Analysis of the FY 2008 Defense Budget Request

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by

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2007

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CSBA is directed by Dr. Andrew F. Krepinevich and funded by foundation, corporate and individual grants and contributions, and government contracts.

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EXECUTIVE SUMMARY

The Bush Administration has requested $483 billion to cover the peacetime costs of the Department of Defense (DoD) in fiscal year (FY) 2008. In addition to this funding in DoD's "base" budget, the administration's request also includes $141.7 billion to cover the FY 2008 costs of the Global War on Terror (GWOT), including military operations in Iraq and Afghanistan. Thus, altogether, under the new plan DoD is projected to receive some $624.6 billion in FY 2008.

This would bring total DoD funding to its highest level in real (inflation-adjusted) terms since FY 1946, the last budget to reflect substantial spending related to World War II. Assuming the administration's request is approved, total funding for DoD would surpass the peak years of the Korean and Vietnam wars by, respectively, some $36 billion and $126 billion (in FY 2008 dollars). However, as a share of the economy, defense spending would remain well below the levels sustained in these past wars.

The FY 2008 request would also raise DoD's base budget (i.e., the budget exclusive of GWOT funding) above the average levels of the 1980s, historically the high watermark for US peacetime defense spending. The FY 2008 request for DoD's base budget includes a $49 billion, or 8.6 percent real (11.3 percent nominal) increase from this year's level. Under the latest plan, DoD's base budget would grow by an additional 3.5 percent in real terms in FY 2009, and then decline slightly, by some 3.1 percent, by FY 2013.

The administration's FY 2008 request also includes $22.5 billion for Department of Energy and other non-DoD defense activities. This brings the total FY 2008 request for National Defense to $647.2 billion.

HOW MUCH IS ENOUGH?

There is considerable uncertainty concerning the amount of funding needed to cover the cost of ongoing military operations in Iraq and Afghanistan. It is similarly unclear how much funding would be needed to fully implement the Services' long-term force structure, readiness and modernization plans. However, because of cost growth in weapons acquisition programs, as well as military personnel and operations and maintenance (O&M) activities, it is likely that implementing those plans would require spending substantially more on defense than proposed by the administration. Moreover, because of changing demographics and other factors it may prove difficult to sustain such high defense spending levels.

At the same time, despite its high costs, DoD's current plan may fall short of meeting US security requirements—given the likelihood that the kinds of challenges faced by the US military will change significantly over the coming years. On the other hand, it might be possible to meet US security requirements adequately at budget levels lower than would be needed to fully execute the administration's current plan—by adopting a scaled-back and more transformation-oriented defense plan. In other words, the ability of the US military to meet future challenges effectively is likely to have more to do with how wisely we spend our defense dollars, than on how much we spend.

HIGHLIGHTS OF THE ADMINISTRATION'S BUDGET PROPOSAL

- The administration's request for $141.7 billion to cover the full cost of military operations in FY 2008 marks the first time it has attempted to budget in advance for those operations. The administration has also requested $93.4 billion in supplemental appropriations to help cover GWOT costs for FY 2007. Coming on top of the $70 billion for the GWOT which Congress attached to the FY 2007 defense appropriations act, this would bring total GWOT funding this year to about $163 billion. This would make the FY 2007 funding level for the GWOT by far the highest to date. Taken together, the administration's FY 2007 and FY 2008 requests would increase total GWOT funding from FY 2001 through the end of FY 2008 (i.e., September 30, 2008) to about $737 billion. Adjusted for differences in the number of troops deployed and the duration of the conflict, the ongoing wars in Iraq and Afghanistan have proven to be much more costly than other recent military operations (e.g., the 1991 Gulf War and operations in the Balkans). On the other hand, as a share of gross domestic product (GDP) US spending on defense (including both DoD base and GWOT funding) remains well below the levels sustained during those past wars.

- The administration's latest plan calls for increasing the permanent active duty end strength of the Army and Marine Corps to, respectively, 547,000 and 202,000 personnel. These represent increases of 65,000 and 27,000, respectively, from the current permanently authorized end strength of the two Services. Implementing these increases could cost some $100 billion over the next six years. The administration argues that these increases in end strength are necessary if the US military is to sustain the ongoing deployments in Iraq and Afghanistan, and be prepared for future contingencies elsewhere in world that might require similarly large and long-term deployments. Critics note, among other things, that reaching these higher end strength targets will require accepting lower-quality recruits and that, in any event, these additional troops may arrive too late to relieve the pressure on military personal caused by the current deployments in Iraq and Afghanistan.

- The FY 2008 request would provide some $165 billion for operations and maintenance (O&M) activities in DoD's base budget. This level is quite high by historical standards, and should be adequate to cover normal peacetime O&M funding requirements. It is less clear whether the O&M funding levels projected for later years of the administration's plan would be adequate.

- The FY 2008 request includes $119 billion in DoD's base budget for military personnel. This would be sufficient to fund average pay raises of 3 percent. In recent years, the Navy, Air Force and Marine Corps have, for the most part, been able to meet their recruitment and retention goals. By contrast, while the Army has been able to meet its overall retention goals, it has difficulty reaching its recruitment targets. In 2004 and 2005 it fell short of meeting its quantitative targets. In 2006, the Army essentially met its quantitative goals, but only because it lowered its quality standards for recruits. Recruitment problems are likely to be exacerbated as a result of the administration's decision to expand the size of the Army and Marine Corps.

- The administration's FY 2008 request includes funding to move ahead with a broad range of new weapons programs. Under the new plan, funding for procurement in DoD's base budget would rise from $81.3 billion in FY 2007 to $101.7 billion in FY 2008, an increase of some

22 percent in real terms. This would mark nearly a doubling of procurement funding since FY 1997, when such funding reached it post-Cold War low point. On a per-troop basis (i.e., adjusted for changes in the size of the military's force structure), the FY 2008 procurement budget would approximate the level reached in FY 1985, historically the peak year for DoD procurement. Under the new Future Years Defense Program (FYDP), funding for procurement is projected to reach $125 billion in FY 2013, representing a real increase of 11 percent from the level requested for FY 2008.

- Under the administration's FY 2008 request, R&D funding in DoD's base budget would decline from this year's level by about 2 percent in real terms (staying flat at $75.1 billion in nominal terms). Despite this decline, FY 2008 R&D funding would remain near record levels. However, between FY 2008 and FY 2013, the latest plan projects a more substantial (18 percent) real decline in R&D funding. Thus, to a large extent, the increase in procurement funding, projected in the latest plan to occur over the next six years, would be financed by shifting funding into procurement from the Service's R&D accounts. Such a shift in resources—which would be historically unprecedented—may prove difficult to achieve. In addition, the projected increase in procurement funding included in the latest plan may be undermined by cost growth in military personnel and O&M activities.

- The administration's FY 2008 budget request includes $61.1 billion for homeland security. About $29.7 billion of this request is allocated to the Department of Homeland Security (the Department would also receive some $17 billion for non-homeland security missions, such as maritime safety). The remaining funding would be divided among the Departments of Defense ($17.5 billion), Health and Human Services ($4.2 billion), Justice ($3.3 billion), Energy ($1.8 billion), and more than two dozen other departments and agencies. The FY 2008 request for homeland security represents about a 6 percent real increase from the level provided for FY 2007. Whether this level of funding is adequate is unclear. Funding for homeland security has grown dramatically since FY 2001. On the other hand, given the enormous challenges related to homeland security that the United States faces, further substantial increases may be needed.

- The high levels of funding projected in the current plan may not be sustainable over the long run. The long-term federal budget picture has dramatically worsened over the past six years. In early 2001, the Congressional Budget Office (CBO) projected a 10-year surplus of about $5.6 trillion over the FY 2002-11 period. By contrast, CBO's baseline estimate now projects surpluses totaling only $586 billion over the next decade (FY 2008-17). The dramatic change in the government's fiscal outlook has resulted from the enactment of large tax cuts, increases in defense and homeland security spending, the addition of the Medicare prescription drug benefit, and other factors. Unfortunately, it is likely that the outlook will deteriorate still further in coming years. According to CBO, enactment of the President's proposed FY 2008 budget would push total federal deficits to some $1.06 trillion over the FY 2008-17 period, and keep the government in the red through the entire decade. Others project that, making more realistic assumptions about federal spending and revenue, deficit totals could reach some $3-4 trillion over the coming decade.

I. OVERVIEW

The Bush Administration has requested $483 billion to cover the peacetime costs of Department of Defense (DoD) in fiscal year (FY) 2008. In addition to this funding in DoD's "base" budget, the administration's latest plan includes $141.7 billion to cover the FY 2008 costs of the Global War on Terror (GWOT), including military operations in Iraq and Afghanistan. Thus, altogether, under the new plan DoD is projected to receive some $624.6 billion in FY 2008.

This would bring total DoD funding to its highest level in real (inflation-adjusted) terms since FY 1946, the last budget to reflect substantial spending related to World War II.[1] Assuming the administration's request is approved, total funding for DoD would surpass the peak years of the Korean and Vietnam wars by, respectively, some $36 billion and $126 billion (in FY 2008 dollars). However, as a share of the economy, defense spending would remain well below the levels sustained in these past wars.

The FY 2008 request would also raise DoD's base budget (i.e., the budget exclusive of GWOT funding) above the average levels of the 1980s, historically the high watermark for US peacetime defense spending.[2] The FY 2008 request for DoD's base budget includes a $49 billion, or 8.6 percent (11.3 percent nominal), increase from this year's level. Under the latest plan, DoD's base budget would grow by an additional 3.5 percent in FY 2009, and then decline slightly, by some 3.1 percent, by FY 2013.

The administration's FY 2008 request also includes $22.5 billion for Department of Energy and other non-DoD defense activities. This brings the total FY 2008 request for National Defense to $647.2 billion.

GWOT FUNDING

The administration's request for $141.7 billion to cover the full cost of military operations in FY 2008 marks the first time it has attempted to budget in advance for those operations. During previous large-scale and lengthy military operations, such as the Korean and Vietnam Wars, the United States relied primarily on supplemental appropriations to cover war-related costs only during the first year or two of the conflict, when the operation truly represented an unanticipated emergency. After that, the funding for these wars was requested in advance, as part of DoD's annual budget submission. By contrast, the Bush Administration has, until this year, elected to rely primarily on supplemental appropriations to cover the cost of the wars in Iraq and Afghanistan.

[1] Unless otherwise noted, all percentage changes in funding or cost cited in this report are expressed in real terms.

[2] DoD funding averaged about $476 billion (FY 2008 dollars) over the FY 1980-89 period. The FY 2008 request for DoD's base budget would still be below the peak year (FY 1985) of the 1980s, when DoD's budget reached $538 billion (FY 2008 dollars).

