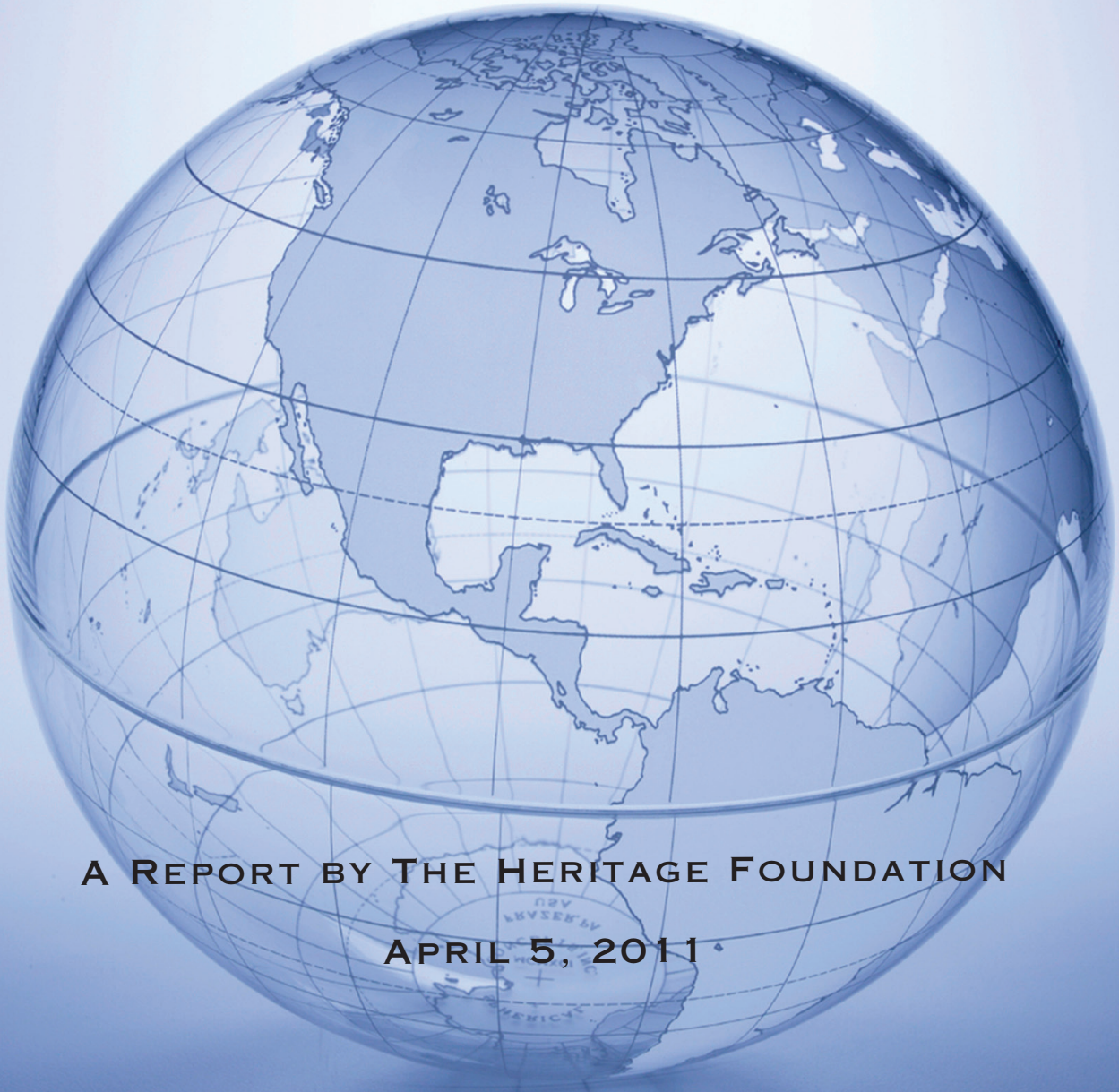
A Strong National Defense

The Armed Forces America Needs and What They Will Cost



A Report by The Heritage Foundation

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A Strong National Defense

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SR 90

Table of Contents

Abstract

The U.S. military force structure envisioned by the 2010 Quadrennial Defense Review and the President's FY 2012 budget request is inadequate to protect vital U.S. national interests. After the "procurement holiday" during the 1990s and the wear and tear of the "long war against terrorism" in Iraq and Afghanistan, all military services urgently need to recapitalize and modernize their inventories. Over the long term, failure to invest the funds needed to rebuild the U.S. military in the near term will increase not only the costs, but also the risks to the nation and endanger U.S. allies and friends.

This assessment of U.S. force structure provides a practical guide to understanding how well the current and projected U.S. military posture meets the constitutional obligation to provide for the common defense. This assessment is based on answers to three vital questions:

- What are the current and emerging significant challenges to U.S. security?
- What present and future U.S. capabilities are required to address them?
- How much will building and maintaining these forces cost over the next five years?

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This paper, in its entirety, can be found at:
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Section I

Defining the Future Force

Any discussion of defining the future U.S. armed forces should be informed by the past and reflect the American principles that define the U.S. military's purpose and responsibilities. The U.S. Constitution requires the federal government to provide for the common defense, and the armed forces play a critical role in achieving that end. Their primary task is to protect the nation's vital interests.

Vital National Interests

U.S. national interests have remained remarkably consistent since World War II, despite the changing threat environment. They include:

1. Safeguarding U.S. national security;
2. Preventing a major power threat to Europe, East Asia, or the Persian Gulf;
3. Maintaining access to foreign trade;
4. Protecting Americans against threats to their lives and well-being; and
5. Maintaining access to resources.

Above all, the U.S. armed forces protect America's territory, borders, and airspace as well as sea-lanes, space, and cyberspace. This includes maintaining access to resources that are essential to long-term U.S. national security and the U.S. economy. Accordingly, the United States upholds the principle of freedom of the seas and space to promote and protect commerce among nations.

From Challenges to Requirements to Costs

National security challenges drive force structure requirements: how many brigades, wings, carrier groups, and other military assets are needed; where they are deployed; and how they are used. The requirements determine the costs.

The force structure presented in this paper was developed using the same analytical methods that Pentagon planners and the Armed Services Committees of Congress use to determine U.S. defense needs. The underlying principle is that any considerations of force size and capability must begin with determining likely missions based on security interests:

- What will the U.S. military be expected to do?
- What key challenges will it likely face in protecting vital U.S. interests at home and abroad?
- What capabilities will the military need?
- How much will it cost over the next five years?
- What are the possible consequences of failing to develop and maintain these capabilities?

This analysis did not consider alternative force structures. Its purpose was simply to demonstrate how current and projected capabilities align with legitimate defense requirements.

This analysis describes the dangers that U.S. military forces will likely face and the capabilities needed to meet those dangers in five strategically important regions: Asia, the Middle East, Europe, the American homeland, and globally. The President's fiscal year (FY) 2012 budget request is used as a baseline.

This analysis also examined authoritative open-source documents, such as the *2010 Quadrennial Defense Review* (QDR) and the 2010 QDR Independent Panel report. However, this paper envisions a more robust force than the one proposed in the 2010 QDR.

Other Elements of National Power

This analysis focuses on military tasks that are not readily fungible. That is to say, other instruments of national power such as diplomacy and economic power, even if deployed effectively, cannot alone substitute for the projection of military power in accomplishing these tasks.

The analysis also acknowledges that the other instruments of power are often most effective when supported by military force. Credible military power has a synergistic effect that makes the other elements of national power more influential and effective. For example, the 2007 surge of forces in Iraq created the opportunity to establish the civilian government, construct a market economy, and build the institutions of civil society.

