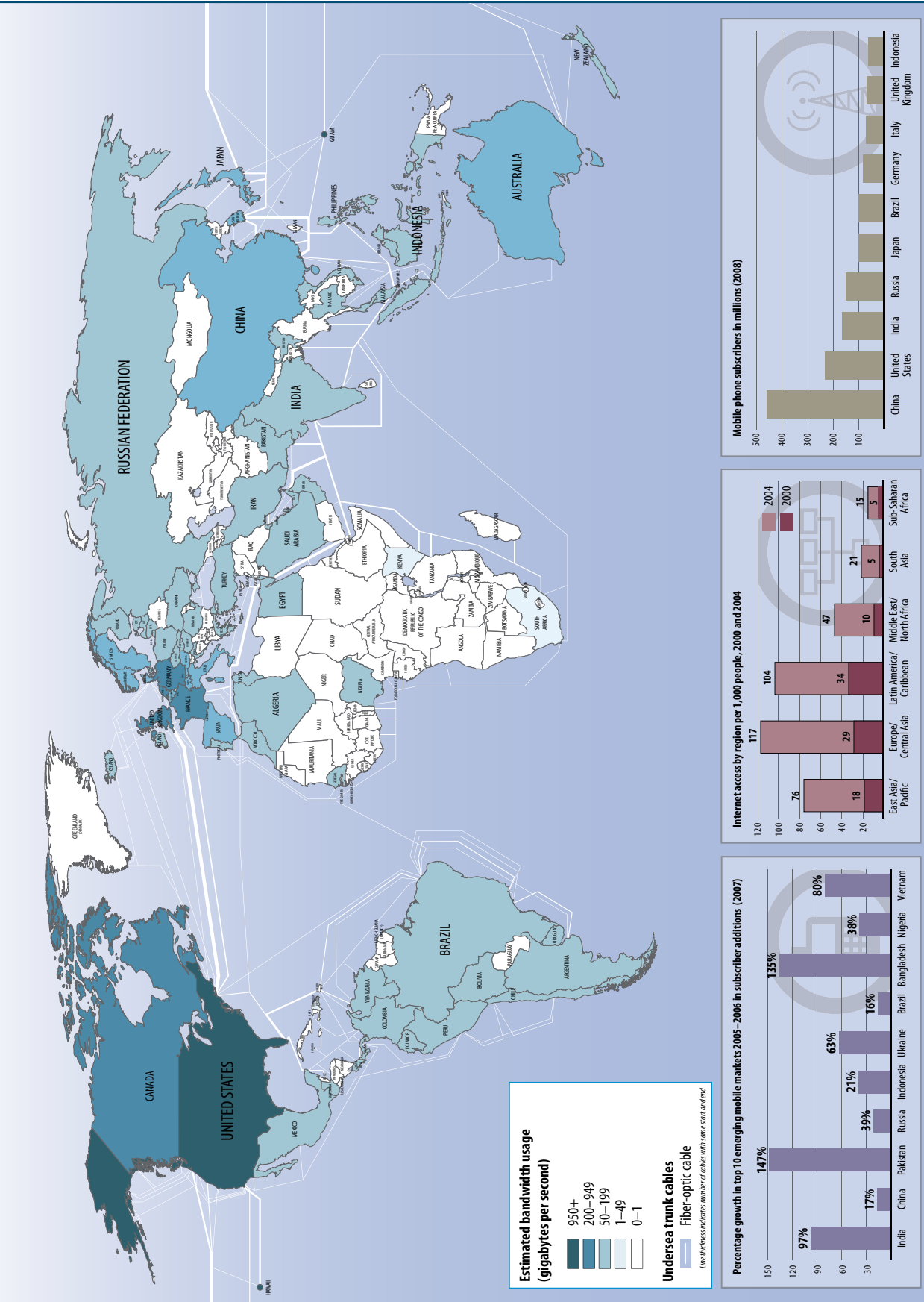
Some believe that the Internet proliferates ideas, which in turn leads to greater openness and equality. Studies have indicated that when people have more freedom to choose among media outlets, they lean toward those that reinforce prior beliefs. As a result, established ideas are less often challenged or modified. Ironically, the openness of the Internet has permitted repression as well as justice to be voluntarily outsourced; witness the recent case of a Chinese student in America who protested repression in Tibet. She was identified by pro-Beijing peers over the Internet, and her family in China was harassed and threatened.

Cyber Warfare

Information technology and the Internet are increasingly vulnerable to cyber attack. Much of what once was controlled by hardware and physical infrastructure is now controlled by software, a medium that is infinitely malleable by other software, which makes cyber attack increasingly possible and harder to trace. Emblematic of this problem was the distributed denial-of-service attack that constricted access by

▼ *Continued on p. 57*

Figure 3-1. Information Revolution



Sources: CIA World Factbook 2008; World Development Indicators database 2006; Telegeography 2007; Pyramid Research 2007; World Bank 2006; International Telecommunications 2006.



Al Qaeda, Its Sympathizers, and the Internet

Al Qaeda, together with its affiliates and sympathizers, uses the Internet to spread its views on Salafi jihadism and reestablish the caliphate. The group regards attention by the media and *dawa*, or proselytizing, as indispensable to jihad, of equal or greater importance than violence. The Internet is central to its plans because it is the only medium to which it has unrestricted access.

Thousands of Web sites have content sympathetic to Salafi jihadists. For those people who seek information, these sites contain text, video, audio, graphics, chat rooms, bulletin boards, discussion groups, and even computer games. Discussions range from casual dialogue to highly sophisticated conversations about theology, politics, strategy, tactics, and weapons. Approaches range from the abstract to the practical expressed in styles from the polemical and exhortatory to the dispassionate and intellectual. The material is designed for a variety of functions, including planning, propaganda and radicalization, training, education, and social purposes.

Within the Salafi jihadist movement, there are two countervailing tendencies: one consciously prefers uniformity and another stands for individual action. Much Salafi jihadist activity is associated with one of several terrorist or insurgent groups that produce and disseminate branded material to the world. These groups are concerned with attribution and authority. Many have affiliated regional production centers that produce videos, magazines, information bulletins, and even poetry. For instance, as-Sahab Media is affiliated with al Qaeda central, while al-Furqan Media is associated with the Islamic State of Iraq. Their products are disseminated through Internet clearinghouses such as the al-Fajr Media Center or Global Islamic Media Front. Such clearinghouses typically serve as outlets for various production organizations. They also serve as guarantors of the authenticity of the material, which appears on elite, access-controlled Web sites such as al-Ekhlaas and al-Hesbah. Typically, about 90 percent of the products are text, about 9 percent video, and the balance is audio, graphic, and other forms. The majority of the text items can be classified as military reports and policy statements, while the rest are periodicals, books, and essays.