The administration has also requested $93.4 billion in supplemental appropriations to help cover GWOT costs in FY 2007. Coming on top of the $70 billion for the GWOT which Congress—essentially on its own initiative—decided to include in the FY 2007 defense appropriations act,[3] this would bring total GWOT funding in FY 2007 to about $163 billion.[4] It would also make FY 2007 by far the most costly year to date for the GWOT. Taken together, the administration's FY 2007 and FY 2008 requests would bring the total amount of funding provided for the GWOT, from FY 2001 through the end of FY 2008 (i.e., September 30, 2008), to about $737 billion. This would make the GWOT more costly than either the Korean or Vietnam Wars. On the other hand, as a share of gross domestic product (GDP) US spending on defense (including both DoD base and GWOT funding) remains well below the levels sustained during those past wars.[5]

The war in Iraq, which accounts for about 80 percent of DoD's annual war-related funding requirements, has turned out to be far more costly than originally anticipated by the Bush Administration. This is primarily because the administration incorrectly assumed that it would be possible to bring the vast majority of US troops home soon after the brief initial, conventional, phase of Operation Iraqi Freedom (OIF) ended. Adjusted for differences in the number of troops deployed and the duration of the conflict (i.e., on a per-troop/day basis), this war has also proven to be much more costly than other recent military operations (e.g., the 1991 Gulf War and operations in the Balkans). The explanation for this cost growth is not entirely clear.[6]

Part of the explanation may to be that, increasingly, war-related funding measures appear to include funding for some programs at best only indirectly related to the ongoing military operations in Iraq and Afghanistan. The fact that some such costs are apparently being covered by funds designated as war-related also makes it difficult to discern how seriously to take the topline projections for DoD's base budget included in the latest Future Years Defense Programs (FYDP). It is possible that—when funding provided through emergency appropriations ostensibly intended to cover war costs are included—substantially more funding will be provided for the US military's peacetime force structure, readiness and modernization programs and activities than is suggested in the in the FY 2008 request and the FY 2008-13 FYDP.

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[3] This was the third year in a row that Congress added GWOT "bridge" funding to the regular annual defense appropriations act. The funding was intended to act as a down payment on GWOT costs for the coming fiscal year. The bridge fund grew from $25 billion in FY 2005 to $50 billion in FY 2006 and $70 billion in FY 2007.

[4] On May 24, Congress approved a supplemental appropriation that provided some $99.5 billion for the Department of Defense, about $6 billion more than requested. After rejecting an earlier version of the supplemental that included deadlines for withdrawing US troops, the President signed this bill.

[5] Total funding for National Defense (which includes DoD, as well as DoE and other defense activities) is projected to amount to about 4.5 percent of GDP in FY 2007. By comparison, at the height of the Korean and Vietnam Wars, spending on national defense accounted for, respectively, 14.2 percent and 9.4 percent of GDP.

[6] For a discussion of war-related funding issues, see Steven M. Kosiak, "The Global War on Terror (GWOT): Costs, Cost Growth and Estimating Funding Requirements," testimony before the Senate Budget Committee, February 6, 2007, and Steven M. Kosiak, "The Cost and Funding of the Global War on Terror," testimony before the House Budget Committee, January 18, 2007.

TOPLINE PROJECTIONS FOR FY 2009 AND BEYOND

Under the administration's latest plan, total DoD funding would amount to $562.9 billion in FY 2009. This total includes a DoD base budget of some $513 billion, and GWOT funding of $50 billion. In terms of the base budget, this represents a 3.5 percent increase from FY 2008. However, over the FY 2010-13 period, DoD's base budget is projected to decline slightly. By FY 2013, this base budget would be 3.1 percent below the level requested for FY 2008.

Due to cost growth in major acquisition programs, as well as military personnel and operations and maintenance (O&M) activities, it is likely that substantially higher levels of funding would be needed to actually execute the Services' plans over the long term. The Congressional Budget Office (CBO) recently estimated that—assuming historical rates of cost growth in these areas—implementing the Services' defense plans could require increasing annual funding in DoD's base budget by some $65 billion above the level currently projected for FY 2013, and sustaining it at this higher level through at least 2024.[7]

END STRENGTH INCREASE

The administration's latest budget includes funding to begin increasing the size of the Army and Marine Corps. The new plan calls for increasing the *permanent* active duty end strength of the Army and Marine Corps to, respectively, 547,000 and 202,000 troops. These represent increases of 65,000 and 27,000 troops from the permanently authorized end strength of the two Services. However, the administration has already used existing authority to temporarily increase the end strength of the Army and Marine Corps above those levels. As a result, the actual increases will be somewhat smaller. The Army plans to add 7,000 troops a year between FY 2008 and FY 2013, while the Marine Corps plans to add 5,000 troops annually through FY 2012. Implementing these increases will cost some $100 billion over the next six years.

The administration and others argue that these increases in end strength are necessary if the US military is to sustain the ongoing deployments in Iraq and Afghanistan, and be prepared for future contingencies elsewhere in world that might require similarly large and long-term deployments. Critics note, among other things, that reaching these higher end strength targets will require accepting lower-quality recruits and that, in any event, these additional troops may arrive too late to relieve the pressure on military personal caused by the current deployments in Iraq and Afghanistan.

WEAPONS PROGRAMS

The administration's FY 2008 request includes funding to move ahead with a broad range of new weapons programs. Among other things, it would fund the purchase of 12 F-35, 20 F-22, 18 EA-18G, 24 F/A-18 and 26 V-22 aircraft. It would also provide a boost in funding for the Army's Future Combat Systems (FCS) and for Navy shipbuilding.

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[7] Author's estimate based on Congressional Budget Office (CBO) data. (CBO, "The Long-Term Implications of Current Defense Plans: Detailed Update for Fiscal Year 2007," April 2007, p. 2.) This figure does not include additional costs associated with conducting military operations in Iraq, Afghanistan or elsewhere in future years.

Overall, under the new budget plan funding for procurement in DoD's base budget would rise from $81.3 billion in FY 2007 to $101.7 billion in FY 2008, an increase of $20.4 billion, or some 22 percent. This would mark nearly a doubling of procurement funding since FY 1997, when such funding reached it post-Cold War low point. Although total procurement funding would remain below the record levels of the 1980s, on a per-troop basis (i.e., adjusted for changes in the size of the military's force structure), the FY 2008 procurement budget would approximate the level reached in FY 1985, historically the peak year for DoD procurement. Under the new FYDP, funding for procurement is projected to reach $113.1 billion (FY 2008 dollars) in FY 2013, representing an increase of 11 percent from the level requested for FY 2008.

By contrast, under the administration's FY 2008 request, R&D funding in DoD's base budget would decline from this year's level by about 2 percent (staying flat at $75.1 billion in nominal terms). Despite this decline, FY 2008 R&D funding would remain near the record level reached in FY 2007. FY 2008 R&D funding would still be about 54 percent above the level provided in FY 2001. However, between FY 2008 and FY 2013, the latest plan projects an 18 percent decline in R&D funding. Thus, to a large extent, the increase in procurement funding projected in the latest plan to occur over the next six years would be financed by shifting funding into procurement from the Service's R&D accounts.

In practice, it may be prove difficult for DoD to make such a transfer of resources. R&D programs often incur substantial cost growth and, historically, such funding has proven remarkably resistant to budget cuts. Moreover, since at least the 1950s, there has never been a sustained period during which reductions in R&D funding have been used to pay for increases in procurement funding. The projected increase in procurement funding included in the latest plan may also be undermined by cost growth in military personnel and O&M activities.

TRANSFORMATION

During the 2000 presidential campaign, then-candidate George W. Bush argued that the US military must be transformed to counter effectively the very different kinds of challenges projected to emerge over the next several decades as a result of the ongoing "Revolution in Military Affairs" (RMA). He also suggested that transforming the US military would require not only investing in new kinds of capabilities, but also reducing investments in some traditional types of forces and weapons programs. Likewise, in the 2001 Quadrennial Defense Review (QDR), the administration stated that continuing a "business as usual approach" in DoD was not a viable option, and cautioned that "without change the current defense program will only become more expensive to maintain over time and will forfeit many of the opportunities available to the United States today."[8]

In the 2006 QDR, the administration once again stressed the importance of transforming the US military. The document concluded that "although the US military maintains considerable advantages in traditional forms of warfare, this realm is not the only, or even the most likely,

[8] *2001 Quadrennial Defense Review Report* (Washington, DC: DoD, September 30, 2001), p. 16.

one" in which adversaries will challenge the United States in the future.[9] Instead, the QDR pointed to the emergence of asymmetric threats, including irregular, catastrophic and disruptive challenges.[10] According to the 2006 QDR, US military "capabilities and forces will be reoriented over time to reflect" a focus on these new challenges, and will build "upon the transformational changes already underway."[11]

Over the past six years, the Bush Administration has increased DoD's investment in a number of transformational capabilities. Among other things, it has moved ahead with plans to convert four Trident ballistic missile submarines to carry conventional Tomahawk cruise missiles, and has accelerated and expanded the acquisition of some unmanned systems. It has also pushed ahead with a wide variety of programs and initiatives related to improving C4ISR (command, control, communications, computers, intelligence, surveillance and reconnaissance) and precision-strike capabilities. In addition, as part of the 2006 QDR, the administration announced plans to increase the number of special operations forces (SOF) battalions, and to accelerate the fielding of a new long-range strike system to 2018, from as late as 2037 in earlier DoD plans.

Unfortunately, the administration's transformation efforts to date appear to have fallen short in a number of important respects. The administration has decided to move ahead with the vast majority of the acquisition programs included in the Services' long-range plans—most of which were also projected in the last, pre-9/11, Clinton Administration defense plan. Perhaps most questionable is the decision to purchase 2,443 F-35 Joint Strike Fighters (JSF) over the next several decades. Although it almost certainly makes sense to buy some number of these aircraft, the current plan—projected to cost some $300 billion—seems excessive.

In particular, this focus on relatively short-range tactical fighters seems at odds with recent experience in Afghanistan, Iraq and elsewhere, which suggests that, in the future, the US military may often have difficulty securing access to forward air bases.[12] Moreover, the decision to forego cuts in this program calls into serious doubt DoD's commitment to fielding a new bomber beginning in 2018. Because of the high cost and momentum behind the F-35 and many other traditional weapons programs, it may prove difficult, if not impossible, for DoD to find sufficient funding to develop (let alone procure and field) a new bomber, as well as other transformational systems and forces, in coming years.

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[9] *2006 Quadrennial Defense Review Report* (Washington, DC: DoD, February 6, 2006), p. 19, hereafter cited as *2006 QDR.*

[10] Irregular warfare refers to, for example, counterinsurgency missions (such as the ongoing wars in Iraq and Afghanistan); catastrophic, the possible use of weapons of mass destruction against the United States by terrorists, and similar threats; and, disruptive, the possible emergence of a peer or near-peer competitor in the future that could challenge US military superiority.

[11] *2006 QDR,* p. 41.

[12] The growing proliferation of submarines, mines and anti-ship missiles among potential adversaries is also raising questions about the ability of carrier-based short-range fighters to operate effectively in forward areas. See, Christopher J. Bowie, *The Anti-Access Threat and Theater Air Bases* (Washington, DC: Center for Strategic & Budgetary Assessments, 2002).