Friends and Allies

U.S. contributions to collective security must be determined by what best protects America's vital interests. This analysis recognizes that friends, allies, and overseas bases contribute to collective defense. In turn, the U.S. provides capabilities, such as Aegis cruisers and the fifth-generation F-35 fighter aircraft, that enable coalition forces to operate more effectively together.

U.S. contributions are critical. If America does less, most U.S. friends and allies are unlikely to do more. Some may not even support U.S. efforts or may make accommodations and concessions to U.S. adversaries instead. In addition, when the U.S. cuts back programs fielded in concert with U.S. allies, such as the F-35, the collective defense of all countries suffers.

Accounting for Risk

Failure to prepare for potential threats is the best way to ensure that they will become real threats. The world is a dangerous place. The U.S. military is already pressed to meet its commitments because of the long-term effects of the "peace dividend" taken after the collapse of the Soviet Union. The demands on the U.S. military will likely not lessen in the mid term. Further cuts in U.S. force structure will only increase the risks to U.S. forces. Maintaining a military below minimum commonsense levels would limit the U.S. to undertaking only one major military operation at a time. If faced with domestic crises like Hurricane Katrina or unexpected overseas contingencies, the U.S. would be forced to choose between ongoing tasks or simply not responding.

Failure to prepare for potential threats is the best way to guarantee that they will become real threats. The world is a dangerous place.

Vital national interests tend to remain constant, but dramatic changes, such as the collapse of the Soviet Union and 9/11, can change strategic requirements. Such events are not always predictable. While leaders should try to be sufficiently flexible to adapt to rapid change, these shifts cannot serve as the basis for defense planning any more than winning the lottery should be part of a plan to balance the family budget. Making radical changes in forces, such as sharply cutting the number of fighters or reducing ballistic missile defense (BMD) requirements, may save money in the short term; but in the long run, it will increase both the costs and the risks by disrupting the sustained investment needed to maintain core defense capabilities.

Since the end of the Cold War, America's military has operated at a far higher operational tempo than it did during the Cold War. However, while the military has been busier than ever, its size and strength have declined. The Air Force is smaller and its inventory is older than at any time since its inception in 1947. The Navy has fewer ships than at any time since 1916. All three services are 30 percent to 40 percent smaller than they were during Desert Storm. As a result, the National Guard and Reserves have been constantly mobilized, and a number of Army units are on their fifth or sixth deployment in Iraq and Afghanistan.

America depends on its existing forces to respond to both anticipated and unanticipated events. It cannot rely on a "just-in-time" industrial base or mass mobilization plans to meet every unexpected challenge.

The force structure proposed in this paper is designed to mitigate these risks.

Affordability

Force structure is constrained by cost and requires balancing what is required to secure vital national interests with what the nation can afford. In historical terms, whether as a percentage of the federal budget or as a share of national wealth, the cost of a robust force described in this analysis is near post–World War II lows. However, policymakers cannot ignore the fiscal challenges facing the nation, including the growing cost of big government and the economic impediments caused by high taxes.

Sustaining U.S. forces over time will require addressing four issues:

- **Entitlement spending.** If left unchecked, entitlement spending will eventually consume the entire federal budget, crowding out defense spending.
- **Defense manpower costs.** Compensation costs must be controlled without cutting overall manpower levels or reducing the quality of those serving.
- **Wasteful, unnecessary, and inefficient defense expenditures.** Wasteful spending absorbs funding needed for modernizing and recapitalizing the military.
- **Non-defense programs in the defense budget.** Such programs should be transferred out of the defense budget or eliminated altogether.

Reducing U.S. forces below strategic requirements would also endanger U.S. prosperity and economic growth. If the United States lacks the capacity to protect its vital interests, both its security and its economy will suffer in the long term.

Section II

Asia

The U.S. has vital economic, political, and strategic interests in Asia. The U.S. and its Asian friends and allies face a variety of current challenges and developing threats.

The People's Republic of China: The Greatest Potential Challenger

One prevailing geopolitical assumption is that the more two nations are intertwined economically, the less likely they are to go to war with each other. Beijing has been distancing itself from economic freedom, and unlike other potential opponents in Asia, the People's Republic of China (PRC) possesses sufficient economic, political, human, and diplomatic resources to threaten vital U.S. interests. It is unrealistic to assume that the PRC and U.S. will automatically accommodate each other's interests or that there is no potential for conflict in the years to come.

The PRC is engaged in a large-scale military modernization program, which is not surprising given that China now has the world's second largest economy and increasingly depends on imports of oil and other raw materials. Yet many aspects of this program appear to be focused more on denying the United States access to East Asian waters than on self-defense.

The PRC's military modernization includes extensive efforts to improve its conventional naval and air capabilities, including designing and deploying modern nuclear submarines, stealth fighters, tanker aircraft, and electronic warfare aircraft. These efforts are supplemented by its growing missile forces, including short-range ballistic missiles aimed at Taiwan and anti-ship ballistic missiles to counter U.S. aircraft carrier groups. China is also investing heavily in space capabilities, including a variety of satellite and anti-space systems, and cyber warfare capabilities to exploit and attack computer networks.

The People's Liberation Army is striving to ensure that it can project and sustain military power during a sustained conflict. To this end, China has devoted substantial efforts to developing military doctrine and training infrastructure.

These improvements coincide with continued development of its nuclear program. Recently, Director of National Intelligence James Clapper noted that China has the capability to be the gravest threat to the United States. Signs of confrontation are growing. Because U.S. vessels are operating in waters claimed by China, Beijing has used dangerous and aggressive behavior in the South China Sea to compel the U.S. to leave the area.

Afghanistan and Pakistan: The Center of Global Terrorism

The threats of a Taliban resurgence in Afghanistan and continued global terrorism directed by al-Qaeda's core leadership operating in Pakistan's tribal border areas make stabilizing Afghanistan and Pakistan vital to U.S. national security interests. Al-Qaeda and the Taliban maintain an important alliance, with al-Qaeda facilitating Taliban recruitment, access to training, and international financing and providing ideological inspiration. The Taliban, in turn, help al-Qaeda to maintain a safe haven in Pakistan's Pashtun tribal belt, where the Taliban originated and maintain family ties.

U.S. and coalition forces have had recent success against the Taliban in southern Afghanistan, largely due to the U.S. troop surge in 2010. The U.S. and coalition forces need to maintain military pressure on the Taliban in order to

shape the political environment to ensure that Afghanistan does not again become a safe haven for terrorists intent on attacking America.

It is premature to consider withdrawing substantial numbers of troops this summer. Intensified drone missile attacks during the past two years have further degraded al-Qaeda's ability to organize and carry out terrorist plots, but the U.S. needs more assistance from Pakistani security forces.

While Pakistan has conducted military operations in the tribal areas, it continues to hedge its support for militant groups, such as the Jalaluddin Haqqani network in North Waziristan, and is reluctant to crack down on the Lashkar-e-Tayyiba (LeT) terrorist group, which orchestrated the 2008 attacks in Mumbai, India. Pakistan still views the Haqqani network and LeT as vital assets in limiting Indian regional influence. The U.S. needs to maintain an effective military presence in the region to demonstrate long-term U.S. commitment and to encourage Indo–Pakistani engagement so that Pakistan will reevaluate the "benefits" of maintaining links to terrorist groups.

Pakistan's possession of nuclear weapons increases the potential threat to the global community if Islamist extremists gain influence in the country. A strong U.S. vision and long-term commitment to this vital region is imperative to maintaining global security and ensuring that nuclear weapons stay out of the hands of terrorists.