The balance of the material on the Web sites of Salafi jihadists is commentary and discussion springing from established as well as homegrown sources. The latter appear on many al Qaeda-affiliated and independent sites. Freelance self-styled intellectuals can draw significant followings on controlled access and quasi-official sites. Occasionally, original documents can gain substantial traction, as occurred with "Jihad in Iraq: Hopes and Dangers," which appeared in 2003 under the byline of an unknown group (never heard of again) and may have inspired the Madrid train bombings. This combination of controlled information and spontaneous contributions poses serious security dangers.

Effects

Young people are disproportionately likely to seek information, entertainment, and social contacts on the Internet. Moreover, an increasing amount of jihadist material is available. Thus, in the past few years the Internet, rather than physical locations, has become the venue for training young recruits who eventually commit acts of terrorism.

Radicalization on the Internet generally does not happen as a result of people reading official publications from as-Sahab, the Global Islamic Media Front, or some other organization. People are actually galvanized to radicalism and eventually action through the less formal aspects of the Internet, including discussion forums, chat rooms, email, and listserves.

In addition, ideas that could pass for military doctrine influence the global jihad. These ideas, such as the work of the Salafi jihadist strategic thinker Abu Musab al-Suri, strongly influence the actions of organized groups such as al Qaeda, but also reach informal parts of the Salafi jihadist world. They are particularly important in dealing with leaderless resistance.

Squelch or Exploit?

Individual extremist Web sites come and go. However, the prospect of impeding online Salafi jihadist discourse is minimal at best. Often the sites are hosted by nations with free speech protections. Furthermore, intelligence gain-loss calculations may suggest that it is preferable for some to operate. The prospects for making a serious dent in such Web sites with technical sabotage are low. The Internet was designed for almost endless growth, and it provides nearly anonymous communication. Indeed, some jihadist forums have been hosted on numerous uniform resource locators, but they continue to thrive. Historically, it was impossible to squelch the spread of subversive materials before the Internet came along. The experience of the Soviet Union with samizdat and extensive penetration of the speeches of Ayatollah Khomeini in Iran under the Shah by means of cassette tapes are two examples. Notwithstanding the success of taking down main Web sites that carried al Qaeda messages, at the end of the day exploiting communications may be more productive than trying to interrupt them.

▲ Continued from p. 54

major Web sites in Estonia. In reaction to Estonia's decision in 2007 to move a Russian World War II memorial, protestors mobilized thousands and possibly millions of computers to send packets to Web servers of government offices and national banks, knocking many offline. With few exceptions, these computer owners were unwitting participants in the attack. Unlike previous attacks using slow-moving "bots," these cyber tactics were organized and executed in hours. No one knows their origin: Estonia blamed Russia, Russia stonewalled Estonia, and the only person convicted was an Estonian of Russian descent.

State-sponsored cyber attacks are becoming increasingly commonplace. China is often cited as being in the vanguard of cyber espionage. Recently, state-sponsored hackers placed malicious code on computers when users downloaded material from suspect Web sites or opened email attachments from seemingly reliable parties. Once ingested in a targeted computer, the code opens data files from the inside, sending terabytes of information to the hackers. Victims of this tactic were users worldwide including military bases, defense contractors, and private businesses. Hackers look for technical information, but since malicious codes cannot tell one type of information from another, they must search many haystacks to find the needle.

In response to attacks, the U.S. Government added measures to tighten information security in late 2007. The National Security Agency was made responsible for protecting civilian as well as military networks. As a result, the number of government gateways to the open Internet will be drastically reduced. Other forms of counterespionage and cyber defense are being explored, but it is unclear if such activities can be deterred. Moreover, if cyber espionage is ever declared an act of war, it will have world-changing implications.

Network insecurity will remain problematic in the future. As computers become more secure, hacker tools will improve. The key to network security will reside in reducing vulnerabilities. In the meantime, governments should rely on primitive methods of security, including disconnecting critical systems from the outside world or refusing to use Web-based systems.

Understanding Cyber Attacks

Many people consider "computer network attacks" the domain of cyber-espionage and governments, with reviews restricted to highly classified environments. However, throughout the civilian arena, there are active, open source discussions about how to penetrate computer networks, and sophisticated

penetration tools are available to anyone with Internet access. Nongovernmental actors have participated in real world attacks on governments, and unclassified laboratories exist to test new tools and train those responsible for Internet security.

A search on the term *computer network attack* generates some 17,600,000 references on Google¹ while *computer hacking* generates about 5,390,000.² Many of the sites generated by a search for *computer network attack* focus on policy, history, and concepts. In contrast, many of the sites generated by the term *computer hacking* display and teach specific tools for mischievous or malevolent activity. These malevolent sites run the gamut from "point and click" procedures that can be used by anyone with a computer mouse to powerful tools for experienced hackers.³

From a government perspective, classifying such tools and procedures is important to protecting sensitive activities and network vulnerabilities. Yet from the hacker's perspective, the information is readily available and thousands of users already know how to attack networks. For this reason, the government needs to be careful that it does not overclassify information about capabilities that already are available to opponents. Such knowledge is necessary for adequately defending networks from mal-intents.

Lessons from DEFCON

The DEFCON convention is held every summer in Las Vegas and bills itself as "the largest underground hacker convention in the world." This is a serious event—typically including more than 80 presentations in 4 or 5 parallel tracks, which often run well into the evening. It brings together talented people with



Team that developed first large-scale digital computer, the IBM automatic sequence controlled calculator, poses in front of the massive computer

diverse viewpoints. Topics discussed there can affect cyber security and information-sharing initiatives, so it is worth summarizing some points from recent years. Given the scope of each DEFCON, the observations that follow reflect only a part of the activities at the conferences, but they give some idea of the scope and sophistication of the subjects addressed.