HOMELAND SECURITY

The Bush Administration's FY 2008 budget request includes $61.1 billion for homeland security. About $29.7 billion of this request is allocated to the Department of Homeland Security. (The Department would also receive some $17 billion for non-homeland security missions, such as maritime safety.) Another $17.5 billion would be provided to DoD for its homeland security-related programs and activities. The remaining funding would be divided between the Departments of Health and Human Services ($4.2 billion), Justice ($3.3 billion), Energy ($1.8 billion), and more than two dozen other departments and agencies.

The FY 2008 request for homeland security represents about a 6 percent increase from the level of funding provided for FY 2007. The request would allocate funding to a broad range of programs and activities related to homeland security, including intelligence and warning ($648 million), border and transportation security ($22.4 billion), domestic counterterrorism ($4.9 billion), protecting critical infrastructure and key assets ($19.1 billion), defending against catastrophic threats ($8.8 billion), emergency preparedness and response ($5 billion), and other programs ($217 million).

SETTING THE TOPLINE FOR DEFENSE

The substantial increases in funding for defense that would be needed to implement DoD's existing plans may not be sustainable over the long term. In the aftermath of the terrorist attacks of September 11, 2001, defense spending has become a higher priority for most Americans, especially as it relates to homeland security and the war on terrorism, but it is still far from the only priority. Over the long term, the defense mission will have to compete with other priorities, including cutting taxes, reducing the federal debt, ensuring the health and durability of Social Security and Medicare, and providing greater resources for education, health research and other domestic programs.

The long-term federal budget picture has dramatically worsened over the past six years. In early 2001, CBO projected a 10-year surplus of about $5.6 trillion over the FY 2002-11 period.[13] By contrast, CBO's baseline estimate now projects surpluses totaling only $586 billion over the next decade (FY 2008-17).[14] The dramatic change in the government's fiscal outlook has resulted from the enactment of large tax cuts, the expansion of Medicare (to include a prescription drug benefit), increased defense and homeland security spending, and other factors. Unfortunately, it is likely that the outlook will deteriorate still further in coming years. In its most recent budget request, the administration has proposed making permanent a number of tax cuts enacted over the past six years (rather than having them expire in 2010, as they would under current law). At the same time it is proposing further increases in funding for defense and homeland security. According to CBO, enactment of the President's proposed budget would push total federal

[13] CBO, *The Budget and Fiscal Outlook: Fiscal Years 2002-2011* (Washington, DC: CBO, January 2001), p. 2.

[14] CBO, *An Analysis of the President's Budget Proposals for Fiscal Year 2008* (Washington, DC: CBO, March 2007), p. 2.

deficits to some $1.06 trillion over the FY 2008-17 period, and keep the government in the red through the entire decade.[15]

Worse yet, this estimate almost certainly understates the actual cost of the administration's proposals. Among other things, the CBO estimate of the President's proposed budget does not include the cost of the war in Iraq and other military operations, or the cost of extending relief from the Alternative Minimum Tax (AMT).[16] The administration's plan also assumes that spending on domestic discretionary programs (e.g., education, transportation and health research) will be cut substantially. Projections based on more realistic assumptions about revenue and spending suggest that total deficits could total some $3-4 trillion or more over the next 10 years.[17]

As bad as the deficit picture appears to be for the coming decade, the outlook for the years beyond 2017 is far worse. Deficits are projected to become much larger after members of the baby-boomer generation begin retiring at the end of this decade. This change in demographics has enormous implications both for federal spending and revenue. Because of the retirement of the baby-boomers, spending on Social Security and Medicare is projected to increase from about 7.4 percent of Gross Domestic Product (GDP) in 2008 to 10.3 percent by 2030 and 12.4 percent by 2060.[18] Covering these costs will become ever more difficult as the ratio of working-to-retired Americans declines. Today, there are nearly five adult Americans 20-64 years of age for every American over 65. By 2020 the ratio will drop to less than four-to-one, and by 2030 it will fall to less that three-to-one.[19] As a result of these pressures, the Bush Administration's own budget documents project that the federal government will run deficits continuously after around 2020 and that the size of the deficit will grow to some 11.4 percent of GDP by 2060.[20] Others have projected that deficits could increase to as much as 14 percent of GDP by 2030 and over 35 percent by 2050.[21]

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[15] Ibid.

[16] Since, unlike the regular income tax code, the AMT is not indexed to inflation, unless relief is provided the number of taxpayers that would be subject to the AMT would grow from about two million today to some 39 million by 2012.

[17] For example, according to CBO, the combination of increasing discretionary spending at the rate of growth of GDP and reforming the AMT would increase deficit totals for the decade projected in its baseline estimate by $2.2 trillion. CBO, *The Budget and Economic Outlook: Fiscal Years 2008 to 2017* (Washington, DC: CBO, January 2007), p. 16.

[18] Office of Management and Budget (OMB), *Fiscal Year 2008 Budget of the US Government, Analytical Perspectives* (Washington, DC: US Government Printing Office, 2007), p. 184. While the baby boomer generation will eventually die out, the ratio of workers to retirees is projected to remain at relatively low levels for many decades to come, in large part because of long-term declines in the country's birth rate.

[19] CBO, "The Looming Budgetary Impact of Society's Aging," July 3, 2002, p. 6.

[20] OMB, *Fiscal Year 2007 Budget of the US Government, Analytical Perspectives,* p. 185.

[21] These figures were taken from, CBO, *The Long-Term Budget Outlook* (Washington, DC: CBO, December 2005), p. 58. That report considered six different possible future deficit scenarios. Under this scenario, CBO assumed, among other things, that Medicare and Medicaid spending would continue to grow at their historical rates and

The generally bleak fiscal outlook outlined above does not, of course, *prove* that the administration's proposed funding increases for defense are not sustainable over the long run. These projections do, however, suggest that sustaining these increases could be difficult, and will likely require making hard choices between defense and other important priorities over the coming decade and beyond.

How Much Is Enough?

As noted earlier, there is considerable uncertainty concerning the amount of funding needed to cover the cost of the ongoing military operations in Iraq and Afghanistan. It is similarly unclear how much funding would be needed to fully implement the Services' long-term force structure, readiness and modernization plans. However, history strongly suggests that implementing those plans would require increasing spending on defense well above the levels projected in the administration's latest plan. Moreover, because of changing demographics and other factors it may prove difficult to sustain such high defense spending levels.

At the same time, despite its high costs, DoD's current plan may fall short of meeting US security requirements—given the likelihood that the kinds of challenges faced by the US military will change significantly over the coming years. On the other hand, it might be possible to meet US security requirements adequately at budget levels lower than would be needed to fully execute the administration's current plan—by adopting a scaled-back and more transformation-oriented defense plan. In other words, the ability of the US military to meet future challenges effectively is likely to have more to do with how wisely we spend our defense dollars, than on how much we spend.

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federal revenues would remain (as a percentage of GDP) at their average rate of the past 30 years. See, also, Center on Budget and Policy Priorities, Committee for Economic Development and Concord Coalition, "Mid-Term and Long-Term Deficit Projections," September 29, 2003, p. 15.

II. THE ADMINISTRATION'S BUDGET REQUEST

The following section provides a brief analysis of how major funding categories and programs would fare under the administration's FY 2008 budget request.

OPERATIONS AND MAINTENANCE

The O&M budget covers the costs of purchasing fuel, spare parts and many other items associated with carrying out training activities, as well as real-world operations in Iraq, Afghanistan and elsewhere. As such, the readiness of the US military to fight effectively on short notice is largely dependent on the provision of adequate funding in this account. In addition, the O&M budget covers the cost of many programs less immediately related to near-term readiness, such as military health care, base operations and other support, or "infrastructure," activities. These costs include the salaries of most civilian DoD personnel, who perform many of DoD's infrastructure functions.

The FY 2008 request for DoD's base budget would provide some $165 billion for O&M. This level is quite high by historical standards, and should be adequate to cover normal peacetime O&M funding requirements. The administration's request works out to about $125,000 per active duty troop. This is 72 percent more than DoD provided per troop in FY 1990, the year the United States began sending forces to the Persian Gulf in preparation for Operation Desert Storm in 1991, and 18 percent more than in FY 2000, just prior to the successful US invasion of Afghanistan in 2001-02.

As noted earlier, the administration's FY 2008 request also includes $141.7 billion to cover what it estimates will be the full cost of military operations in Iraq and Afghanistan next year. Of this total, about $71.4 billion is for O&M. Among other things, O&M funds are used to cover the cost of extra fuel and spare parts consumed in these operations, as well as many other costs associated with supplying, sustaining and otherwise supporting deployed US forces. About $47 billion of this O&M funding would be provided to the Army and $4 billion to the Marine Corps.

Although some elements of the Air Force and Navy have been stressed substantially over the past few years—such as the Air Force's tanker and transport fleets—overall, these two Services appear today to be operating relatively close to their traditional peacetime operational tempo (OPTEMEPO) levels (measured, for example, in terms of aircraft flying hours and ship steaming days). By comparison, Army and Marine Corps units, which account for the vast majority of the forces deployed in and around Iraq and Afghanistan and represent the bulk of the US military's counter-insurgency capabilities, are currently operating under far greater stress. For example, Army combat vehicles in Iraq and Afghanistan are reportedly being operated at five times their normal, peacetime rate.[22]

[22] Daniel Frisk and Frances Lussier, "The Potential Costs Resulting from Increased Usage of Military Equipment in Ongoing Operations," CBO, March 18, 2005, p. 10.

Notwithstanding the high tempo at which US forces are operated in Iraq and Afghanistan, and the resulting wear and tear on equipment, US Army and the Marine Corps units deployed in those countries appear to remain highly effective. It also appears that—assuming Congress approves a level of funding for military operations close to the level requested by the administration—DoD should have sufficient funding to cover the cost of sustaining these operations through FY 2008, including required equipment maintenance and repair activities. That said, the full impact of recent and ongoing military operations on the readiness of the US Army and Marine Corps, in terms of equipment mission-capable rates and other traditional indicators, is difficult to assess based on publicly available data. Among other things, it is unclear whether—even if adequate funding is provided—the Services have sufficient maintenance and repair capacity to keep up with the demands created by the operations in Iraq and Afghanistan, or, if they do not, at what point this deficiency will be felt among deployed units.

In addition to the potential impact of military operations on equipment mission-capable rates and other readiness indicators, as well as DoD's funding requirements, a major challenge confronting DoD is the steady, and seemingly unstoppable, cost growth that has affected its *peacetime* O&M funding requirements. The amount of funding provided to DoD to cover the cost of peacetime O&M activities has grown significantly on a per-troop basis for at least the past 50 years. As noted above, the administration's FY 2008 request would bring peacetime O&M funding per active duty troop to 72 percent above the level provided in FY 1990. Due to data limitations, it is impossible to fully ascertain the causes of this cost growth.