North Korea: A Threat to Global Peace and Stability

North Korea poses both a multifaceted military threat to peace and stability in Asia and a global proliferation risk. Its conventional forces remain a direct threat to South Korea—a key ally that the United States is treaty-bound to defend. North Korea's million-man army has deployed 70 percent of its ground forces within 60 miles of South Korea. War would further jeopardize the stability of a region that includes China and key U.S. allies and is vital to global commerce.

Pyongyang's attacks on a South Korean naval ship and shelling of a civilian-inhabited island in 2010 were chilling reminders of the tenuous state of peace on the peninsula. These unprovoked acts of war reflect an abandonment of self-imposed constraints and the increased likelihood of conflict. Since there were no consequences for those actions, North Korea will feel free to escalate the situation further to achieve its foreign policy objectives.

Although the status of its nuclear weapons program is unclear, North Korea has developed enough fissile material to build six to eight nuclear bombs and has conducted two nuclear tests. Defense Secretary Robert Gates has warned that "North Korea is becoming a direct threat to the United States" because it will likely have an intercontinental ballistic missile within five years. North Korea has 600 Scud missiles targeting South Korea; 300 No Dong missiles, which can reach Japan; and the Musudan missile, which can hit U.S. bases on Guam and Okinawa. These factors, combined with the unhinged North Korean rhetoric, demonstrate the threat to the U.S. and regional allies.

Pyongyang also poses a grave proliferation risk. For decades it has exported missiles and technology to rogue regimes, and it is directly involved or suspected of direct involvement in the Iranian, Syrian, and Burmese nuclear weapons programs. In September 2007, Israel destroyed a Syrian nuclear reactor that was being constructed with covert North Korean assistance.

Force Structure for Asia

As the Quadrennial Defense Review Independent Panel concluded in 2010, "The force structure in the Asia–Pacific area needs to be increased." Without a larger force than the one outlined in the 2010 QDR, the U.S. could lose "the ability to transit freely the areas of the Western Pacific for security and economic reasons."

> For example, if China blocks freedom of transit in the South China Sea, the disruption of trade would be a disaster for U.S. allies, such as Taiwan, which imports 98 percent of its oil via the South China Sea. Use of force by China would have a devastating effect on U.S.–PRC relations, inhibiting the ability of the U.S. to cooperate with regional allies. The 2009 Australian Defense White Paper forecasts that in the future, the U.S. will not have the capacity to counter this threat because of declining U.S. military presence.

Furthermore, the Naval Operations Concept 2010 suggests that with the planned 33 amphibious ship fleet, the U.S. would be unable to field two complete Marine expeditionary bridgades (MEB), thus limiting us to one full-scale Marine force pojection at a time. To address such concerns, the U.S. military forces require increased capacity, primarily in air, sea, missile defense, space, and cyber capabilities. Essential forces include:

1 corps headquarters;

6 division headquarters;

17 infantry brigade combat teams;

3 Stryker brigade combat teams;

10 heavy brigade combat teams;

10 combat aviation brigades;

7 Patriot battalions;

3 Terminal High Altitude Area Defense (THAAD) batteries;

4 aircraft carriers and 4 carrier wings;

43 large surface combatants, including 14 BMD-capable combatants;

11 small surface combatants;

7 mine countermeasure ships;

22 amphibious warfare ships;

13 attack submarines;

2 guided missile submarines;

75 land-based intelligence, surveillance, reconnaissance, and electronic warfare aircraft (manned and unmanned);

1 maritime prepositioning squadron;

15 combat logistics force ships;

12 command and support vessels;

26 roll-on/roll-off strategic sealift vessels;

1 Marine expeditionary force;

1 Marine division, consisting of 4 infantry regiments and 1 artillery regiment;

1 Marine aircraft wing;

1 Marine logistics group;

2 Marine expeditionary unit command elements;

4 Air Force intelligence, surveillance, and reconnaissance (ISR) wing-equivalents;

16 airlift and aerial refueling wing-equivalents;

22 tactical fighter squadrons;

3 long-range strike (bomber) wings;

1 command and control wing;

2 fully operational air and space operations centers;

Space and cyberspace wings;

Special operations teams;

Ranger battalions; and

Special Forces–capable tilt-rotor/fixed-wing mobility and fire support primary mission aircraft.

Section III

The Middle East

The United States has a vital interest in ensuring that a hostile power does not exercise hegemony over the Middle East, which is not only a key region for global trade and an investment hub, but also a potential source of transnational terrorism and nuclear proliferation. In addition, the U.S. needs to preserve its capacity to support and act in concert with Israel, a key U.S. ally in the region.

Iran: A Threat to Regional Stability

The regime in Iran poses the most significant threat to U.S. interests. It sponsors terrorism as part of its foreign policy, repeatedly threatens the existence of both Israel and the United States, and is actively seeking to establish a regional hegemony and undermine U.S. influence in the region.

Iran continues to develop nuclear weapons. Its leaders are deeply committed to building nuclear and ballistic missiles in defiance of U.N. Security Council restrictions. While estimates vary, the intelligence community estimated in 2010 that Iran could have a nuclear weapon within one or two years. The International Atomic Energy Agency (IAEA) reports that Iran has increased the number of uranium-enriching centrifuges at its Natanz facility from about 3,000 in late 2007 to more than 8,000. In 2010, Iran unveiled even faster centrifuges to speed up enrichment, and it has stockpiled more than 3,000 kilograms of low-enriched uranium—enough to produce at least two nuclear weapons if the uranium is further enriched.

Tehran has the largest inventory of ballistic missiles in the Middle East, and it continues to increase their range, scale, and payload capabilities. Its new two-stage solid-propellant missile could soon be capable of reaching Eastern Europe—far beyond Israel. According to a recent National Intelligence Estimate, many of Iran's ballistic missiles "are inherently capable of carrying a nuclear payload." Iran could have a nuclear-armed intercontinental ballistic missile by 2015, enabling it to hold governments around the world hostage simply by threatening to launch its missiles.

Iran poses a threat to shipping and oil transported through the Strait of Hormuz. In addition, it continues to support foreign terrorist elements, including Hezbollah, Hamas, the Palestinian Islamic Jihad, and the Taliban. If Iran achieves a nuclear capability, it could provide nuclear weapons to terrorists to carry out its ambitions.

Likely influenced by Iran, in the past four years, at least 14 countries in the Middle East and North Africa have announced intentions to pursue civilian nuclear programs, which are viewed by many as a hedge against the possibility of a nuclear Iran. A nuclear Iran will multiply this phenomenon, resulting in a nuclear arms race in the Middle East.

Furthermore, the United States should be wary of cooperation between anti-American regimes, such as Iran's cooperation with Venezuela's Hugo Chávez in Venezuela.

Finally, Iran has sought to undermine the coalition in Iraq and U.S. relations with longtime U.S. allies in the region, including Turkey and the Gulf states.

Syria and Hezbollah: Sources of Instability

Syria and Hezbollah pose more limited threats to U.S. interests, but they continue to actively threaten Israel and pro-Western forces in Lebanon. Syria is refusing to cooperate with the IAEA on its nuclear program. It also

maintains an active missile and chemical weapons program. Syria and Hezbollah cooperate against Israel, and Syria also allows terrorists to pass through its territory into Iraq.

Lebanon has recently undergone dramatic power shifts. Lebanese President Michel Suleiman selected Najib Mikati, a Hezbollah ally, to form a new government. If Hezbollah develops a stronger hold, it will use Lebanon as a staging area for arms and drug smuggling, money laundering, and terrorist activities in the region and around the world.