In 2006, three of the focus areas were:

- “Owning” an organization through the BlackBerry. (This was a physical access issue, reinforcing the point that all portable devices that can access networks need to be protected by passwords. BlackBerries are reasonably secure electronically.)

- The dramatic increase in the *attack surface* (their term) afforded by the proliferation of wireless devices such as WiFi and WiMax. (Many security personnel do not understand the detailed data structures of these systems, and their spread contributes to increased use of wireless by people who do not pay much attention to security.)

- The dramatic increase in the attack surface caused by the transition to Internet Protocol (IP) version (v) 6. (Once everything is native IP v6, it will be more secure than IP v4, but during the transition,

many do not understand that there are vulnerabilities in the complex header structure and packets tunneling between IP v4, and v6 stacks are immune from “deep packet inspection.”)

In 2007, the focus was more on identity theft and data manipulation. The first point was that the real objective of hacking is getting not only root access to a computer, but also the data itself—stealing it, corrupting it, hiding it, or manipulating it. The ways to get to the data are through the people (stealing identities), their applications, their operating systems, and only then the computer itself. In this context, presentations put special emphasis on programs that allow someone to scan an individual’s total Web presence, cross-reference his email accounts and address books, look at cookies, identify frequent correspondents (who might not inspect attachments closely) and so forth. Identity theft poses special challenges since it can be used to circumvent many technical network defense measures and also is a key ingredient in online criminal activity.

In 2008, emphasis included:

- Exploiting social software and social networks, primarily as a way of gathering information for identity theft and preparation for “custom-tailored, laser-focused attacks.” Analytical programs such as “Satan” are particularly valuable for these purposes.⁴ The point here is not to cast doubt on the value of social networks; they are an important feature of society, online and offline. In recognition of this, the Social Software for Security⁵ initiative is looking for ways to encourage the government to take advantage of the energy and imagination being put into the development of social software by balancing functionality and security. “Risk management” (as opposed to “risk avoidance”) in these environments is critical, but it is important to understand the tradeoffs.

- Hacking opportunities provided by increasing use of wireless. “Always-on” connections mean “always-on” vulnerabilities. Talks at the conference discussed very imaginative attacks, especially focused on “men in the middle” operations to misdirect unwitting participants from what they think are secure Web sites to insecure ones. Most people still do not appreciate how much risk they are at in unsecured “wireless hotspots” at places such as airports.

- Discussions of “Open Source Warfare”: how to combine various tools to triangulate cell phone conversations with video coverage from low cost (\$400), remote control helicopters to permit isolation, and potential targeting, of individuals.



WiFi scanner in use at DEFCON, considered the world’s largest underground hacker convention

■ Sophisticated social network attacks taking advantage of personal behaviors (for example, sending free iPhones to people in the mailroom and then using them to monitor an organization's network configurations).

Other DEFCON talks focused on things such as breaking into physical locks, compromising e-voting (seems distressingly simple in many cases), hacking the Boston subway system fare cards (good enough that the Metropolitan Boston Transit Authority sued to stop the presentation), compromising network data integrity, and hardware Trojans that showed low cost ways to make a "secure" router transmit data via largely undetectable infrared, radio frequency, or optical signals.

In sum, each annual DEFCON provides both interesting and troubling insights into a world of energetic, talented people devoted to getting at information and information systems that others try to protect. Though many of the techniques shown there may have been used by governments, all those discussed at the conference are available to anyone.

Georgia

In his research on the Russia-Georgia conflict, Evgeny Morozov, the Berlin-based founder of the news aggregator *Polymeme*, explored the possibility of launching an amateur cyber attack on the country of Georgia by setting out:

to test how much damage someone like me . . . could inflict upon Georgia's Web infrastructure, acting entirely on my own and using only a laptop and an Internet connection. If I succeeded, that would somewhat contradict the widely shared assumption—at least in most of the Western media—that the Kremlin is managing this cyber warfare in a centralized fashion. My mission, if successful, would show that the field is open to anyone with a grudge against Georgia.

With tools available online and a short program he wrote in a Microsoft Word document, Morozov developed programs to promote denial-of-service attacks. He then went to "Stop Georgia," a Web site that claimed to be linked to the hacker underground in Russia. This site offered target lists of sites that indicated disruption and also offered downloadable code to customize attack options that could be launched by clicking the button labeled "Start Flood." As Morozov discovered, "Within an hour I had become an Internet soldier. I didn't receive any calls from Kremlin operatives."⁶

The denial-of-service attacks explored by Morozov are less sophisticated and disruptive than would be possible with the kind of data manipulation, identity theft, or computer penetration described at DEFCON or available from hacker sites. However, the fact that the Russian campaign against Georgia included kinetic and cyber activities is likely to be typical of future military action. The ease with which Morozov launched attacks reflects the amount of malicious information on the Internet. It also points to the difficulty in distinguishing between *official* and *unofficial* activities. This ambiguity was evident in operations against Estonia in 2007.

Labs at IRMC

The Information Resources Management College (IRMC) at the National Defense University in Washington, DC, offers cutting-edge classes on a wide variety of cyber-related issues for chief information officers, chief financial officers, chief information security officers, and others. Its courses on information operations help dozens of leaders understand cyber-threats and prepare themselves for Service and joint assignments.

IRMC also has a set of laboratories covering areas such as information assurance, supervisory control and data acquisition systems, and virtual reality. These labs are built around internal networks,

U.S. Air Force (Adam M. Stump)



Vice Chairman of the Joint Chiefs of Staff Gen James Cartwright speaks at Air Force cyberspace symposium on importance of experimenting with cyber warfare implementation

isolated from the Internet but populated with Internet tools. As such, these labs are used for extensive experimentation. The information assurance lab, in particular, offers detailed opportunities for non-experts to implant malicious code in software applications and operating systems within these closed networks using openly available hacking tools. It emphasizes the importance of robust information assurance approaches and trains students how to implement them.

The supervisory control and data acquisition lab offers similar experiences regarding control systems for powerplants and other critical infrastructures. The virtual reality lab provides experience in the increasingly important area of avatars and virtual interactions. These are currently used in gaming but are expected to become integral to the command and control systems of the future. Not surprisingly, recent DEFCON conventions have included sessions on hacking avatars.

Any senior official associated with computer network operations, defense, exploitation, or attack should visit these laboratories. At a minimum, the capabilities developed in the labs and online should be synthesized into informational manuals that can be provided at unclassified levels to help train those who are operating and defending our networks.