Improvements in peacetime readiness levels—at least as measured by traditional indicators such as equipment mission-capable rates, flying hours and steaming days—do not appear to explain much, if any, of this cost growth. For the most part there has been little change in these measures over the past decade-and-a-half.[23] Some observers have pointed to cost growth in a variety of non-traditional activities (sometimes referred to as "non-defense" defense programs) funded through the O&M budget, such as environmental cleanup and weapons dismantlement aid to the states of the former Soviet Union, to explain the increase in O&M funding. However, most of that growth ended by the mid-1990s, and those activities, in any case, account for only a small fraction of O&M costs.

One relatively easily identifiable area that has contributed substantially to cost growth in DoD's O&M budget over the past decade-and-a-half is military health care. Despite the fact that the US military's active duty end strength was cut by about one-third after the end of the Cold War, DoD funding for health care increased from about $15 billion (FY 2008 dollars) in FY 1987 to $39 billion in FY 2007.[24] Put another way, on a per troop basis, military health care costs have more than tripled since FY 1987. This growth was due partly to increases in the cost of providing

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[23] It is possible that traditional measures do not capture some important improvements associated with today's higher levels of O&M funding (e.g., advances in communications and sensor capabilities generated by O&M spending on computer software). However, it is difficult to quantify such improvements.

[24] Lane Perrot and Greg Kiley, *The Long-Term Implications of Current Defense Plans*, (Washington, DC: CBO, January 2003), p. 8. CSBA has converted these estimates into FY 2008 dollars. O&M funding currently covers about three-quarters of military health care costs.

medical services, partly to the fact that the overall beneficiary population (which includes military retirees and dependents, as well as active duty troops) declined much more modestly than did the size of the force structure, and partly due to the expansion of health care benefits.

Other areas that seem to have contributed to the growth in DoD's O&M budget, to varying degrees, include pay increases for DoD civilian personnel and cost growth in other infrastructure-related functions such as installation support, headquarters and administration, central (i.e., non-unit) training, personnel support, and recruiting.[25]

Given the difficulty of precisely determining the cause of past cost growth in DoD's O&M budget, not surprisingly, it is difficult to project future funding requirements with much confidence. Overall, however, it is probably safe to assume that costs will continue to increase. Among the areas most likely to experience significant cost growth are the following:

- **Military Health Care.** Health care costs for the civilian population are projected to grow well above the rate of inflation over the next decade, and there is little reason to believe that the military's health care costs will grow any more slowly. If anything, historical precedent would seem to suggest that these costs will increase more rapidly. CBO estimates that funding for military health care will grow from about $39 billion (FY 2008 dollars) in FY 2007 to $65-84 billion in FY 2024.[26] Based on CBO data, it appears that, under the current plan, military health care activities funded through the O&M budget (i.e., the Defense Health Program) would grow from about $21 billion (FY 2008 dollars) in FY 2007 to $34-54 billion in FY 2024.[27]

- **Equipment Maintenance and Repair.** Through most of the 1990s, the age of the Services' weapons inventory increased only modestly, despite the fact that relatively few weapons were purchased during the decade. This is because the Services bought large quantities of new weapon systems in the 1980s, and then in the 1990s cut force structure by about one-third, with the oldest equipment generally being retired first. However, the buildup of the 1980s is now receding further into the past, and most of the planned force structure cuts were completed by the middle of the 1990s. As a result, the average age of most major weapon systems is projected to increase substantially over the next decade. To date, the aging of the Services' weapons inventory does not seem to have resulted in a substantial increase in operations and maintenance costs.[28] However, as the aging of the force accelerates in coming years, age-related O&M costs could grow significantly. According to CBO, by 2022, cost

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[25] For a discussion of funding trends for many of these functions, see Perrot and Kiley, *The Long-Term Implications of Current Defense Plans*, pp. 15-35.

[26] Perrot and Kiley, The *Long-Term Implications of Current Defense Plans*, p. 8. CSBA has converted these estimates into FY 2008 dollars.

[27] This estimate was derived by the author based on CBO projections of cost growth in three different categories of military health care funding: pharmaceuticals, purchased care and contracts, and direct care and other. Ibid. Funding for other military health care activities is provided through the Services' military personnel accounts.

[28] Greg Kiley, *The Effects of Equipment Aging on the Costs of Operating and Maintaining Military Equipment* (Washington, DC: CBO, August 2001), p. 8.

growth associated with operating older equipment could cause annual O&M funding requirements to increase by as much as $14 billion.[29] Moreover, replacing aging weapons with newer systems may, at best, only partially offset this cost growth, since the greater complexity of some new weapon systems can also lead to higher O&M costs.[30] In addition, as noted earlier, Army and Marine Corps equipment has undergone a great deal of extra wear and tear as a result of the ongoing military operations in Iraq and Afghanistan. This could result in further O&M cost growth. However, currently DoD is receiving substantial additional funding in special GWOT appropriations to cover costs associated with overhauling and replacing military equipment used in those operations. The administration's $141.7 billion FY 2008 request for GWOT funding, for example, includes $37.6 billion to reconstitute US forces.[31]

- **Facilities Maintenance and Repair.** It is widely believed that DoD operates an excessive number of military bases. In an attempt to address this problem, for the first time in a decade the United States has begun implementing a new round of military base closures. As a result of the 2005 Base Realignment and Closure (BRAC) process, the US military will close some 22 major bases (representing about 7 percent of its basing network) over the next five years.[32] Over the long term, these closures are projected to yield savings of $4.2 billion a year. In the near term, however, these closures will cost more money than they will save.[33] Moreover, over the long term it seems likely that, even with these base closures, DoD will need to increase substantially its funding for facilities upkeep and construction.[34] This is because DoD appears to have spent too little over the past decade or more on maintaining, repairing and constructing military bases, housing and other facilities.

If DoD were able to manage its infrastructure-related functions (e.g., bases, logistics, health care and similar activities) more efficiently, it might be possible to reduce the rate of O&M cost growth in the future. In addition to closing unneeded bases, proposals aimed at reducing infrastructure-related O&M costs include making greater use of "competitive sourcing" (allowing private sector contractors to compete for maintenance, repair and other work currently performed at public sector facilities) and adopting a range of "best practices" used in the private

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[29] CBO, "The Long-Term Implications of Current Defense Plans: Detailed Update for Fiscal Year 2005," February 2004, p. 6.

[30] Perrot and Kiley, *The Long-Term Implications of Current Defense Plans*, p. 21.

[31] Reconstitution includes both O&M and procurement funding.

[32] Under the BRAC process, the president appointed an independent commission that recommend—based on advice from the Services, as well as its own analysis—the closure of certain bases. The president subsequently approved the commission's recommendations. Since Congress did not—within 45 days of the president's approval—pass a joint resolution rejecting the proposed closures, the recommendations then became law.

[33] The up-front costs associated with closing military bases include, for example, environmental cleanup costs and the cost of transferring certain facilities and capabilities that DoD still requires from bases slated for closure to other bases.

[34] Funding for maintaining and repairing military facilities is found in the O&M budget, as well as the Military Construction and Family Housing budgets, while construction funding is provided through the latter two accounts.

sector. However, while it may make sense to pursue such initiatives, if history is any guide, the best that is likely to be achieved is some slowing of the rate of cost growth in O&M, rather than actual reductions in funding requirements.

As a result of legislation enacted in 2003, DoD has also received authority to reform and reorganize the way it manages its civilian workforce. The changes include: reducing the time required to hire new personnel; replacing the General Schedule (GS) system for determining pay levels with one that gives managers greater discretion to tie pay to performance; and making it easier to fire civilian workers.[35] Although some observers expect the new National Security Personnel System (NSPS) to help DoD save money, as in the case of other proposed efficiency initiatives, it is unclear whether these changes will yield significant savings over the long term. Moreover, DoD's proposals for implementing the NSPS have been challenged by government employee unions, and it is unclear precisely what form the NSPS will ultimately take.

If O&M costs do continue to grow, and the overall DoD budget is not increased in a substantial and sustained way, it will probably prove impossible to boost procurement funding significantly. During the Clinton Administration, O&M cost growth was a key factor in delaying projected increases in the procurement accounts. For much of that period, the Clinton Administration submitted budgets which projected significant increases in procurement funding two or more years down the road. But each year, O&M costs proved to be higher than anticipated, forcing the administration to add funding to the O&M accounts and push back the projected upturn in procurement funding. In more recent years, projected increases in procurement funding have been slowed by a combination of continued O&M cost growth, and high rates of growth in military personnel costs and R&D funding requirements.

Historically, O&M costs per troop have consistently and persistently increased at an average annual rate of about 3 percent. By comparison, under the administration's latest plan, total funding for O&M is projected to grow at an average annual rate of only about 1 percent over the FY 2008-13 period—despite that fact that the size of the US military is actually projected to increase over these years. If more funding is needed to cover higher O&M costs, as in the past, DoD's procurement accounts may end up being used as the bill payers to cover those costs. The only way to avoid such migration out of procurement and into O&M might be to increase the overall DoD budget by more than currently projected, make offsetting cuts in other parts of the defense budget, such as R&D funding, or reduce the size of the military.

MILITARY PERSONNEL

The effectiveness of the US military depends critically on its ability to attract and retain quality military personnel. As demonstrated by its performance in recent conflicts, the quality of the US

[35] Critics have raised concerns that the new system, among other things, does not adequately protect civilian employees from the possibility of being subjected to unwarranted or arbitrary discipline.

military today is very high. Maintaining such a force in the future must be a central goal of US defense planning.[36]

The FY 2008 request for DoD's base budget includes $119 billion for military personnel. This would be sufficient to fund average pay raises of 3 percent. Total compensation for the average active duty service member currently (FY 2007) amounts to about $115,000 a year. Military compensation includes a variety of different elements, funded through a number of different DoD and Department of Veterans Affairs' (VA) accounts. About 85 percent of these costs are covered by DoD, and 15 percent by the VA.

Cash compensation—which includes basic pay, the basic allowance for housing and the basic allowance for subsistence, plus bonuses and other special pays and incentives—accounts for about 45 percent of military compensation for the average active duty service member. Non-cash benefits include health care for military personnel and their families, and military retirees and their dependents, military retirement pay, military housing (for personnel and dependents living on-base), and veterans' and other benefits. Combined, non-cash benefits account for about 55 percent of military compensation.

Compensation for military personnel has increased substantially over the past decade-and-a-half, and especially since the late 1990s. These increases are due to a variety of changes instituted in the last two years of the Clinton Administration, or initiated, reinforced, or expanded under the Bush Administration. Overall compensation per active duty service member (exclusive of veterans' benefits) grew by about $24,000 (fiscal year 2008 dollars), or 33 percent, between 1999 and 2005. More than half of this $24,000 increase (58 percent) was allocated to improvements in non-cash benefits, especially deferred benefits. Improvements in retiree benefits (e.g., the introduction of the Tricare For Life program and increases in pension payments) accounted for about three-quarters of the increase in non-cash benefits (and 43 percent of the overall increase in compensation) provided over this period.