Al-Qaeda in the Arabian Peninsula in Yemen and Somalia

While many of al-Qaeda's "core" leaders have sought refuge in Pakistan's tribal areas, Yemen's al-Qaeda in the Arabian Peninsula (AQAP) has arguably emerged as a more immediate threat.

Continued Predator drone strikes in Pakistan have led many al-Qaeda cadres to shift their operations to Yemen. AQAP has had a long presence in Yemen, and in just the past 18 months, it has played a role in at least four terrorist plots and attacks against the United States. For example, the 2009 "Christmas day bomber" in Detroit was aided and trained in Yemen.

The U.S. needs to prevent al-Qaeda from moving its base of operations from Pakistan to Yemen or Somalia. It should place a top priority on intercepting al-Qaeda leaders in transit. Al-Shabab, a radical Islamist group, controls much of southern and central Somalia. The al-Qaeda network has operated in Somalia before and has worked with Somali Islamists since the early 1990s. Al-Shabab and al-Qaeda coordinate training camps and share ideology.

Iraq: Looking to the Future

Iraq is becoming a strong and influential U.S. ally in the region in addition to providing a potential model to its neighbors for revitalizing its political economy and civil society. However, Iraq will need continued U.S. military support and assistance beyond 2011 to prevent radical Islamist groups and Iran from gaining influence and undermining progress.

Political Upheaval: Responding to an Uncertain Future

Political turmoil in North Africa and the Middle East will require the U.S. to sustain a capacity to engage proactively in the region. The U.S. also needs to respond to sudden and unpredictable change, including the loss of bases and the emergence of new threats, such as terrorist links to maritime pirates. The consequences of current events may not become clear for several years, but the U.S. needs to prepare now.

Force Structure for the Middle East

Without a robust force structure available for the Middle East, the U.S. will be unable to respond to significant crises on land or sea.

> For example, an Iranian blockade of the Strait of Hormuz would disrupt global commerce. At present, 20 percent of the world's petroleum products transits the strait. If that trade were halted, the U.S., for example, would quickly exhaust its Strategic Petroleum Reserves. The effects in the U.S. would be immediate and significant. According to a 2008 Heritage Foundation analysis, the U.S. would lose more than 1 million jobs, the price of oil would approximately double, and real disposable income would decrease by $260 billion.

Given the current turmoil in the Middle East, reducing the force structure in this theater would be irresponsible. The U.S. must be prepared for the sudden loss of access to bases in this region. Furthermore, missile defenses need to be increased significantly to mitigate the threat of missile attacks by Iran or other regimes. Essential forces include:

1 corps headquarters;

8 division headquarters;

20 infantry brigade combat teams;

4 Stryker brigade combat teams;

12 heavy brigade combat teams;

10 combat aviation brigades;

7 Patriot battalions;

3 THAAD batteries;

3 aircraft carriers and 3 carrier wings;

25 large surface combatants, including 14 BMD-capable combatants;

19 small surface combatants;

7 mine countermeasure ships;

12 amphibious warfare ships;

22 attack submarines;

2 guided missile submarines;

60 land-based intelligence, surveillance, reconnaissance, and electronic warfare aircraft (manned and unmanned);

1 maritime prepositioning squadron;

12 combat logistics force ships;

8 command and support vessels;

20 roll-on/roll-off strategic sealift vessels;

1 Marine expeditionary force;

1 Marine division, consisting of 4 infantry regiments and 1 artillery regiment;

1 Marine aircraft wing;

1 Marine logistics group;

2 Marine expeditionary unit command elements;

3 Air Force ISR wing-equivalents;

12 airlift and aerial refueling wing-equivalents;

18 tactical fighter squadrons;

2 long-range strike (bomber) wings;

1 command and control wing;

5 fully operational air and space operations centers;

Space and cyberspace wings;

Special operations teams;

Ranger battalions; and

Special Forces–capable tilt-rotor/fixed-wing mobility and fire support primary mission aircraft

Section IV

Europe

A secure and prosperous Europe is vital to U.S. interests. America and European nations engage in the world's largest bilateral trade and investment relationship, accounting for one-third of world trade and more than half of the global economy. In addition, the U.S. is able to safeguard its economic and security interests around the world because of the North Atlantic Treaty Organization (NATO) and U.S. bases in Europe, which enable it to project its power quickly and effectively. The enemies of the United States understand this.

Nuclear Ballistic Missile Threats: Vulnerabilities of Key Allies and Bases

The threat of ballistic missile attack can be seen in Iran's emerging capability to target several European nations. An attack on Europe would require a U.S. response.

France and Britain are Europe's only nuclear powers. Britain and the U.S. belong to NATO's Nuclear Planning Group, which effectively provides a NATO-wide nuclear deterrent and/or guarantee to the other NATO states. Missile defenses and conventional forces are essential to limiting the likelihood of a nuclear conflict. However, if Iran attacks Europe, the U.S. would face the possibility of using its nuclear weapons on behalf of its allies.

Transnational Terrorism and Radicalization: Danger to Allies and Assets

The Global Terrorism Database, which catalogs terrorist events around the world, reveals an increasing Islamist terrorist threat to Europe. After 9/11, through June 2008, al-Qaeda sponsored, inspired, and directed 28 plots against NATO members. In the United Kingdom alone, intelligence reports estimate that at least 2,000 individuals have been identified as threats to national security because of their support for terrorism.

Spain and Germany served as logistical bases for the 9/11 terrorist attacks. European nationals have been found fighting against coalition troops in Afghanistan and Iraq. Considering that 9/11 prompted NATO to invoke its Article V (common defense of the alliance) guarantee for the first time, a large-scale terrorist attack against Europe would have significant implications for the United States. Further, a terrorist attack on an International Security Assistance Force member could create considerable pressure for it to withdraw from military commitments in Afghanistan.

A 9/11-style attack in Europe would also put the U.S. in the position of needing to respond quickly or lose its leading role in NATO and potentially even cause NATO to collapse. Given that most U.S. security analysts accept that the U.S. will need to rely on its allies for support and access in warfare, it is important to keep the alliance together.

Whether Turkey will continue to be a dependable NATO partner is in doubt. In 2003, Turkey denied U.S.-led coalition forces the use of its facilities for operations against Saddam Hussein.

Russian Adventurism: A Source of Potential Instability and Confrontation

Moscow continues to pursue a policy that claims a privileged interest in the area of the former Soviet Union, which even includes some NATO and European Union (EU) member states. Russia's invasion of Georgia in August

2008 and subsequent recognition of South Ossetian and Abkhazian independence redrew Europe's borders by force. Russia remains a threat to the territorial integrity of neighboring states.

However, Russia's armed forces performed poorly in Georgia, defeating Georgian forces by numerical superiority. In September 2008, Russia began to transform its armed forces into a smaller, more mobile force equipped with modern weaponry. It has sought to procure the French *Mistral*-class amphibious assault ship. Furthermore, Russia is a nuclear power that, under New START, will equal the U.S. in intercontinental ballistic missiles in the future while having an estimated 20-to-1 advantage in tactical nuclear weapons in Europe.

Russia's use of force against its neighbors is a direct military threat to Russia's former Soviet neighbors and NATO. Until recently, America's military presence and leadership has assured NATO allies and deterred potential aggression. The U.S. has also sought to build capacity and interoperability with its allies and partners. A drawdown of U.S. force presence in Europe would create a vacuum that Russia would rush to fill, strengthening its claim for a sphere of privileged interest.

It is also likely that Russia will compete increasingly with NATO and EU nations for natural resources, including oil, and commerce in the Arctic as transpolar travel routes become more open to maritime navigation, reducing transit times by as much as 40 percent. Protecting and preserving open seaways is a vital U.S. national interest.