A wise man recently asked: “What is more strategically threatening to the U.S. military than our inability to manage information in a contested environment?” Being able to operate and defend our networks is hard enough even when threats are well understood. Attack options available to opponents from open sources should be examined aggressively and disseminated with minimal caveats to strengthen our defensive posture on all networks, including the unclassified networks so important to personnel, medical, and logistic activities. More sophisticated tools may be available within classified channels, but this should not keep officials from knowing what is available to adversaries. Regular reviews to make sure that information is not overclassified could be a good way to avoid this danger.

The importance of cyber security also needs to be understood by senior officials across the new administration, not just those directly associated with the networks themselves. It should be taught as part of core courses in Department of Defense educational institutions, not only as electives. Cyber security is an issue of serious nationwide importance—it must be the concern of policymakers and commanders, not just communicators and technical specialists.

New Threats, New Responses

Enabled by modern network technologies, power is “shifting to the edge.” This shift is allowing decentralized networked groups to vie with traditional hierarchical structures. Globalized communications and computing infrastructure combined with collaborative software permit hostile nonstate groups—terrorists, criminals, rogue corporations, antiglobalization movements, hackers, and others that act on behalf of nations or other entities—to threaten international security and stability. Increasingly, security arrangements based on geographic borders, sovereign control, and unilateral response to global threats by individual nations are inadequate to counter such groups. U.S. national security strategy must embrace a decentralized, multilateral public health model against unknown threats. This model should be based on local monitoring of emerging threats, swarming global response to counter manifest attacks, and developing resilient capabilities to withstand and recover in their wake.

Organizational Network

Emerging social and peer networking technology is enabling new organizational structures that afford opportunities for novel patterns of generative and degenerative activities. Such developments, which are popularly known as Web 2.0 or the Web as platform, underpin the decentralized networks as distinct organizational forms that have advantages over the traditional hierarchies in terms of flexibility, adaptability, and responsiveness.

As a result, the power to generate potentially catastrophic effects by organizing, coordinating, or sharing dispersed resources is shifting from the center to the periphery. Decentralized groups can synchronize activity globally without regard to political borders or local government control. If the groups are hostile, security arrangements that rely on the assumption that sovereign nations are responsible for activities in their territory and among their subjects are inadequate.

In the first stage of Internet development in Web 1.0, individuals, organizations, information, or devices at the edge of a network interacted with central servers, providers, or other authorities on an essentially one-to-one basis that mimicked hierarchical arrangements. In Web 2.0, the edges interact directly on a many-to-many basis. Although Web 1.0 enabled asynchronous mediated communication among edge elements, Web 2.0 enables synchronicity of effort without control or formal organizational structure. Although this greatly reduces the overhead associated with centralized management controls—and thus enhances the power

and speed of networked groups by lowering barriers to participation from the edges—it eliminates accountability for undesirable actions. Both agency and action shifted to the periphery in Web 2.0, making it difficult to hold leaders responsible for actions of subordinates or sovereigns responsible for actions of citizens. This inability to hold someone accountable is problematic for existing security policies that rely on deterrence through symmetric counterforce and retaliation.

New Threats

Until recently, the ability to aggregate resources to threaten national interests or international stability would have required the resources or authority of a nation. Thus, current strategies hold nations responsible for actions by their citizens and rely on identifying leadership or structures of adversaries to assign responsibility. However, network technologies enable nonstate actors to operate without respect for laws, borders, or governments. Technologies enable such groups to threaten international peace and security without being held accountable.

One illustration of a networked-enabled threat was the cyber attack against Estonia in 2007. Angry over the removal of a Russian monument, an apparently self-organizing group essentially paralyzed the government and financial sector of Estonia through a massive distributed denial-of-service attack against critical cyber infrastructure. Whether these attackers acted on their own in a cyber *riot* or with active Russian involvement in a cyber *war*, an organized group was able to project power across international borders on a scale that previously could only be accomplished by nation-states. More importantly, these actors accomplished their attack virtually spontaneously and without exposing leaders who could be held accountable under existing security laws.

It is likely that nations will be increasingly subject to attacks of this kind, which cannot be easily attributed to identifiable adversaries. The attacks will come from both spontaneous, self-motivated mobs and externally instigated mobs allied with other entities to further their interests. The externally motivated mobs may be encouraged by nations, terrorist groups, or other hostile entities and become proxies or merely swayed as useful idiots. However, traditional deterrence or retaliation strategies probably will be inadequate against these kinds of threats.

Existing Structures

While security policy can hold other nations responsible for actions by their citizens, it fails to deter groups

without an organization when no one has jurisdiction over them or where responsibility or motivation is ambiguous. Such failures must be distinguished from those identified with failed states where sovereign control is inadequate to counter hostile or illegal activity occurring in defined geographical areas where local government is ineffective. Rather, the kinds of threats discussed here may easily originate in well-functioning nations. The organization of hostile groups will be ambiguous and responsibility will not be easily attributable under existing security policies and recognized laws without a new international framework addressing responsibility or rights to act in these circumstances.

New Strategies

International security and stability require rethinking strategies, realigning force structures, and adopting new models to leverage resources in response to emerging threats. To a certain extent, traditional counterinsurgency strategies are effective against hostile networks. But applying those strategies requires that the potential adversary is identified and its dynamics, motivations, and support are understood. In cases where group formation is hidden or attribution and motivation are ambiguous during or after an attack, a different strategy is needed. In this case, global security resources that are resilient in the face of local failures and can suppress threats anywhere in the world must be engaged quickly to identify and counter the attack.

Traditional strategies based on counterforce, deterrence, and retaliation against an identified adversary are no longer enough to protect against spontaneous, ambiguous, and unknown threats. Instead, national security policies should be global and include aspects of a public health model. This model involves quickly identifying new and previously unknown threats through syndromic surveillance, the isolation of and inoculation against outbreaks, information-sharing to prevent spread, resilience to recover from attacks, and the simple prevention of a known disease. The public health model accepts the occurrence of unknown pathogens that cannot be prevented and aims to contain outbreaks to prevent epidemics. It is premised on a multilateral network of local resources acting in concert to amass resources where and when they are needed.