Cash compensation for active duty service members increased by some 25 percent between 1999 and 2005.[37] Raises in basic pay and the basic allowance for housing accounted for almost all of this growth. Across-the-board increases accounted for about 90 percent of the growth in cash and non-cash benefits that occurred between 1999 and 2005. Targeted increases directed at particular classes of personnel (e.g., those with special skills or in particular occupations) accounted for only some 10 percent of the growth in compensation. Military compensation has continued to grow faster than the economy's overall inflation rate for the past several years.

It is difficult to compare the salaries of military personnel and civilian workers. Unlike most civilian workers, military personnel frequently are deployed overseas away from their families, for extended periods of time, and are often asked to risk their lives in the service of their country.

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[36] For a discussion of military compensation issues, see Steven M. Kosiak, *Military Compensation: Requirements, Options and Trends* (Washington, DC: Center for Strategic & Budgetary Assessments, February 2005).

[37] The jump in pay was, in part, a result of language included in the FY 2000 defense authorization act which required that pay raises provided over the FY 2000-06 period be at least one-half a percentage point above the ECI.

Comparing compensation levels is also made difficult by the fact that military personnel receive greater non-cash benefits than civilian workers generally receive.

Notwithstanding the complexities inherent in comparing military and civilian pay, however, the best available evidence suggests that active duty military personnel are, overall, adequately compensated. According to an analysis by the CBO, in 1997, the average active duty service member received higher pay than 75 percent of all civilian workers of the same age and education level.[38] Moreover, based on an analysis of changes in military and civilian pay over the past decade, it seems likely that the pay of military personnel, relative to comparable civilian workers, has improved in the years since then.

A better measure of the adequacy of military compensation levels may be the Services' success at attracting and retaining quality personnel. The Army, Navy and Air Force each failed to meet their recruitment goals once or twice over the 1999-2000 period, and several of the Services failed to meet their overall retention goals in one or more years during the 1999-2001 period. In each year since then, however, the Navy, Air Force and Marine Corps have been able to meet their recruitment targets (in terms of both quantity and quality) and retention goals.

The picture is more complex, and less positive, for the Army. Notwithstanding the very high operational tempo Army personnel have experienced over the past few years as a result of US military operations in Afghanistan, Iraq and elsewhere, the Army has continued to meet its retention goals. However, in 2004 and 2005, it fell short in its recruitment efforts. In 2005, the active Army missed its recruitment goal by 8 percent, or 6,600 personnel. Worse, the Army Reserve fell short of its recruitment goal by 16 percent, or 4,600 personnel, while the Army National Guard's recruitment efforts fell short by 20 percent, or 12,800 personnel.

In some ways, the situation appears to have improved in 2006. Last year, the active Army exceeded its recruitment target by one percent, while the Army National Guard and Reserve missed their targets by only 0.5 percent and 1.4 percent, respectively. However, the Army was only able to make these targets because it accepted lower quality recruits. For example, in 2004, 61 percent of active duty recruits were "high quality" according to DoD criteria. By comparison, only 47 percent of active duty recruits met that benchmark in 2006.[39]

The administration's decision to expand the active duty Army by 65,000 troops will place additional pressure on the Service's recruitment efforts in coming years. It may be impossible for the Army to reach its new end strength targets without still further relaxing its quality standards, perhaps substantially. Although the Marine Corps has, to date, been better able to meet its quality benchmarks, increasing its end strength by 27,000 troops, as called for under the latest plan, may require that it too begin to accept lower quality recruits.

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[38] Richard Fernandez, *What Does the Military "Pay Gap" Mean?* (Washington, DC: CBO, June 1999), p. xi.

[39] A high quality recruit is defined by DoD as one with a regular high school diploma (vice a GED) who also scores in the 50th percentile or greater on the Armed Forces Qualifications Test (AFQT). National Priorities Project, "Military Recruiting 2006," December 26, 2006, www.nationalpriorities.org/index.php?option=com_content&task=view&id=263&Itemid=61.

It may be necessary to provide sizeable additional pay raises in the future—depending, in part, on how events unfold in Iraq and Afghanistan—if the Army and Marine Corps are to complete their planned expansions. In general, however, the problem for the Services does not appear to be that too little money is available, or that overall compensation levels are too low. Instead, the main problem seems to be that its current personnel system and pay structure does not allow the Services to differentiate sufficiently pay levels among military personnel who differ in terms of skills, occupations and other characteristics. As a result, they have consistently experienced retention shortfalls among certain classes of military personnel and particular occupational specialties.

In general, research indicates that improvements in compensation that provide relatively immediate and easily recognized benefits (such as increases in basic pay), and especially those that are targeted to the classes of individuals the Services most need to keep, and reward performance, rather than time in service, are the most cost effective. Despite these findings, most of the increase in military compensation provided in recent years has been provided in an across-the-board fashion, and directed to improvements in non-cash, and especially non-cash deferred, benefits.

Making greater use of cash compensation, especially bonuses, and relatively less use of non-cash, and particularly non-cash deferred, compensation, would likely improve the cost-effectiveness of the Services' recruitment and retention efforts. Conversely, failure to direct future increases in pay and benefits in this way could lead to the worst of both worlds: much higher levels of spending on military compensation, and an inability to meet the Services' personnel requirements.

The large increases in military compensation implemented over the past six years have clearly helped the Services with their efforts to maintain sufficient numbers of quality personnel during a period of intense military operations. However, these increases have also come at a very high price in budgetary terms. Between FY 1999 and FY 2005, total DoD funding for military pay and benefits (which is provided primarily through military personnel appropriations, but also through DoD's O&M and family housing accounts) grew from about $117 billion (FY 2008 dollars) to $150 billion, an increase of some $33 billion—with most of this growth occurring in the military personnel accounts and DoD's health care program.[40]

During the Clinton years, higher than anticipated growth in O&M costs frequently prevented DoD from increasing procurement funding as rapidly as its plans projected. In more recent years, an equal or greater problem has been the growth in military personnel costs. If steps are not taken to better control cost-growth in this area, in the future military personnel costs are likely to increasingly "crowd out" projected increases in procurement funding. Future funding requirements for military personnel can be only very roughly and tentatively estimated. However, even making relatively conservative assumptions about cost growth in the various components of military compensation, it appears likely that those funding requirements will grow substantially. CBO estimates that military personnel appropriations are likely to increase at

[40] Kosiak, *Military Compensation: Requirements, Options and Trends*, pp. 64-65. These figures have been converted from FY 2005 to FY 2007 dollars.

an average annual rate of about 1.6 percent between FY 2007 and FY 2024.[41] This would increase funding in this account to some $143 billion by 2024 (FY 2008 dollars).[42]

FORCE STRUCTURE

In the 2001 QDR, the Bush Administration decided to maintain essentially the same force structure (e.g., numbers of Army divisions, Navy carrier battle groups and Air Force fighter wings) proposed and adopted by the Clinton Administration. However, over the past several years a number of significant changes affecting both the structure and size of the US military have been initiated.

In 2004, the Bush Administration announced plans to restructure the Army. Prior to this initiative, the Army's active duty forces were organized around 10 divisions, each of which consisted of three combat brigades, plus three separate brigades and regiments—for a total of 33 combat brigades. Under the Army's new plan, a fourth brigade was to be created in each division—increasing the total number of combat brigades to 42. These Brigade Combat Teams (BCTs) were also to be manned and equipped so that they could operate independently more effectively. The extra troops needed for these BCTs were to be provided by shifting personnel from missions and functions for which the Army currently has excess capability (e.g., field artillery and air defense) and by making other changes—rather than by increasing Army end strength. Under the Army's plan, the Army National Guard was to be similarly reorganized into 28 modular brigades.

The Army claims that this restructuring would increase by 46 percent the readily available combat power it can deploy to military operations,[43] and thus substantially improve its ability to sustain large-scale military operations, such as those in Iraq. But others have raised questions about whether, or by how much, the Army's "modularity" plans will actually improve its ability to sustain such operations.[44] DoD has estimated that this restructuring of the Army will cost some $48 billion to implement over the FY 2005-11 period, with much of this cost stemming from the need to buy equipment for the additional brigades. However, this estimate may substantially understate the cost of the effort.[45]

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[41] Perrot and Kiley, *The Long-Term Implications of Current Defense Plans*, p. 6.

[42] Ibid. CSBA converted this figure from FY 2007 to FY 2008 dollars. The level of growth would be substantially greater if personnel benefits provided through DoD's O&M and family housing accounts were included.

[43] *2006 QDR*, p. 43.

[44] CBO has concluded, for example, that although the number of brigades will be substantially increased under the initiative, the Army's combat forces (measured in terms of maneuver units, such as armor and infantry companies) would be increased by only 5-19 percent, at most—and possibly not at all. Adam Talaber, *Options for Restructuring the Army* (Washington, DC: CBO, May 2005), p. 8.

[45] Sharon Pickup and Janet St. Laurent, "Force Structure: Preliminary Observations on Army Plans to Implement and Fund Modular Forces," Testimony before the Subcommittee on Tactical Air and Land Forces, Committee on Armed Services, US House of Representatives, March 16, 2005, p. 2.

In its latest budget submission, the administration has indicated not only that it will continue to move ahead with its plans for restructuring the Army, but, as noted earlier, has announced plans to increase the size of the Army and Marine Corps by, respectively, some 65,000 and 27,000 active duty troops.[46] According to the administration, this expansion will allow it to increase the number of BCTs in the active Army from 42 to 48, and expand the Marine Corps from 2.5 to 3 active Marine Expeditionary Forces (MEFs). The administration claims that, by expanding the rotation base, this increase in the size of the Army and Marine Corps will further improve the ability of the United States to sustain large-scale ground-force deployments. However, since this expansion will take some five years to complete, in the case of Iraq, it may be a case of "too little, too late." Moreover, as discussed in the preceding section of this report, it will likely only be possible to implement this expansion if the Army and Marine Corps accept a decline in troop quality. Thus, the United States may, ultimately, end up with larger but, unit-for-unit, somewhat less capable ground forces. This planned increase in the size of the Army and Marine Corps has added about $100 billion to the cost of DoD's plans over the next six years.[47]

In contrast to the case with the Army and Marine Corps, the end strength of the Navy and the Air Force has been cut significantly over the past several years, and existing plans project further reductions. By the end of FY 2008, the Navy's active duty end strength is projected to reach 328,000. This is some 45,000 personnel below its FY 2004 total. Likewise, between FY 2004 and FY 2008, the Air Force's active duty end strength is projected to have declined to 329,000 personnel, a reduction of some 48,000. These cuts, which equate to reductions of 12-13 percent for the two Services, have been accompanied by some reductions in force structure. For example, under current plans the Navy's battle force fleet will consist of 286 ships and submarines, including 11 aircraft carriers, at the end of FY 2008, compared to 292 ships and submarines, including 12 aircraft carriers, in FY 2004.