Failed States on Europe's Borders: A Common Anxiety

Failing states in the Balkans, North Africa, and Central Asia present a range of threats against Europe and the U.S. In addition to humanitarian implications and human trafficking, they provide safe havens for terrorists and are sources of mass emigration, transnational crime, and violence that spill over into Europe, creating widespread instability. They can disrupt the flow of oil and gas to Europe, and they are vulnerable to takeover by autocratic leaders.

The dangers of a failed state might not directly threaten the U.S. for years. Nevertheless, over the long term, the result could be another Somalia, which would complicate U.S. leadership in the region.

Force Structure for Europe

Operations such as those conducted in Bosnia, Kosovo, Iraq, and Afghanistan could not have been accomplished as effectively as they were without the forces organized to support the European theater.

> For example, if Russia were to threaten a NATO country with military force, such as the invasion of Georgia in 2008, the U.S. would be hard-pressed to meet its NATO commitments with conventional forces. When The Heritage Foundation examined the outcome of similar scenarios in a future proliferated environment that included independent nuclear-armed powers such as Iran, deterrence failed and nuclear weapons were used.

Furthermore, collective defense requires NATO to protect its members' borders and to act outside its borders to ensure its security. The U.S. needs to maintain its presence in Europe so that it can sustain expeditionary capabilities. In particular, U.S. bases may need to support operations if the U.S. suddenly loses access to facilities in the Middle East. Finally, the U.S. needs to ensure that its strategic, conventional, and missile defense forces remain balanced and complementary. Otherwise, an outside power could attempt to use the threat of conventional conflict or nuclear attack to hold America or other NATO allies hostage and prevent them from reinforcing one another. Essential forces include:

1 corps headquarters;
8 division headquarters;
20 infantry brigade combat teams;
4 Stryker brigade combat teams;
12 heavy brigade combat teams;
10 combat aviation brigades;
7 Patriot battalions;
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2 long-range strike (bomber) wings;
1 command and control wing;
5 fully operational air and space operations centers;
Space and cyberspace wings;
Special operations teams;
Ranger battalions; and
Special Forces–capable tilt-rotor/fixed-wing mobility and fire support primary mission aircraft.

Section V

The American Homeland

Defending the American homeland is a primary responsibility of the U.S. military. The military also plays a role in responding to catastrophic disasters.

Catastrophic Disaster Response: Military Assistance to Civilian Authorities

Predesignating response forces is especially important for reacting to natural or man-made (e.g., terrorist) catastrophes. In a catastrophic disaster that endangers tens of thousands of lives or more and billions of dollars in infrastructure, the national response needs to be immediate, massive, and effective, not only because people and property are at risk, but also because the government's credibility at all levels is in jeopardy. If citizens perceive the government response as credible, that perception can measurably defuse tension, fear, and frustration, prompting communities to be more resilient in their own responses to the catastrophe.

Having the U.S. military play a prominent role in the immediate response to catastrophic disasters makes sense. It would be counterproductive and ruinously expensive for other federal agencies, local governments, or the private sector to maintain the excess capacity and resources needed for immediate catastrophic response. Maintaining this capacity would also be beneficial to the military. For example, the Pentagon could use response forces for tasks directly related to its primary war-fighting jobs—such as theater support to civilian governments during a conflict, counterinsurgency missions, and postwar occupation—and for homeland security.

Military forces are not first responders. In most cases, meeting the immediate needs of the community is necessarily the responsibility of the local community, its police and fire departments, and its other emergency management assets. However, major disasters such as earthquakes, hurricanes, chemical and biological incidents, and nuclear attacks can quickly overwhelm the capacity of state and local governments to safeguard life and property.

Cyber Threats: Protecting the U.S. from State and Nonstate Enemies

Government and private information networks are increasingly under attack from a variety of state-sponsored and nonstate actors. According to a 2001 report from the the General Accounting Office (now known as the Government Accountability Office):

> Daily, [the Department of Defense] identifies and records thousands of "cyber events," some of which are determined to be attacks against systems and networks. These attacks may be perpetrated by individuals inside or outside the organization, including hackers, foreign-sponsored entities, employees, former employees, and contractors or other service providers.

The widely publicized cyber assaults against Estonia in 2007 and Georgia in 2008 highlight the danger of state-sponsored threats against U.S. networks. They demonstrate how adversarial states are using malicious online activity as a tool of national policy. Revelations of Chinese cyber espionage against sensitive information networks in the United States, Germany, and elsewhere have further heightened concerns that the World Wide Web is becoming another battlefield.

Nonstate cyber threats include Islamist hackers who have promoted the tactic of "electronic jihad," attacking "enemy" Web sites to undermine morale and harm economic and military infrastructure. Many Islamist Web sites host forums that discuss how to conduct such Web-based attacks.

The Web is a target-rich environment. The Department of Defense (DOD) alone has 3.5 million computers and 35 internal networks in 65 countries, many of which depend on commercial systems. According to the Defense Science Board, not only do cyber attacks represent a general threat, but the majority of military and DOD operations are susceptible to their effects. Furthermore, terrorist groups use the Web for recruiting, fund-raising, propaganda, intelligence gathering, and planning operations.

Enemies could create a catastrophic failure in Supervisory Control and Data Acquisition (SCADA) systems, which monitor and control most U.S. infrastructure. Such an attack could cause power outages, spark explosions, and unleash fuel spills. Although these systems are not part of the Internet, governments and the private sector have been employing "enterprise-wide" architectures that link SCADA systems to the Web. As a result, they have potentially created a large number of gateways into some of America's most sensitive networks. For example, the Stuxnet computer worm is highly sophisticated malware designed to target SCADA systems.

Border Security: Ensuring American Sovereignty, Commerce, and Safety

Mexican criminal cartels dominate the U.S. illicit drug market and are prominent in human smuggling, gun trafficking, and money laundering. As the cartels fight to control trafficking routes, they increasingly threaten both Mexico's stability and public safety in the U.S. Cartels virtually rule parts of Mexico, and the violence and murder are spilling across the border. In 2010, the death toll in Mexico exceeded 15,000. More than 34,000 have been killed in the past four years. In addition, at least seven major terrorist organizations have an active presence in Latin America, including three with ties to transnational Islamic terrorist groups.

Other U.S. interests include Mexico's economic success. Mexico is America's second largest trading partner. The rest of Latin America accounts for less than 6 percent of U.S. trade, but trade with Latin America has great potential to grow. Already, nearly 30 percent of America's crude oil imports come from Latin America.

Air Defense: Sovereignty and Security of America's Skies

The successful 9/11 terrorist attacks highlighted the importance of maintaining early warning and response capability over U.S. airspace. During the attacks, the Federal Aviation Administration was notified of terrorist hijackings of four planes, but it failed to warn the U.S. military in time to respond before the planes struck their targets.

The attacks prompted a major increase in air defense over U.S. cities, culminating in Operation Noble Eagle. This included monitoring and intercepting flights, air patrols over cities and critical infrastructure, and controlling the airspace over Washington, D.C., and other major cities. From September 11, 2001, through 2008, NORAD monitored 2,700 unknown aircraft and directed more than 45,000 defensive maneuvers under Noble Eagle.

Maritime Security: Protecting the Lifeline of U.S. Commerce

The importance of maintaining situational awareness and response in the maritime domain cannot be overstated. Almost one-third of the U.S. gross domestic product (GDP) derives from trade, of which 95 percent is transported

by sea. More than $1.3 billion worth of goods moves in and out of U.S. ports every day. In addition, many major urban centers accounting for more than half of the U.S. population and significant critical infrastructure are close to ports or accessible by waterways.