Effectively countering hostile networks requires decentralized and flexible architecture based on dynamic partnerships and coalitions, including with erstwhile competitors or adversaries, that identifies emerging threats, brings resources to bear with local legitimacy, ensures resilience, and aids in recovery. The same trends in technology that empower hostile

networks can provide for effective counterforce reorganization or realignment.

Technological advances can improve collective global responses without significant costs by changing the way that global resources and capabilities are managed. Multilateral resources can be leveraged by increasing the relative power of nations and entities to respond to nascent threats by improving information-sharing and by *swarming* in response to manifest threats. Collective security can be increased by leveraging both the means and the opportunities for “edge entities” to participate in synchronic action against common threats to international order.

To successfully counter hostile groups operating globally requires four capabilities:

- the ability to spot threats locally before they emerge globally
- the ability to work in concert with allied or congruent interests and cooperatively engage local resources
- the ability to assemble and apply appropriate (and legitimate) counterforce wherever and whenever it is required
- the ability to orchestrate these activities to respond in a consistent and timely manner across all potential domains.

No nation, not even the United States, can achieve these capabilities alone. Unilateral action can hamper threat awareness, undermine common interests and legitimacy, and create additional hostile groups. In an interdependent world, nations and other entities interact within the context of conflict, competition, and collaboration. This complex dynamic supplants the linear paradigm of peace/crisis/war/peace on which previous strategic arrangements were premised.

In areas where there is an explicit recognition of long-term shared interests, alliances created by treaties can be used to formalize collaborative roles in collective security agreements such as the North Atlantic Treaty Organization. In circumstances where threats mobilize and sustain common national interests, coalitions may be formed for purposes such as intervention in Afghanistan and Iraq.

Where potential collaborators are simultaneously in competition, or where threats are unable to sustain long-term alliances, collective security may only be possible through multilateral security arrangements in what is known as foreign policy by posse. To respond to threats that can emerge anywhere and at any time, nations must develop communities of common interest

through networks that transcend hierarchical organizations. A first step in developing communities is harmonizing international and domestic laws and seeking common understanding of activities that should be opposed, such as terrorism, illegal trafficking, cyber attacks, and arms trafficking.

Regional, national, and local security services can be organized to facilitate collective action. A basic infrastructure is needed to maintain continuous situational awareness of global threats—surveillance and information-sharing—to replace the brittle, antagonistic, border-based perimeter security models. Universal standards for civil liberties and human rights also must be developed. And response mechanisms must be synchronized on a global scale. Resources must be shared not only to identify threats (intelligence) or respond to them in a timely manner (law enforcement and military), but also to resist or recover from attack where preemption is impossible (resilience, recovery, and relief). The latter capabilities would help ensure global resilience to catastrophic natural disasters, pandemics, and other unforeseen shocks to the international order.

Although the ability to organize dispersed networked resources for beneficial purposes has the potential of improving global social and economic development, it can be used by malevolent forces to challenge U.S. interests. To respond effectively to decentralized networks bent on harm, the international community must take advantage of these same network opportunities by decentralizing capabilities that increase power, flexibility, and resilience to respond. Instead of maintaining rigid and exclusive hierarchies of stovepiped capabilities in nations, communities of interest must be fostered to dynamically share intelligence, response, and recovery capacities. Static communities of interest based only on existing alliances, known adversaries, and exclusive sovereign response will not be sufficient.

To succeed, major powers such as the United States will have to lead by example by sharing power and collaborating with other nations, including those with which it has competed or even fought in the past. In return, those nations will incur shared communal responsibility to act against common threats. There is no future in a networked world without collective security arrangements that reconcile conflicting interdependencies when faced with emerging threats. Although the United States is poised to lead such an effort, it cannot dictate one. It will have to work with others to maintain international security and stability by globally shifting counterforce to the edge.

Technology and the Changing Character of War

Unique technological advances are occurring in genetics, robotics, information technology, and nanotechnology (GRIN). Of particular interest are ways the fields may converge. More information than ever is available, and online stores allow anyone to buy GRIN technology. Today even children use and experiment with biotechnology. These trends suggest that many advances in technology will take place outside government or academic laboratories. As such, it is vital that defense planners follow and understand these trends.

With little effort and minimal cost, individuals can get used biological laboratory equipment on eBay, whole-genome sequences in free databases, and biology toolkits that combine simple parts. Common goals and information are shared on well-established Web sites and in discussion groups across a diffuse network. However, such a light footprint makes it difficult to assess the intent of these amateur scientists. It is vital that defense planners follow and understand these trends.

At present, there is no more important scientific field than biology. There have been dramatic advances in predictive biology (information management, computational modeling, data mining), systems biology (modeling complex systems in silico), and synthetic biology (creating artificial biosystems de novo from basic building blocks). As a result, biological systems have never been better understood, manipulated, or engineered.

Much GRIN research is dual-use; identical findings can be used for malicious or benign purposes, depending on intent. For example, applied research on brain function, which may help patients with cranial maladies, may allow development of biological agents that cause amnesia, violence, or depression, which could be dangerous to soldiers and civilians. Biological agents are widely available and have many uses. Malicious research can be hidden in legitimate laboratories working on the effects of such agents. What is troubling is not that such agents can be created, but that technology might be combined with these advances in other areas.

Although most people engaged in such research are innocent, it is easy for a loner or small group to invade the benign circle and use the information in a harmful manner. The fields of robotics and information technology have been open to research communities for years. Some successful computer hacking attacks have been mounted by smart, motivated young individuals. At the same time, similar people with different motives

The Use of Space in Global Communications

It took 6 months for President James Polk to send a message to the West in 1845. At the time, communications with the West Coast went by sea around the Horn of South America or by ship, train, and ship across the Isthmus of Panama. The Pony Express began service in 1860. Its first trip from Missouri to California took 10 days, 7 hours, and 45 minutes, with riders covering 250 miles a day. Delivering mail by horseback over prairies, plains, deserts, and mountains, it was the fastest service across the North American continent. The Pony Express reflected the need for a rapid and reliable transcontinental communications system that operated year round. After it was replaced by the telegraph, the Pony Express became a legend of the Old West.

Less than 100 years later, the first satellite was launched into orbit and transmitted radio communications from space. Today, there are more than 850 satellites (see figure 3–2) in orbit that connect practically every place on Earth, simultaneously in near real-time, providing worldwide services. In fact, satellite-based services pervade almost every aspect of daily life and enable the globalized economy. As Alvin and Heidi Toffler have observed, the networked economy has led to the greatest changes in the global economy since the Industrial Revolution.