By cutting their end strength, the Navy and the Air Force hope to achieve savings in personnel and O&M costs that will allow them to adequately fund their modernization plans. Viewed from a long-term perspective, DoD's past modernization plans have often been financed in part by cuts in the size of the military. The result has been that although the US military has become smaller over time, it has nevertheless become progressively more capable. The new weapon systems included in current Navy and Air Force modernization plans typically cost twice as much, or more, to acquire than the systems they are replacing. They are also, presumably, far more capable. As such, it may be neither feasible, nor necessary, to replace existing weapon systems on a one-for-one basis. In other cases, it may be possible to maintain, or even expand, the Services' force structure, while cutting personnel levels by shifting to different types of weapon systems.[48]

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[46] Under the Army's new plan, the end strength of the Army National Guard and Reserve would also be increased by a total of about 9,200 troops.

[47] CBO, "Estimated Cost of the Administration's Proposal to Increase the Army's and Marine Corps's Personnel Levels," April 16, 2007, p. 1.

[48] For example, it might be possible to maintain or even expand the Navy's force structure, measured in numbers of ships and submarines, while simultaneously reducing end strength, if the Service were to shift to a fleet composed largely of smaller and/or more automated (i.e., less labor-intensive) ships, such as the Littoral Combat Ship (LCS).

In theory, the same logic that has driven the Navy and Air Force to look for ways to substitute capital (i.e., weapon systems) for people, should also apply in the case of ground forces. However, counterinsurgency and stability operations, by their nature, tend to be very labor-intensive military operations. Thus, to the extent that the ability to carry out these types of large-scale operations remains the focus of Army and Marine Corps plans, force structure discussions and debates are likely to focus on whether, or how much, to expand the size of these Services—with end strength cuts "off the table." On the other hand, in the case of the Navy and Air Force, significant additional tradeoffs of this kind may be possible in the near term. Indeed, as noted above, the Navy and Air Force, at least, already appear to be moving, at least tentatively, in this direction. If, at some point in the future, Army and Marine Corps planning begins to focus on more conventional types of military operations (and much less on large-scale counterinsurgency and stability operations), it may be appropriate for these Services, as well, to consider cuts in end strength.

RESEARCH AND DEVELOPMENT

The FY 2007 R&D budget is the highest in DoD's history. At $75.1 billion, the FY 2008 request for R&D marks only a slight, 2 percent, decline from this record level. The request is $33.5 billion, or 54 percent, above the level provided in FY 2001 and 30 percent more than was provided in FY 1987, the Cold War peak for defense R&D. Under the administration's plan, funding for defense R&D would decline to about $61.4 billion (FY 2008 dollars) by FY 2013. Robust funding for R&D is probably appropriate, given the need to transform the US military, and the likelihood that in the future the US military will face challenges that are significantly greater than and different from those it faces today. But whether funding for defense R&D needs to be as high as it is today, or whether the new R&D budget request emphasizes the most important priorities, is debatable. There is also some reason to question the realism of the future reductions in R&D funding projected in the current defense plan.

During the 2000 presidential campaign, then-candidate Bush argued that the US military must be transformed to counter effectively the very different kinds of challenges projected to emerge over the next several decades. The need to transform the US military remained a major theme in the 2006 QDR. However, while the FY 2008 budget request contains R&D funding for several programs widely believed to be important for transformation, overall, defense R&D funding still appears to be very much focused on traditional kinds of weapons programs. This is reflected in the allocation of funding both among DoD's various R&D budget activities, and among specific programs.

The DoD R&D budget is broken down into six different budget categories primarily reflecting different phases of the R&D process. The S&T budget includes programs in the three earliest phases of R&D.[49] The discovery and development of new technologies promising major leaps in military capability are most likely to be made in these early phases of R&D. As a result, many advocates of military transformation believe that S&T programs should be given a high priority. The administration's plan includes $10.8 billion for S&T programs in FY 2008. This is $2.5

[49] S&T programs consist of those funded through the Basic Research, Applied Research and Advanced Technology Development budget activities.

billion less than was provided in FY 2007 and only about 2.5 percent more than was provided in FY 2001. This level of growth is extremely modest compared to the increases the administration has requested for R&D overall, or for specific programs, such as ballistic missile defense (BMD) and fighter development, over this same period.

Programs in the system development and demonstration (SDD) phase have been given the largest increases in funding since FY 2001. SDD is the last phase of R&D prior to production, as well as the most costly phase for most programs. Under the administration's plan, $18.1 billion would be provided for SDD programs in FY 2008. This an 8.2 percent decline from FY 2007. However, under the administration's plan, funding in this category of R&D would still be nearly twice as high in FY 2008 as it was in FY 2001.

During the 2000 presidential election, then-candidate Bush argued that the US military should modernize its military "selectively," but that the real goal should be to "move beyond marginal improvements—to replace existing programs with new technologies and strategies: to skip a generation of technology."[50] But the Bush Administration has not embraced this approach. Over the past six years, DoD has cancelled several major acquisition programs, including the $11 billion Crusader artillery system, the $9 billion Navy Area Missile Defense program and the $38 billion Comanche helicopter program.[51] However, the administration has continued to move ahead with the vast majority of the major weapons platforms included in the plans it inherited from the Clinton Administration.

As noted earlier, studies by CBO, CSBA and others indicate that implementing DoD's long-term plans would require increasing DoD's budget far above currently projected levels, and sustaining those levels of funding for decades to come. And such increases may be unlikely given growing concerns about the size of the deficit and budgetary pressures associated with the pending retirement of the baby boomer generation. But the administration has failed to propose the kinds of significant cuts that will likely be necessary to make DoD's plans affordable over the long run. The continued high level of funding for SDD projected in DoD's latest plan essentially reflects the decision to move ahead with a wide range of weapon systems in DoD's acquisition pipeline, such as the F-35 fighter, the DDG 1000 destroyer and the FCS.

The administration and the Services claim that most SDD funding is focused on transformational systems, or are at least programs consistent with a sound transformation strategy. But at least some of the weapons programs being pushed into SDD appear ill-suited for the emerging security environment. As noted earlier, perhaps most questionable is the administration's decision to continue to move ahead with all three planned short-range tactical fighter programs—despite the fact that recent experience in Iraq, Afghanistan and elsewhere suggests that, in the future, the US military may often have difficulty obtaining access to forward bases.[52] Some

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[50] George W. Bush, Speech on Defense Policy, The Citadel, Charleston, SC, September 23, 1999.

[51] Prior to the program's cancellation, DoD plans called for buying a total of 650 Comanche helicopters. A total of about $8 billion had been spent on the program to date.

[52] See Barry D. Watts, *Long-Range Strike: Imperatives, Urgency and Options* (Washington, DC: Center for Strategic & Budgetary Assessments, April 2005).

might argue that the current defense plan also short-changes funding for the development of unmanned aerial vehicles (UAVs). The FY 2008 request includes $437 million for the development of six different UAVs. This is only one-eighth as much as DoD is proposing for the continued development of its most costly manned aircraft program, the F-35.[53]

The decision, announced in the 2006 QDR, to accelerate the fielding of a new, possibly unmanned, long-range strike system from the 2035 timeframe to 2018 marks a potentially important shift toward more transformational capabilities. However, as noted earlier, DoD's commitment to this program and accelerated schedule would have been more convincing had it been combined with some reductions—or at least future projected cuts—in one or more of the Services' short-range fighter programs.

Perhaps the greatest problem with the administration's decision to move ahead with so many costly traditional programs today is that it might make it impossible to increase funding for more transformational kinds of systems, such as a new long-range bomber, several years down the road, when their feasibility and potential is better proven and they are ready to be moved beyond the early stages of R&D. This is because the level of funding absorbed by traditional weapon systems entering SDD today will grow significantly over the next five years or more, as they move further through the SDD process and into production—potentially crowding out promising, emerging transformational programs.

The above discussion focuses primarily on the question of how appropriately R&D funding is allocated among various budget categories in the administration's FY 2008 request. An equally important question is whether the total funding level requested for R&D is appropriate. Robustly funding R&D probably makes sense, given the need to transform the US military, and the likelihood that the future challenges facing the US military will be significantly greater than—and different from—those it faces today. On the other hand, the level of funding requested by the administration may be higher than necessary to modernize or transform the US military adequately. As noted earlier, the requested level of funding for R&D is some 30 percent above the previous peak of FY 1987. But unlike FY 1987, when the United States faced—in the Soviet Union—a peer competitor that spent as much as $50 billion a year on defense R&D, today no potential US adversary spends even close to that amount.

This does not necessarily mean that defense R&D funding should be reduced. To the extent that modernizing and transforming the US military represents a cost-effective means of improving US capabilities, especially capabilities to counter new kinds of threats, relatively high levels of spending on R&D may make sense, even if potential adversaries are not modernizing their own forces as rapidly as in the past. But the slower pace at which most potential adversaries appear to be modernizing their forces does at least raise questions about the need for such high levels of funding for defense R&D.

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[53] Another concern of some transformation advocates is that even the funding provided for UAVs is focused on the development of systems that are non-stealthy and, with the exception of Global Hawk, relatively short-range. Like manned fighters, short-range UAVs might prove ineffective in an anti-access environment.

Perhaps more importantly, the high level of funding currently allocated to the *development* of new weapon systems appears to be undermining DoD's ability to increase substantially funding for the *procurement* of new weapon systems. During the Reagan buildup of FY 1980-85, nearly four-fifths of the funding added to weapons acquisition was allocated to procurement, with about one-fifth going to R&D. By contrast, over the FY 2000-07 period, more than half of the funding added to weapons acquisition has been absorbed by R&D. As noted above, under the administration's latest plan, funding for defense R&D is projected to decline substantially over the next five years, with those savings essentially shifted into weapons procurement. According to the administration, this transfer of funding from R&D to procurement will be possible because the development of a number of major acquisition programs will been largely completed over the next few years.

Such a shift in funding may, indeed, be possible. However, depending on reductions in R&D to help finance a substantial portion of the future increases projected for weapons procurement may be risky for at least two reasons. First, new weapon systems tend to cost more to develop than assumed in DoD's plans, suggesting that the projected decline in R&D funding requirements may not materialize. Second, historically, DoD funding for R&D and procurement tend to move in the same direction—there has been no sustained period over the past 50 years during which R&D funding has been cut, while funding for procurement has been increased. Combined with likely increases in military personnel and O&M costs, the failure of DoD to hold down R&D funding requirements and costs could prove a major barrier to its plans to increase weapons procurement funding in coming years.

PROCUREMENT

The FY 2008 request for DoD's base budget includes $101.7 billion for weapons procurement. This is 22 percent more than was provided in the FY 2007. Under the administration's latest plan, funding for procurement is projected to increase to $113.1 billion (FY 2008 dollars) by FY 2013. It is widely agreed that funding for procurement needs to be increased. But, as in the case of R&D, there is less agreement concerning just how much funding needs to be provided for procurement and how those funds should be invested. In addition to this funding in the base budget, the administration's FY 2008 request also includes some $32.9 billion in GWOT-related weapons procurement.