Maritime security also has a critical defense dimension. The vast majority of U.S. military forces and supplies projected overseas transit through U.S. ports. In FY 2003, the U.S. Military Traffic Management Command shipped more than 1.6 million tons of cargo in support of Operation Iraqi Freedom.

Force Structure for the Homeland

The U.S. lacks sufficient resources to deal with catastrophic disasters, such as one on a scale of the disaster caused by the 2011 earthquake and tsunami in Japan.

> For example, a nuclear warhead detonated over a U.S. city could reduce an area of up to 40 square miles to roaring flames, depending on the warhead's yield and other factors. It would ignite more fires within a larger area of perhaps 65 square miles. In a nuclear attack on Washington, D.C., those of the 5.3 million people in the metropolitan area who survived the first hour after the attack would be in a desperate situation. The U.S. would need a substantial force of specially organized, trained, and equipped military personnel to organize a credible response.

The 2010 Quadrennial Defense Review Independent Panel unequivocally concluded:

> QDR force structure will not provide sufficient capacity to respond to a domestic catastrophe that might occur during a period of ongoing contingency operations abroad. The role of reserve components needs to be reviewed, with an eye to ensuring that a portion of the National Guard be dedicated to and funded for homeland defense.

The panel added that "the expanding cyber mission also needs to be examined. The Department of Defense should be prepared to assist civil authorities in defending cyberspace—beyond the Department's current role." The RAND study *Army Forces for Homeland Security* suggests several changes in the force structure in response to potential threats. Specifically, the study recommends creating:

- A dedicated rapid-reaction brigade of 3,600 soldiers that rotates between active and reserves;
- A rapidly deployable and dedicated force of 6,200 soldiers for counterterrorism and border security;
- Dedicated rapid-response regional civil support battalions totaling some 8,900 soldiers; and
- A dedicated pool of reserve support totaling some 7,560 soldiers.

Based on these recommendations, the force structure needed to defend the American homeland would include:

7 homeland defense, counterterrorism, and civil support brigades;

10 tactical fighter wings;

Airlift and aerial refueling wing-equivalents;

Space and cyberspace wings;

Special operations teams; and

Special Forces–capable tilt-rotor/fixed-wing mobility and primary mission aircraft.

Section VI

Global Dangers

The proliferation of weapons of mass destruction (WMDs) and the means to deliver them is increasing the likelihood that the U.S. or an ally will suffer such an attack.

Strategic Attacks on U.S. Territory: A Preventable Catastrophe

A cornerstone of Russian military strategy is the threat of preemptive nuclear attack against Russia's enemies. Russia possesses a large strategic nuclear arsenal and is modernizing it, exploiting the opportunity presented by the New START nuclear arms agreement. New START establishes Russia as an equal to the U.S. in both the number of strategic nuclear weapons and the number of delivery systems. Russia will not agree to further reductions in its nuclear systems without even more draconian cuts by the U.S.

The Chinese, while starting with a far smaller strategic nuclear force, are expanding and modernizing their nuclear forces. Although China will likely expand and upgrade its strategic arsenal primarily as a deterrent against Russia, these weapons could also be directed against the U.S. and its friends and allies.

Both Iran and North Korea are pursuing nuclear weapons and long-range ballistic missiles. Other potentially hostile states will likely follow suit. Accordingly, the U.S. could face a threatening coalition of strategic nuclear powers, which will likely have other WMDs in their collective arsenal. Cooperation among countries hostile to America could include sharing technology, materials, and technical assistance and could even expand to embrace coordinated targeting and strategy.

The WMD threat from hostile states is nothing less than existential. Recent research suggests that nuclear weapons are much more destructive than previously thought because of the effect of mass fire. By some estimates, recovering from a nuclear strike against just one American city would require the equivalent of the entire U.S. economy.

America is also vulnerable to the electromagnetic pulse (EMP) from a high-altitude burst of a nuclear weapon. A congressional commission on the EMP threat to the nation's infrastructure estimated that an EMP burst over the Midwest could destroy the entire U.S. electrical grid, rendering the electrical tools of daily life useless. Life in the United States "would be a lot like life in the 1800s, except then the United States had a lot smaller population." Just feeding modern-day America would be virtually impossible without working transportation and communications systems. Water pumping and sewage treatment plants would be off-line. Modern medical care would be virtually nonexistent. Even if the rest of the world mustered the largest humanitarian mission in human history, the suffering would be unprecedented.

EMP attacks are often thought of as attacks against the U.S. infrastructure, but the truth is that a large-scale EMP attack would be an instrument of genocide. Many Americans would likely die within a year from the privations and hardships associated with the loss of critical national infrastructure.

Strategic Attacks on U.S. Friends and Allies: Shared Responsibilities

America leads a system of alliances in the most important regions of the world—particularly in East Asia, Europe, and the Middle East—because U.S. leaders recognize that U.S. security and liberty will be jeopardized if hostile

powers come to dominate these regions. Hence, every U.S. President has preserved and even expanded this system of alliances. U.S. allies in these regions face a variety of threats. However, a chief threat is an attack with nuclear weapons or other WMDs.

The most sought-after means of delivering such weapons is the ballistic missile. Among the current or potential hostile powers are China and North Korea in East Asia, Iran and Syria in the Middle East, and Russia in Asia and Europe. These countries either already possess or are seeking nuclear weapons and ballistic missiles capable of reaching U.S. allies, deployed forces, and even the U.S. homeland.

An attack on a close ally, particularly with nuclear weapons, poses nearly the same existential threat to that ally as it would to the U.S. itself. The very prospect of such attack could undermine alliance leadership. If allies begin to doubt the U.S. capability to deter against attacks, they will start to question U.S. leadership and America's ability to protect them, prompting them to look for security outside the current alliance system. As a result, America could see the collapse of these alliances and the rise of hostile powers in key regions.

Assured Access to Space: Losing the High Ground

Space assets and access to those assets are essential components of military power and are vital to the prosperity of the American people. The military depends on space systems for a variety of functions, including communications, early warning of attack, battle damage assessment, intelligence, navigation, and weather forecasting.

Control of space is necessary to defend the people, territory, institutions, and infrastructure of the U.S. against ballistic missile attacks, including an EMP attack. The American economy depends on satellites for communication, financial transactions, navigation, and logistical support among other priorities to sustain the American way of life. The economy would be far less efficient and competitive if these satellite systems were degraded or lost. Accordingly, preserving freedom of access to space is a vital interest.

U.S. satellites are vulnerable to attack, and the Earth satellite orbits are becoming increasingly congested and contested. Even nations such as Iran and North Korea are pursuing space systems. In 2007, China successfully tested its direct-ascent anti-satellite (ASAT) weapon. Russia also has ASAT capabilities.

Losing access to space systems and satellites because of disruption or destruction would deprive the U.S. military of one of its most important and valuable "force multipliers." Its loss would eliminate a major portion of the U.S. military's technological edge over potential enemies. Economically, the loss of access to or destruction of space systems would inhibit economic growth and could push America into economic decline.

Force Structure for Global Dangers

The strategic force structure presented here is interim. This analysis recognizes that almost every component of the U.S. strategic force needs significant modernization, upgrade, and/or expansion. Furthermore, the current Administration's strategic nuclear policy has an overarching conceptual problem: It is not based on a strategy to both "protect and defend," which would be more efficacious and more appropriate than the current U.S. strategy that relies on the outdated Cold War concepts of mutually assured destruction and massive retaliation.