Different ways of communicating and providing services via satellite are foundations for the new wealth created in the so-called third wave of economic development. Although fiber optic cables remain technologically dominant over satellite communications for fixed, point-to-point telecommunications, satellite communications are critical to the global economy as an adjunct. Satellite communications provide point-to-multipoint and regional telecommunications services that lack wired infrastructure. They also enable the conduct of military operations worldwide, particularly for missions in regions with limited wired infrastructure. Those telecommunications no longer move primarily over dedicated military satellite communications systems. During the opening phase of Operations Enduring Freedom and Iraqi Freedom, some 60 and 80 percent of communications were sent over commercial satellite systems, respectively.¹

Moreover, satellite communications provide other services such as positioning, navigation, timing data, and high-resolution commercial imagery, and they contribute to global utilities. Highly accurate positioning and navigation data improve productivity while lowering time and costs of transportation around the world. This information has improved understanding of the world and created new industries and services. Likewise, accurate timing signals enable synchronization for digital compression techniques and provide time stamping to authenticate billions of dollars in the daily international flow of capital. In addition, the resolution, volume, and selection of visual and multi-spectral imagery in almost all areas underpin both free products such as Google Earth and tailored value-added products that combine data for specific applications. The information that these services provide to individuals is of better quality and more timely and accessible than what was available to the superpowers during the early days of the Cold

▼ *Continued on p. 66*

War. Cumulatively, these satellite-enabled services fuel global transparency and transform global politics.

The confluence of satellite-based services, information systems, and networks brings together people, ideas, and goods from around the world at an unprecedented rate. As the title of Thomas Friedman's book put it, "the world is flat." Or at least it is in the process of flattening, since "it is now possible for more people than ever to collaborate and compete in real time with more other people on more different types of work from more different places and on a more equal footing than at any previous time."² This flattening also means "that we are now connecting all the knowledge centers on the planet together into a single global network, which could usher in an amazing era of prosperity, innovation, and collaboration."³ Although the world is flattened to a certain extent, some groups are largely disconnected, which creates dangers and opportunities, as Thomas Barnett has emphasized: "Disconnect-edness allows bad actors to flourish by keeping entire societies detached from the global community and under their control."⁴

The appetite for information is almost insatiable and growing exponentially. It is stimulated by technological advances in information and communications technology. From 2002 to 2007, annual worldwide revenues earned by satellite industries grew at an average rate of 11.5 percent, fueled by satellite television and direct broadcasting. When comparing revenue by sector, satellite services have driven the entire industry, showing continued growth of 18 percent in this period.⁵ As the demand for more capacity, enhanced reliability, and wider coverage by communications systems increases, it should be noted that this capacity, like other limited resources, is scarce and should be husbanded until the next technological leap. Space contributed more than \$251 billion to the global economy in 2007 and supported a range of activities from credit card validation and fleet truck management to precision agriculture and high-speed Internet, cell phone packet switching, and television and radio distribution.

Space-based services also present the opportunity to address a pressing global issue: energy. The potential to harness the Sun as an endless source of energy through space-based solar power could be vital to future generations. The wealth generated by space-based services could become the fourth wave of economic development postulated by the Tofflers. Moreover, the U.S. role in human and robotic space

exploration has expanded knowledge of the universe and may improve the ability to address other long-term challenges such as protecting the planet from collision with near-Earth objects. These challenges will require a stable and sustainable security environment as well as refined governance to encourage and facilitate cooperative solutions.

Probably the most compelling reasons for generating wealth from space-based services are changing demographics and exploding world population. The United Nations issued a report in 2007 predicting that the world population will grow by 2.5 billion in the next 43 years, from the current 6.7 billion to 9.2 billion in 2050. This single increase is the equivalent of the total world population in 1950. Moreover, this increase will be absorbed largely by less developed regions, whose population is projected to increase from 5.4 billion in 2007 to 7.9 billion in 2050.⁶

Space-based satellite services have profoundly affected global systems and shaped aspects of national and international power. This impact will increase as technological advances spur new applications and create more interdependencies in the globalized environment. Accordingly, the United States must be the global leader in space and in the delivery of space capabilities. It must use spacepower to enable all instruments of power to exercise national sovereignty in space and secure the space domain for legal purposes.

NOTES

¹ Ronald M. Sega, Under Secretary of the Air Force, Space Posture Statement to Strategic Forces Subcommittee of House Armed Services Committee, March 16, 2006, 9.

² Thomas L. Friedman, *The World is Flat: A Brief History of the Twenty-first Century* (New York: Farrar, Straus and Giroux, 2005), 8.