The Bush Administration has scaled back a number of major acquisition programs over the past six years. However, as discussed earlier, the administration has opted to move ahead with the vast majority of major weapons programs it inherited from the previous administration, and to keep the US military essentially the same size as projected under the last Clinton Administration plan—making some cuts in Air Force and Navy personnel, but increasing the size of the Army and Marine Corps.

Estimates provided by CBO suggest that, assuming historical rates of cost growth in weapons programs, implementing the administration's current modernization plan might require increasing procurement funding to an average of some $140 billion (FY 2008 dollars) annually

over the FY 2011-24 period.[54] Worse yet, as noted earlier, the plan's assumptions about O&M, military personnel and R&D funding requirements may be optimistic. If O&M and military personnel costs continue to grow, and DoD is unable to cut R&D as assumed in the current plan, DoD may find itself with little choice but to forgo the projected rise in procurement funding and use the money instead to cover these other costs.

In any case, the fact that implementing the administration's modernization plan might require increasing funding to $140 billion a year does not necessarily mean that *adequately* modernizing US forces would require increases of this magnitude. The administration's current approach is one of several different possible approaches to modernization. At the most basic level, there are essentially three different means by which forces can be modernized:

- Existing current-generation systems (e.g., F-15 and F-16 fighters) can be replaced with next-generation weapon systems (e.g., the F-22 and F-35, respectively). Next-generation weapon systems are likely to display the most dramatic improvements in capabilities. However, they are also by far the most expensive systems to produce—typically costing at least twice as much as the systems they are intended to replace.

- Existing current-generation systems can be replaced with the latest versions of the same system (e.g., old F-16s replaced with the most current versions of the F-16 now being produced). Often these newer systems are far more capable than the earlier versions they would replace. These systems also tend to cost much less to produce than next-generation systems. For example, the Air Force version of the JSF appears likely to cost about 50 percent more than the latest F-16 Block 60 aircraft.

- Existing current-generation systems can be upgraded with new electronics and other equipment, and have their service lives extended. The cost of upgrade and modification efforts varies greatly, depending on how extensive the efforts are, but overall costs tend to be even less than the cost of buying new current-generation systems.

The administration's plan includes a mix of these different approaches. But it is heavily weighted toward the first approach: the acquisition of next-generation systems. Thus, not surprisingly, its funding requirements are very high. An approach that included the purchase of some next-generation weapon systems, but focused relatively more on the production of new current-generation systems, and upgrades of existing systems—perhaps similar to the skip-a-generation approach that was considered, but largely rejected, by the Bush Administration—might cost substantially less.[55]

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[54] These estimates were derived by CSBA based on data provided in Perrot and Kiley, *The Long-Term Implications of Current Defense Plans*, p. 9.

[55] Although not generally adopted by the Bush Administration, the Army adopted something like this approach in the case of the Comanche helicopter program. Cancellation of the very costly next-generation Comanche program allowed the Army to greatly expand its procurement of current-generation helicopters.

Another option would be to move ahead with procurement of the next-generation weapon systems called for under current plans, but to offset the high cost of these plans by making substantial cuts in the size of the force structure. This would be consistent with earlier decisions to tradeoff quantity for quality. This approach has been rejected for the foreseeable future in the case of the Army and Marine Corps. However, it may be feasible to make more significant cuts in Air Force and Navy force structure than the administration has so far proposed. As noted earlier, viewed from a long-term perspective, DoD's past modernization efforts have often been financed in part by cuts in the size of the military.

Still another option would be to combine cuts in next-generation weapons programs with force structure cuts. In this case, annual procurement funding requirements could fall well below the levels required to pay for the current plan. Finally, rather than modernizing the Services through buying more of the same types of weapon systems (whether they be current- or next-generation systems), DoD could focus more on buying new kinds of systems that could prove more cost effective. For example, rather than buying *both* a new long-range bomber and some 2,443 new short-range F-35 fighters, as currently planned, DoD might consider whether the new bombers—given their much larger payload capacity—could represent a cost-effective substitute for some number of these new fighters.

In short, there is no single right answer to the question of how much the United States must spend to modernize its military—rather, the answer depends on the kind and rate of modernization that is believed to be necessary. In turn, one's answers to those questions are likely to be influenced by views concerning a broad range of other, largely non-budgetary, issues, including: the strategy and missions of the US military; the pace of modernization among potential adversaries; changes in expected standards of performance for US forces; the nature and pace of advances in weapons platform design and propulsion, precision-guided munitions (PGMs), computers, sensors and communications technologies; and the impact and implications of the RMA. Reasonable minds can, and do, differ greatly on these questions. For example, some observers believe that the projected aging of the Services' inventories of aircraft, ships and other weapons platforms could greatly reduce the effectiveness of the US military, while others believe that even relatively old platforms can be kept highly effective through the incorporation of new electronics and PGMs.[56]

Although the administration's most recent budget request does not include any major changes to the Services modernization plans, because of the various budgetary pressures noted earlier, it seems likely that the Services will be forced to scale back their modernization plans substantially in coming years. The real question appears to be whether these cuts will be proposed sooner rather than later, and whether they will result from a relatively comprehensive review or ad hoc decisions made in future years. While politically and bureaucratically easier, the latter approach is likely to be far less efficient in both strategic and budgetary terms.

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[56] For a discussion of various views concerning modernization requirements, see Steven M. Kosiak, *Buying Tomorrow's Military: Options for Modernizing the Defense Capital Stock* (Washington, DC: Center for Strategic & Budgetary Assessments, 2001), pp. 24-30.

MISSILE DEFENSE

The Bush Administration's FY 2008 defense budget request provides about $8.85 billion for ballistic missile defense (BMD) programs. This includes $8.8 billion provided through the Missile Defense Agency and $54 million funded through the Joint Staff. This is $585 million less than was provided for BMD programs in FY 2007. But still some $4 billion above the level appropriated in the last Clinton Administration (FY 2001) budget.

The $8.85 billion figure includes funding both for the development of national missile defense (NMD) systems, designed to protect the United States from strategic ballistic missile attack, and the development and deployment of theater missile defense (TMD) systems, intended to protect forward-deployed US forces against shorter-range ballistic missiles. The Bush Administration has not only significantly increased funding for BMD programs, over the past several years, it has also taken a different approach in allocating that funding.

Under the Clinton Administration, BMD efforts were focused on the development and near-term deployment of a variety of TMD systems, and the development and deployment (at some future date) of a limited NMD system. The Clinton Administration believed that the Anti-Ballistic Missile (ABM) Treaty—by which the United States and the Soviet Union (now Russia) agreed to limit the development and, especially, deployment of NMD systems—still had an important role to play in maintaining a stable nuclear balance between the United States and Russia, as well limiting the incentive for China to buildup its strategic nuclear forces. As a result, while its proposed NMD system conflicted with the ABM treaty in a number of ways, the Clinton Administration hoped to get around this problem by gaining Russian agreement to modify the treaty, rather than by withdrawing from it.

By comparison, President Bush has made the near-term deployment of an NMD system a more urgent priority. The administration withdrew the United States from the ABM Treaty at the end of 2001, on grounds that it would preclude the development and deployment of effective defensive systems. In 2005, the administration deployed a modest NMD capability, consisting of 8 ground-based interceptors (GBI) based in Alaska and 2 GBIs in California, to protect against a possible North Korean threat, and 9 sea-based interceptors aboard Navy Aegis (air defense) ships. By the end of 2007, DoD plans to increase the number of GBIs to 24 (21 in Alaska and 3 in California), and the number of sea-based interceptors to 21.[57] Over the longer term, the administration projects the development and deployment of a larger, layered NMD system that might include space-based interceptors as well.

The administration's FY 2008 request for MDA programs includes $2.52 billion for midcourse defenses, $963 million for terminal defenses, $549 million for boost-phase defenses and $778 million for BMD sensor programs.

Whatever the merits or shortcomings of the Bush Administration's approach to BMD on technical or strategic grounds, pursuing this course will likely require a substantial and sustained increase in funding. The cost of developing and deploying a multi-layered NMD system could be

[57] Missile Defense Agency (MDA), "FY 2008 Budget Estimate," February 2007, p. 7.

especially high. In January 2002, CBO estimated that developing, deploying and operating a single-site NMD system similar to the one proposed by the Clinton Administration would require spending $23-25 billion through 2015, while a three-site system could cost $56-64 billion.[58] Likewise, CBO estimated that a stand-alone sea-based system would cost $43-55 billion and a space-based system might cost $56-68 billion.[59] In 2004, CBO estimated that a boost-phase intercept (BPI) system designed to protect the United States against potential North Korean and Iranian threats would cost $16-37 billion to acquire and operate for 20 years, while a space-based BPI system would cost $27-78 billion.[60]

The potentially high cost of pursuing a multi-layered NMD system does not necessarily mean that the administration's missile defense plans are unaffordable. In the context of an annual defense budget of $505 billion, exclusive of war costs, spending $8.85 billion or even significantly more on BMD programs should be manageable. However, doing so may make it difficult for the administration to fund other new initiatives, including efforts aimed at transforming various elements of the US military.

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[58] CBO, "Estimated Costs and Technical Characteristics of Selected National Missile Defense Systems," Letter to the Honorable Thomas A. Daschle, Majority Leader, United States Senate, January 31, 2002, p. 23.

[59] Ibid. CBO noted that the stand-alone sea-based system includes some elements common to the ground-based system. Thus simply adding together the estimates for the ground- and sea-based systems would overstate the total cost of buying and operating both systems.

[60] David Arthur and Robie Samanta Roy, *Alternatives for Boost-Phase Missile Defense* (Washington, DC: CBO, July 2004), p. ix.

MAJOR ACQUISITION PROGRAMS

(See Appendix, Table 5)

Air Force

The Air Force's FY 2008 base budget request includes $26.7 billion for R&D and $33.8 billion for procurement.

F-22: The FY 2008 budget request includes $3.861 billion to continue the 60-aircraft multiyear procurement plan initiated in FY 2007, plus $744 million for continued development of the aircraft. Originally designed to replace the Air Force's existing fleet of F-15 air superiority fighters, the F-22 is now intended to carry out ground attack missions as well. The current plan calls for procuring a total of 175 F-22s, including 20 in FY 2008 and (the last) 20 in FY 2009. The F-22 acquisition program—which has experienced significant cost growth—is now projected to cost a total of about $65 billion.

F-35 Joint Strike Fighter: The proposed FY 2008 budget would provide $5.3 billion for the F-35 program. In 2001, Lockheed Martin Corporation defeated the Boeing Company in a competition to develop and produce the F-35. The program is intended to lead to the fielding of a family of fighter aircraft to be used by the Air Force, Navy and Marine Corps. Altogether, current plans call for procuring a total of some 2,443 F-35s, at a cost of about $300 billion, between FY 2007 and FY 2034. This year's request includes $1.781 billion in Air Force and $1.707 billion in Navy R&D funding for the program. In addition, it includes $1.422 billion for the procurement of six Air Force versions of the aircraft and $1.232 billion for six Marine Corps Short Takeoff and Landing (STOVL) versions of the F-35. The first two F-35s were procured (by the Air Force) in FY 2007.