Current strategies do not account for the stabilizing effects of missile defense systems and modern nuclear weapons technology, which deter conflict and reduce the threat of proliferation more effectively. The Heritage Foundation studied a scenario based on the strategy mapped out by President Barack Obama (i.e., a U.S. policy of nuclear disarmament with the hope of completely eliminating nuclear weapons across the globe). The Administration's strategy proved to be the most destabilizing to security, resulting in both proliferation and nuclear conflict.

In contrast, a "protect and defend" strategy holds at risk the enemy's means of strategic attack on the United States and its allies. When Heritage examined this strategy, which relied on a mix of offensive nuclear weapons, deterrence, and robust defensive systems, such as missile defenses to secure America from ballistic missile attack, nuclear disarmament was not achieved, but neither was there a nuclear arms race or nuclear conflict.

The basis for calculating the appropriate number of offensive and defensive strategic weapons needed in the U.S. arsenal depends on establishing a strategic targeting policy that is consistent with the protect and defend strategy. Until such a targeting policy is established, it is impossible to calculate the appropriate size of the strategic arsenal of the United States for the longer term.

For the interim, essential offensive and defensive strategic forces should include:

420 intercontinental ballistic missiles (ICBMs) with 420 warheads;

480 bomber-delivered warheads;

280 submarine-launched ballistic missiles (SLBMs) armed with 1,120 warheads;

54 ground-based midcourse defense interceptors (GMDs);

341 Standard Missile interceptors; and

2 or 3 deployable Airborne Laser aircraft.

Section VII

Force Summary

A fully resourced, strategy-based force structure would allow the DOD to increase its conventional force in select areas, such as shipbuilding, and to maintain the nuclear force structure at 2002 U.S.–Russia Strategic Offensive Reductions Treaty (Moscow Treaty) levels. It would enable the DOD to deploy and sustain an adequate number of forces and platforms to address one major contingency operation or two medium contingency operations and to build toward future capability to undertake two major operations while expanding capacity to undertake a collection of smaller humanitarian, stability, training, and support missions.

> For example, such a force structure would have enabled the U.S. to conduct major operations in Afghanistan and Iraq simultaneously or the U.S. and allies to deal with a crisis on the Korean Peninsula and a Chinese blockade of the South China Sea simultaneously.

Although this structure is described in traditional military units, the military services would be expected to task, organize, and reconfigure assets to meet specific threats (e.g., insurgent warfare); particular missions (e.g., stability operations); and operational environments (e.g., urban and mountain warfare).

This summary recognizes that some forces will be tasked to support multiple contingencies. It also includes sufficient forces to account for the 3:1 or 4:1 ratios required to support unit and personnel rotations during sustained deployments. For example, when one unit is deployed, another unit is standing down from deployment, and one or two other units are training to deploy.

As a result, the total force would include:

Army

4 corps headquarters (current force: 3);

18 division headquarters;

40 infantry brigade combat teams;

8 Stryker brigade combat teams (current force: 7);

25 heavy brigade combat teams (current force: 23);

21 combat aviation brigades (current force: 20);

15 Patriot battalions; and

7 THAAD batteries (current force: 2).

Navy and Marine Corps

11 aircraft carriers and 11 carrier air wings;

88 large surface combatants (current force: 81);

32 BMD-capable combatants (current force: 21);

28 small surface combatants;

14 mine countermeasure ships;

37 amphibious warfare ships (current force: 31);

55 attack submarines (current force: 53);

4 guided missile submarines;

171 land-based Naval intelligence, surveillance, reconnaissance, and electronic warfare aircraft (manned and unmanned);

3 maritime prepositioning squadrons;

33 combat logistics force ships (current force: 27);

25 command and support vessels (current force: 15);

51 roll-on/roll-off strategic sealift vessels (current force: 40);

3 Marine expeditionary forces;

4 Marine divisions;

11 infantry regiments (current force: 10) and 4 artillery regiments;

4 Marine aircraft wings;

4 Marine logistics groups; and

7 Marine expeditionary unit command elements.

Air Force

8 Air Force intelligence, surveillance, reconnaissance wing-equivalents;

32 airlift and aerial refueling wing-equivalents;

11 theater strike wing-equivalents;

5 long-range strike (bomber) wings;

6 air superiority wing-equivalents;

3 command and control wings;

5 fully operational air and space operations centers; and

10 space and cyberspace wings.

Special Operations Forces

660 Special Operations teams, including Army Special Forces Operational Detachment Alpha teams, Navy Sea, Air, and Land platoons, Marine special operations teams, Air Force special tactics teams, and operational aviation detachments;

3 Ranger battalions; and

165 Special Forces–capable tilt-rotor/fixed-wing mobility and fire support primary mission aircraft.

Strategic Forces

420 ICBMs with 420 warheads;

480 warheads for bombers;

280 SLBMs carrying 1,120 warheads;

54 GMDs;

341 Standard Missile interceptors; and

2 or 3 deployable Airborne Laser aircraft.

Modernization Priorities

Modernization programs are essential to sustaining the force for three reasons.

- If the U.S. follows through on existing programs in which significant investments have already been made, it will harvest significant new capabilities that will make the armed forces more effective overall.
- Over their life cycle, maintaining new systems will be more affordable than maintaining old equipment. For example, the F-35 will require 30 percent less maintenance personnel in the Marine Corps.
- The armed forces can retire less efficient systems, such as large surveillance aircraft.

The basic force summary provided in this analysis aligns generally with the force structure identified in the QDR as the minimum required to meet security requirements along with some additional investments in modernization and acquisition of select additional capabilities as outlined in the Quadrennial Defense Review Independent Panel's report. The QDR Independent Panel specifically noted that because of increased Chinese military capabilities, the force structure presented in the QDR may not enable the U.S. military to fully meet the nation's commitments in Asia.

Modernization Recommendations

The Quadrennial Defense Review Independent Panel, which was chartered by Congress, proposed an alternative force structure that calls for a fully modernized force structure. This alternative appropriately matches the security threats facing the U.S.:

> This includes modernization in areas where modernization is needed but not currently planned for the short term—submarines, a next generation cruiser, a tanker and lift capability, and new ground combat vehicles. Second, the recommended force emphasizes long-range platforms to a greater extent than the current force.… [T]his will allow the United States to protect its vital interests at low to moderate risk over the coming two decades….
>
> Force structure must be strengthened in a number of areas to address the need to counter anti-access challenges, strengthen homeland defense (including defense against cyber threats), and conduct post-conflict stabilization missions.

To address the concern of military power in Asia, the U.S. presence in the region should continue because it has provided the stability that allowed the economic emergence of India and China.

> [W]e recommend an increased priority on defeating anti-access and area-denial threats. This will involve acquiring new capabilities, and, as Secretary Gates has urged, developing innovative concepts for their use. Specifically, we believe the United States must fully fund the modernization of its surface fleet. We also believe the United States must be able to deny an adversary sanctuary by providing persistent surveillance, tracking, and rapid engagement with high-volume precision strike. That is why the Panel supports an increase in investment in long-range strike systems and their associated sensors. In addition, U.S. forces must develop and demonstrate the ability to operate in an information-denied environment.

Another concern found in the QDR force structure is the ability to defend the homeland while the country is at war abroad, particularly in the event of a WMD attack. A review of the Reserve and National Guard roles and missions and the continuing coordination between the DOD and state and local officials are both required. The suggestions for homeland defense in the previously cited RAND study offer the reasoning for the civil brigades mentioned here.

Key modernization programs include:

F-35 Joint Strike Fighter;

Virginia-class submarine;

Next-generation bomber;

Long-range strike assets

Next-generation cruiser;

SSBN-X ballistic missile submarine;

Combat search and rescue helicopter;

Next-generation attack helicopter; and

Additional homeland defense, counterterrorism, and civil support brigades.