³ *Ibid.*

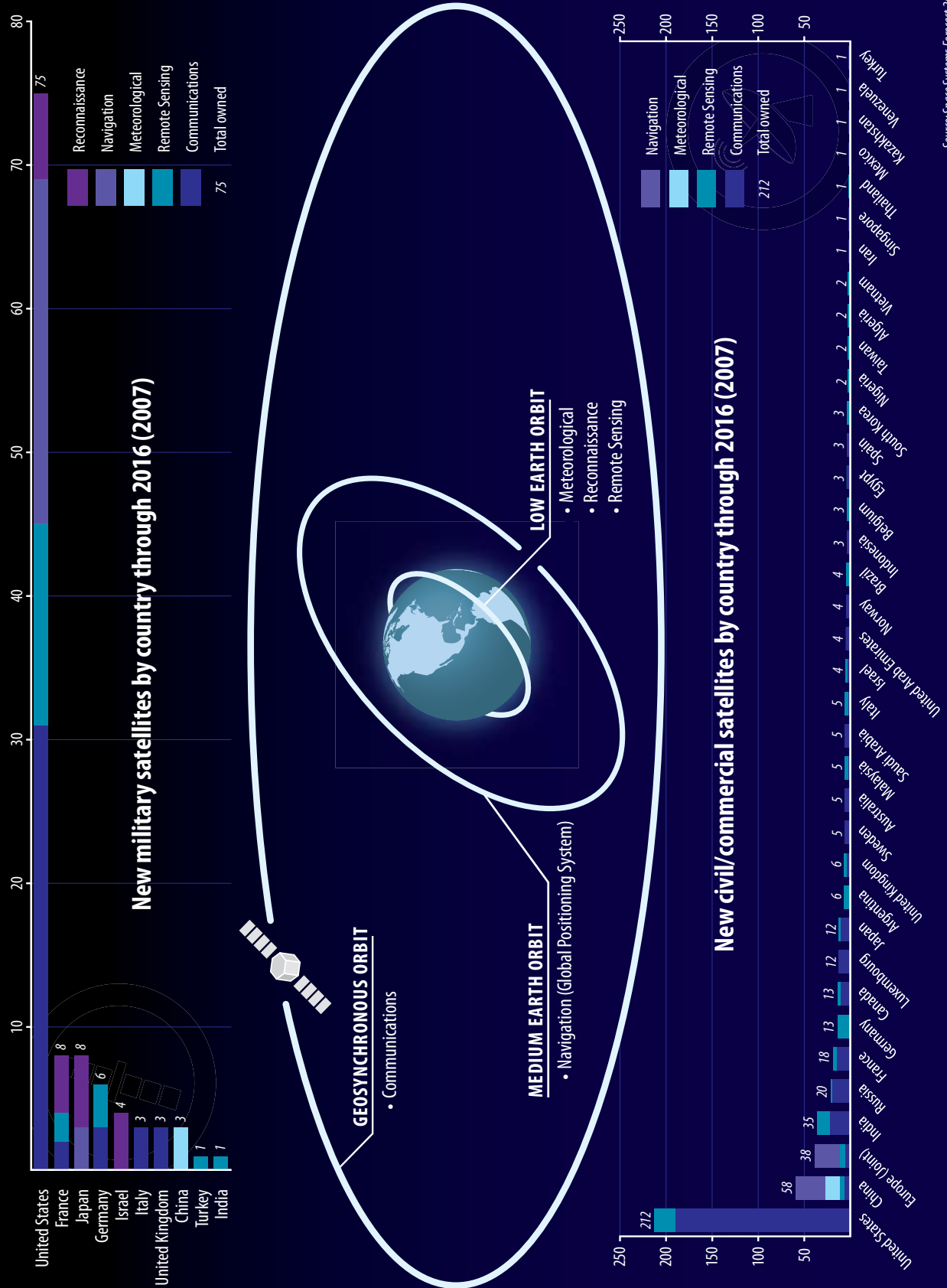
⁴ Thomas P.M. Barnett, *The Pentagon's New Map: War and Peace in the Twenty-first Century* (New York: G.P. Putnam's Sons, 2004), 8.

⁵ State of the Satellite Industry Report, sponsored by the Satellite Industry Association, prepared by Futron Corporation, June 2008.

⁶ Thomas L. Friedman, *Hot, Flat and Crowded: Why We Need a Green Revolution—and How It Can Renew America* (New York: Farrar, Straus and Giroux, 2008), 28.

Source: Space Systems Forecast 2007

Figure 3-2. Satellite Technology



▲ *Continued from p. 63*

drove innovation at places such as Google. Amateur biologists and nanotechnology engineers are likely to do the same thing.

The defense implications go beyond biological threats. Dramatic performance enhancements would be a huge shock to warfare. Although large nations are likely to lead in the development of such enhancements, ruthless and unethical nations will have an advantage in this competition. GRIN research facilitates the modification of human beings for specific purposes. Initially, this manipulation was seen as a way of relieving illnesses such as tumors or discovering disease-causing genes. Now, however, it is also seen as a conduit to “improving” human beings.

There is substantial research being done on the post-human future. Designer drugs produced in biotech labs interact with the brain in a genotype-specific manner either to improve memory or decrease the effects of sleep deprivation. Research on the brain-machine interface promises improvements in human senses such as hearing and vision. Exoskeleton suits allow soldiers to carry 200 pounds and bound long distances with little effort. Custom replacement organs will soon be generated from stem cells, and prosthetics with microprocessors will aid wounded soldiers.

Nanotechnology is a developing area, but it clearly links human biotechnology in various ways. A good deal of nanotechnology research is tied to biotechnology, which looks at the possible manipulation of the atom on the biomolecular level. It has even been pos-

ited that the robo-soldier of the future—rather than a human “cyborg”—may be a micro- or nano-robot that is versatile, inexpensive, impossible to detect, and able to penetrate nearly any space.

While it is clear that the trends previously discussed are fairly well understood among the scientific community, they are not well understood in the defense or civilian arena. We must develop a “first principle” understanding of what drives these trends and a method to assess the impact of these inevitabilities. We must understand the disruptive consequences that may result from the intersection of these technological trends. Only then can we leverage these advances to create risk management strategies. A sense of where these trends are headed is also an essential component of a robust strategy, which enables us to plan for and prevent potential disasters.

What is fueling these trends? Computing power is a relatively free global commodity, the net effect of which is that the barriers to competition in many areas are falling. Consequently, the concept of a peer competitor is taking on new meaning for defense planners. No longer can potential adversaries be limited to nations with large gross domestic products and large military arsenals. One example of lower barriers to competition is found in the world of information technology. Cyberspace has evolved into the most important global commons. Access to cyberspace is essential for national security, military competitiveness, and economic prosperity, and unfettered access to information is key to national power. Various actors are competing for dominance in this new commons, including adversarial nations as well as individuals, terrorist groups, and criminal hackers.

The 20th century was dominated by weapons systems based on advances in physics, engineering, computing, and mathematics, colloquially known as *big bang*, *big metal*. The future presents a range of new threats and increasingly inventive biological weapons that can cripple major bodily functions even as the same bioengineering advances offer great potential for medical science.

But defense planners must remain aware of the malicious use of engineered biological agents in combination with robotics, information technology, or nanotechnology for two reasons. First, there is the potential for nonstate actors and nations to conduct ambiguous aggression or subtle war. Such aggression is a situation in which a bioattack causes a deadly outbreak but is not seen as such. Instead, the outbreak may be blamed on either an influenza



U.S. Navy (John F. Williams)

Marine monitors virtual scenarios from control room of Gruntworks Research for Infantry Integration Testing facility

pandemic or abnormality in the food supply. This potential ambiguity makes defense planning and response highly complex. The second concern stems from the ease with which biological building blocks can be obtained. The widespread access to biological materials presents individual engineers with the capability to produce harmful agents that facilitate the creation of superempowered actors with the means to inflict large-scale global damage. The next generation of suicide bombers could be biobombers who infect themselves with bioengineered diseases and penetrate large population centers.