Budget

The Administration has requested a core defense budget of $585 billion for FY 2012. (The core defense budget does not include funding for operations in Iraq and Afghanistan.) To determine whether this is adequate to fund the future force recommended in this study, Heritage analysts studied the following:

- The Administration's current projected budgets;
- The Congressional Budget Office's assessment of any shortfalls;
- The funds required to replace equipment after operations in Afghanistan and Iraq;
- The efficiencies that can be achieved in the operations, logistics, and personnel budgets; and
- The cost of adequate modernization.

Based on these calculations, funding the core defense program would cost an average of approximately $720 billion per year for the five-year period from FY 2012 to FY 2016.

Sustained funding will allow military end strength to remain at the current level of 2.25 million troops across the active and Reserve components, provided the DOD addresses recent unsustainable growth rates in per capita personnel costs. The DOD could stabilize the personnel account by adopting reforms in the provision of military health care and in other deferred and in-kind benefits. These savings could be partially offset by increased rates of cash compensation.

Increasing the core defense budget would also provide for a stable Operations and Maintenance account. The DOD could hold this account stable by ensuring that the true costs of expeditionary operations are covered by funding outside of the core defense budget and through reforms in the portions of the account that cover health care costs and logistics.

A budget sustained at the recommended level through FY 2016 and beyond would allow the DOD to adequately fund research and development (R&D) to support conventional force, missile defense, space, command and control, cyberspace, and sensor technologies. DOD could continue to exploit cutting-edge advantages in areas such as directed-energy weapons, nanotechnology, robotics, and neuroscience.

This recommended level of core defense funding would also maintain procurement spending at 1.5 times the R&D budget, allowing for modernization of conventional and strategic forces in critical areas.

Adequate funding for recapitalization and modernization would enable the forces to recover from the post–Cold War "procurement holiday" and the wear and tear of the "long war" in Iraq and Afghanistan. This sustained funding would also be sufficient to expand missile defenses and develop space-based sensors and interceptors. Other critical non-DOD programs, such as nuclear weapons modernization, would achieve sufficient real growth (2 percent above inflation).

Finally, the recommended funding would allow the military to maintain existing commitments, including the capacity to secure the global commons (air, sea, space, and cyberspace) and prevent the rise of hostile powers in key regions of the world. It would also provide sufficient forces to allow the military the flexibility to respond to

unanticipated dangers. To begin to meet the average spending requirement of $720 billion per year over five years, Congress would need to increase the budget authority for FY 2012 alone by at least $27 billion.

An average core defense funding level of $720 billion per year is reasonable. It represents spending only around 4 percent of the nation's gross domestic product to meet the federal government's primary constitutional obligation. More specifically, it means marginally increasing defense spending from 3.9 percent of GDP in FY 2010 to 4 percent of GDP by FY 2015 and maintaining spending at 4 percent of GDP for the next few years.

This level of funding is also affordable by historical standards. In the 1960s and 1980s, respectively, the U.S. spent up to 9.5 percent and up to 6.2 percent of GDP on defense. If the operations in Iraq and Afghanistan cycle down because they are meeting their objectives, then the spending level recommended in this paper may be less than spending in FY 2009.

Some may argue that the U.S. spends more than all other countries combined on national defense and therefore can drastically cut defense budgets. This analysis makes it clear that America's military requirements should depend on a careful analysis of threats, capabilities, and requirements, not on superficial comparisons of countries' defense budgets. America's military strategy should be determined by the global requirements involved in meeting the objectives of its strategy, not by how much other nations spend.

Others argue that the U.S. has rapidly increased defense spending since 1999. While defense spending has risen significantly since 1999, it did so mainly because of the costs of military operations in Iraq and Afghanistan and the overall war on terrorism. However, these costs are temporary and not part of the permanent long-term core defense budget and plan, which is the subject of this paper.

As this study shows, the future force needed to defend U.S. national interests and to protect America is not only knowable, but achievable.

Resource Guide

Mackenzie Eaglen, "Why Provide for the Common Defense?" Heritage Foundation *Understanding America*, January 19, 2011, at *http://www.heritage.org/research/reports/2011/01/why-provide-for-the-common-defense*.

> America's military strength exists to secure the blessings of ordered liberty for the American people. The rights enshrined in the U.S. Constitution are only safe in practice when that constitutional order is defended by adequate power. It is the federal government's responsibility to maintain that power and to bring it to bear against nations or enemies that threaten America's security or interests and therefore its freedoms.

Mackenzie Eaglen, "Taking a Scalpel to the Defense Budget," Heritage Foundation *WebMemo* No. 3132, February 3, 2011, at *http://www.heritage.org/Research/Reports/2011/02/Taking-a-Scalpel-to-the-Defense-Budget*.

> Congress should carefully compare the President's FY 2012 defense budget request to the House and Senate versions of the FY 2011 defense appropriations bills. This would provide valuable insight into what defense funding may be supported by another federal agency and which defense projects may not warrant funding through a military bill or through any federal agency. Congress needs to reduce overall federal spending, and part of its due diligence will demand that it examine each defense program to ensure that it directly supports the overall DOD mission in support of the President's National Security Strategy.

Mackenzie Eaglen and Julia Pollak, "How to Save Money, Reform Processes, and Increase Efficiency in the Defense Department," Heritage Foundation *Backgrounder* No. 2507, at *http://www.heritage.org/Research/Reports/2011/01/How-to-Save-Money-Reform-Processes-and-Increase-Efficiency-in-the-Defense-Department*.

> After the sweeping cuts in the FY 2010 defense spending bill and with the proposed reductions in FY 2011, further defense cuts would jeopardize the foundation of American military strength. Nevertheless, policymakers should relentlessly pursue greater efficiencies within defense operations and eliminate waste and duplication in the defense budget. This paper identifies more than $70 billion in potential annual savings in the defense budget that Congress should allow the military to use for urgent priorities, such as modernization of each of the services' inventories. This will bolster the incentive to improve efficiency while directly strengthening the U.S. military.

American Enterprise Institute, Foreign Policy Initiative, and The Heritage Foundation, "Defending Defense: Setting the Record Straight on U.S. Military Spending Requirements," October 14, 2010, at *http://www.heritage.org/research/reports/2010/10/defending-defense-setting-the-record-straight-on-us-military-spending-requirements*.

> Over the past 20 years, Administrations of both political parties have underfunded the military. Today, as the economy stalls and the government appears to be unable to control spending in other areas, defense spending is under attack again. The arguments for defense cuts are faulty. This joint publication rebuts the myths that are driving the debate on defense spending.

Jim Talent and Mackenzie Eaglen, "Shaping the Future: The Urgent Need to Match Military Modernization to National Commitments," Heritage Foundation *Backgrounder* No. 2488, November 4, 2010, at *http://www.heritage.org/Research/Reports/2010/11/Shaping-the-Future-The-Urgent-Need-to-Match-Military-Modernization-to-National-Commitments*.

A decade of military conflict and two decades of underinvestment have left the U.S. military too small and inadequately equipped to answer the nation's call today, much less tomorrow. In July 2010, a bipartisan commission warned of a coming "train wreck" if Congress does not act quickly to rebuild and modernize the U.S. military. To meet tomorrow's needs, Congress must quickly strengthen the tools of national security to help to stabilize the international environment and keep U.S. citizens safe and free while ensuring that America's economy can prosper and grow. There is no quick or easy fix. Meeting the military's full modernization requirements will "require a substantial and immediate additional investment that is sustained through the long term." However, the price of U.S. weakness will be greater in the long run.

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