Nanotechnology is regarded as a major revolution in technology that enables structuring and restructuring of matter on a fundamental level. According to William Schneider, chair of the Defense Science Board, “Nanoscale sensors have the potential to dispel the fog of war. Richness in sensors allows commanders to have a complete picture of the tactical battlefield.” Advances in nanotechnology could produce lighter, stronger, heat-resistant materials for new weaponry and make armor harder, camouflage better, military transport faster, and energy more efficient.

Nanotechnology is the key to distributed and configurable manufacturing, a model for goods produced locally near their point of use, which could have profound economic, social, and political impacts. Secure methods of obtaining electronic subcomponents are increasingly difficult in the globalized manufacturing economy. Distributed and configurable manufacturing could assure that production designs, manufacturing infrastructure, and even applications could be controlled securely.

There are significant advantages to manufacturing goods locally for defense, intelligence, and security applications rather than depending on a globally interconnected production chain. When manufacturing is done at the point of need, it is difficult to affect the national economy with a disaster or small number of attacks. The implications of local manufacturing might alter basic concepts of military operations, logistics, and sustainment. But strategically, planners must take account of the unintended consequences in destabilizing the interdependent globalized economy.

Defense planners have often anticipated new technologies to provide them with a competitive advantage, only to find their plans are flawed when viewed through the lens of moral principles. That debate continues today. In fact, some argue that the creation of autonomous soldier-robots with a conscience may be possible and that they may even be preferable to human soldiers.

Trends in ubiquitous computing, connectivity, and information-sharing will complicate future national security challenges. Some contend that this trend contributes to the decentralization or shift in power from nations to individuals or groups that are ill defined by political borders. The propagation of cutting-edge technologies that could harm national security interests are no longer reserved for elite, economically endowed nations. The result is much broader potential threats and increased uncertainty and ambiguity about the entities that may challenge the United States. This type of asymmetric attack, conducted by small groups in an ideological minority against a large group of potential victims, presents complex problems for defense planners.

Increased worldwide connectivity means people are more likely to encounter sympathetic co-conspirators, if only virtually. Social networks serve as recruiting mechanisms and offer added support for individuals who may want to launch such attacks. The social network of a potential attacker might create opportunities for simultaneous strikes across many locations.

New technologies are being developed at a fantastic pace and may intersect in unimaginable ways. Such advances potentially offer enormous benefits but create national security paradigms with challenges. Defense planners must be aware of the fact that new technology has unintended consequences as well as the potential for dangerous misuse in the hands of adversaries. [gsa](#)

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¹ GlobalSpec! offers a variety of products in response to the query “computer network attack.” This is a good place to learn about network components, as opposed to attack tools, per se; see <www.globalspec.com/Industrial-Directory/Computer_Network_Attack>. Developer.net has a section on “measures of effectiveness” for computer network attack; see <www.developers.net/tsearch?searchkeys=measures+of+effectiveness+computer+network+attack>. There even are patent applications (for example, attack classification method for computer network security); see <www.freepatentsonline.com/y2008/0083034.htm>.

² See, for example, Hackers Home Page at <www.hackershomepage.com/>; How to Become a Hacker at <www.catb.org/~esr/faqs/hacker-howto.html?PHPSESSID=22f7378d0d1ea654962a22bf13166a5a>; and Secureroot at <www.secureroot.com/>.

³ See also a range of attacks described by Ed Skoudis, “Information Security Issues in Cyberspace,” in *Cyberpower and National Security*, ed. Franklin D. Kramer and Stuart Starr (Washington, DC: National Defense University Press, 2009).

⁴ “Satan” is a software program that claims to “identify weaknesses in just about any network connected to the Internet.”

⁵ See Dr. Mark Drapeau’s informative posts about Government 2.0 at <www.mashable.com>.

⁶ Evgeny Morozov, “An Army of Zeros and Ones: How I became a soldier in the Georgia-Russia cyberwar,” available at <www.slate.com/id/2197514/>.



Front cover (top row, left to right): night view of Shanghai's financial district (Imaginechina via AP Images/Zhou Junxiang); Canadian prime minister greets President Obama in Ottawa (AP Photo/The Canadian Press/Fred Chartrand); Iranian president inspects Natanz Uranium Enrichment Facility (AP Photo/Iranian President's Office). Bottom row, left to right: Chairman of the Joint Chiefs of Staff with Colombian chief of defense in Bogota (U.S. Air Force/Adam M. Stump); Soldier provides security during reconnaissance mission in Afghanistan (U.S. Army/Adam Mancini); leaders of Luxembourg, Germany, France, and Great Britain discuss economic crisis during Paris summit.

Inside front cover (top to bottom): USS *Iwo Jima* Expeditionary Strike Group vessels transit Atlantic Ocean (U.S. Navy/Katrina Parker); Northern Ireland police officer covers British security forces searching for Irish Republican Army gunmen who killed two British soldiers (AP Wide World Photo/Peter Morison); children in Darfur carry water while awaiting resettlement by United Nations Mission in Sudan (UN/Tim McKulka); and U.S. Navy Sailors provide security at Khawr Al Amaya Oil Terminal, Persian Gulf (U.S. Navy/Kirk Worley).

A historic economic downturn has put at stake the prosperity that underpins our strength while putting at risk the stability of governments and survival of people around the world. We're threatened by the spread of the world's deadliest weapons, by emerging cyber threats, and by a dependence on foreign oil that endangers our security and our planet. Poverty, disease, the persistence of conflict and genocide in the 21st century challenge our international alliances, partnerships and institutions and must call on all of us to reexamine our assumptions. These are the battlefields of the 21st century. These are the threats we now face. And in these struggles, the United States of America must succeed and we will succeed. We also know that the old approaches won't meet the challenges of our time. Threats now move freely across borders and the ability to do great harm lies in the hands of individuals as well as nations. No technology, no matter how smart, can stop the spread of nuclear weapons. No army, no matter how strong, can eliminate every adversary. No weapon, no matter how powerful, can erase the hatred that lies in someone's heart."

—President Barack Obama
Lincoln Hall Dedication Speech
National Defense University
Washington, D.C.
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