B-2: The administration is requesting $560 million for the B-2 bomber program in FY 2008, primarily for the development and procurement of modifications and upgrades for the existing fleet of 21 aircraft. In the 2006 QDR, the administration announced that the Air Force would begin fielding a new long-range strike system in 2018. The Air Force has not yet selected a specific design for the new aircraft, or even decided general questions about its design and capabilities—such as whether it will be manned or unmanned, or conventional-only or nuclear-capable. Nor has it indicated how much funding will be needed to develop and procure the new system.

C-17: The administration's request includes $182 million to develop upgrades for the C-17 intercontinental-range cargo aircraft. It also includes $472 million in procurement funding intended, among other things, to cover the cost of removing and shipping to off-site storage C-17 production tooling and equipment. Last year, the Air Force requested the last 12 C-17s called for in its plans. However, Congress added 10 more aircraft, as part of the $70 billion "bridge fund" it attached to the FY 2007 defense appropriations act to help cover GWOT-related costs. Including these aircraft, to date, the Air Force has procured a total of 190 C-17s. Originally, the Air Force had hoped to buy a total of 210 C-17s and, in recent years, the Air Force had expressed a desire for as many as 222.

KC-X Aerial Refueling Tanker: The Air Force is currently assessing competing designs for a new tanker aircraft that would replace the Service's existing fleet of over 500 KC-135 and KC-10 tankers. The KC-X will be a derivative of a commercial aircraft and will be capable of carrying cargo as well. The FY 2008 request would provide $315 million in R&D funding. A competitive contract award is anticipated in late FY 2007 for the development program.

Space-Based Infrared System (SBIRS)-High: The FY 2008 budget request includes $1.07 billion for the SBIRS-High program. The goal of this program is to field a constellation of satellites to provide improved warning of ballistic missile launches (replacing existing Defense Support Program satellites), as well as support national missile defense and intelligence collection efforts.

Navy

The Navy's FY 2008 base budget request includes $17.1 billion for R&D and $38.7 billion for procurement.

F/A-18E/F: The administration is requesting $2.609 billion for the F/A-18E/F aircraft program in FY 2008, including $63 million for continued development and $2.546 billion to procure 24 aircraft. In production since FY 1997, the F/A-18E/F is a substantially changed derivative of the older A-D versions of the F/A-18, featuring, among other things, a longer fuselage and larger wings. Current plans call for the Navy to buy 494 of these carrier-based aircraft at a total cost of about $46 billion. However, the total number of F/A-18E/Fs ultimately procured could be higher if the JSF were to develop technical problems, could not meet its cost goals, or suffer significant slippage in its schedule.

E/A-18G: The FY 2008 budget includes $1.592 billion for the E/A-18G program. This variant of the F/A-18E/F is intended to replace the EA-6B in the electronic warfare role. The request includes $1.319 billion to procure 18 of these aircraft and $273 million for continued R&D. Altogether, the Navy plans to buy 80 of these aircraft for a total cost of some $7.3 billion.

V-22: The proposed budget would provide $135 million in R&D funding for the V-22 tilt-rotor, vertical take-off and landing aircraft, plus $1.959 billion in procurement funding to buy 21 Marine Corps (MV-22) versions of the aircraft and $495 million for five Air Force versions of the aircraft (CV-22). The V-22 program has suffered from some significant technical problems and cost growth in recent years. Nevertheless, the administration has decided to move ahead with it. Ultimately, the Marine Corps plans to buy a total of 360 MV-22s, while the Air Force expects to buy 50 CV-22s, and the Navy plans to purchase 48 HV-22s. The MV-22 is intended to replace the Marine Corps' CH-46 and CH-53 helicopters. The CV-22 would be used for special operations forces (SOF) and the HV-22 would be used for search and rescue.

DDG 1000: The FY 2008 budget request includes $2.954 billion to support the procurement of the first two ships of this new class of surface combatant. Full funding for these ships is being provided over several years, with $2.557 billion provided in FY 2007. The FY 2008 request also includes $503 million in R&D funding. Unlike the DDG-51 guided-missile destroyer, which is focused primarily on the air defense mission, the DDG 1000—formerly the DD(X)—is intended to be a multi-mission combatant with a substantial land-attack capability. Current Navy plans

call for buying a total of seven DDG 1000s. The Navy's goal is to reach a unit price of $2.3 billion (FY 2008 dollars). However, CBO estimates that the average cost per ship will be about $3.9 billion.[61]

Littoral Combat Ship (LCS): The LCS is a new surface combatant intended to focus on the kinds of threats likely to be confronted in coastal waters, such as mines, diesel submarines and "swarming attacks" by small boats—with each ship capable of being equipped with different mission modules focused on different types of threats. Navy plans call for two industry teams to build competing designs of this new type of ship. The FY 2005 budget included funding for the first of these new design ships. The proposed FY 2008 budget would provide $991 million for the procurement of three LCSs, as well as $218 million for continued R&D. The LCS is to be roughly the size of a frigate (i.e., around 3,000 tons) and much more affordable than the much larger (14,000-ton) DDG 1000. Under the current plan, the Navy would buy a total of 32 LCSs over the FY 2008-13 period, and some 55 altogether. CBO estimates that average unit procurement cost for the LCS will amount to $390 million (excluding the cost of the mission modules).

SSN-774: The administration's FY 2008 request includes $2.499 billion in procurement funding for one Virginia-class attack submarine, plus $224 million for R&D. This class of submarines is being built jointly by General Dynamics-Electric Boat of Groton, CT, and Northrop Grumman's Newport News Shipbuilding (NGNN) of Newport News, VA. Under the administration's new defense plan, the Navy would buy one Virginia-class submarine a year through FY 2011, with the production rate increased to two boats per year in FY 2012 and beyond. Whether the Navy can reach this goal will depend in large part on how successful it is at achieving its cost goals for the SSN-774, as well as the DDG 1000, the LCS and other ships. Ultimately, the Navy hopes to be able to buy these submarines for an average of about $2.3 billion (FY 2008 dollars) each, but CBO estimates that unit procurement costs will average some $2.7 billion.

LPD-17: The LPD-17 is a new class of amphibious ship designed to embark, transport and land Marine Corps forces, as well as support assaults by Marine Corps aircraft. This year's request includes $1.399 billion in procurement funding to complete construction of the ninth, and last, ship of this class. Altogether, acquisition of this nine-ship class of amphibious landing dock ships is projected to cost about $12 billion.

LHA(R): The FY 2007 defense budget included the first increment of funding to construct the lead ship of this class. The FY 2008 request includes $1.377 billion to complete the construction of this ship. Amphibious assault ships, which resemble small (compared to US CVNs) aircraft carriers, represent the centerpiece of US amphibious warfare capabilities. The request also includes $6 million in R&D funding to support the acquisition of this ship. The full cost of each LHA(R) is projected to average $2.3 billion (FY 2008 dollars).

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[61] For a discussion of Navy plans for its surface fleet, see Robert O. Work, *Know When to Hold 'Em, Know When to Fold 'Em: A New Transformation Plan for the Navy's Surface Battle Line* (Washington, DC: Center for Strategic & Budgetary Assessments, 2007).

CVN-21: Under the administration's defense plan, $232 million in R&D and $2.848 billion in procurement funding would be provided in FY 2008 for the CVN-21 program. This includes paritial funding for construction of the lead ship of this new class of aircraft carrier, as well as funding to cover the cost of long-lead items for the second ship of this class. In 1998, the Navy decided to adopt an evolutionary approach to designing this new class of aircraft carrier. Under this plan, the first ship of this class will closely resemble existing Nimitz-class carriers, although succeeding ships might differ substantially from them. Altogether, these new aircraft carriers are projected to have average unit procurement costs of about $10.1 billion (FY 2008 dollars).

T-AKE: This new class of dry cargo ship is intended to replace the existing refrigerated cargo and food stores ships (designated AFS class) and ammunition ships (designated AE class) in the Navy's mobile logistics fleet. The FY 2008 request includes $456 million for the procurement of one T-AKE next year.

Army

The Army's FY 2008 base budget request includes $10.6 billion for R&D and $24.3 billion for procurement.

AH-64: The FY 2008 budget request would provide $712 million for various upgrades to the Army's fleet of AH-64 Apache attack helicopters, plus $194 million for continued R&D. These upgrades include the addition of Target Acquisition Designation Sight (TADS)/Pilot Night Vision Sensors (PNVS), as well as a variety of safety and reliability improvements. Specifically, the budget request would support the remanufacture of 36 AH-64A helicopters to the more capable AH-64D (Longbow) configuration.

UH-60: The FY 2008 request includes $705 million for the procurement of 42 Blackhawk UH-60 utility helicopters, plus $88 million for R&D. The Army's cancellation of the $38 billion Comanche reconnaissance/attack helicopter program in 2004 freed up additional funding for a number of other Army helicopter programs, including the UH-60. By comparison, only 17 of these helicopters were procured in FY 2004, before the Comanche's cancellation.

CH-47: The Army is requesting $782 million in FY 2008 to purchase six new and 23 remanufactured CH-47F helicopters. The CH-47F is used to transport troops, ammunition, and other supplies in support of combat operations. Altogether, current plans call for procuring 513 aircraft, including 378 remanufactured CH-47Fs, 74 new-build CH-47Fs and 61 Special Operations MH-47Gs.

Interim Armored Vehicle (IAV): The "Stryker" IAV program represents a key element in the Army's transformation plans. The Stryker is intended to provide a relatively light and easily deployable combat vehicle to bridge the gap between today's lethal, but relatively heavy forces, and the more capable and deployable systems being developed under the FCS program—which is expected to lead to the fielding of new capabilities starting around 2015. The FY 2008 request includes $143 million for R&D and $1.039 billion in procurement funding to buy 127 Stryker vehicles.

Future Combat Systems: Through the FCS program, the Army plans to develop a family of 14 combat vehicles and other systems, including UAVs and sensors, with which to equip the

Army's "Future Force"—the Army projected for 2015 and beyond. This force is expected to be both more deployable than today's forces and more lethal and survivable than the interim forces presently being procured. The FY 2008 budget request includes $3.563 billion in R&D funding for the FCS program, plus $100 million in advance procurement funding. This program has experienced significant cost growth and schedule delays in recent years. With costs projected to reach some $161 billion or more,[62] and substantial technical obstacles yet to be overcome, this program is coming under increasing scrutiny from members of Congress and others.

M-1 Tank: The budget request provides $670 million to upgrade older M-1 Abrams tanks. Among other things, upgrades include improved frontal and side armor, a forward looking infrared sensor, and digitized communications.

MILITARY CONSTRUCTION AND FAMILY HOUSING

The administration is requesting $18.2 billion for military construction and $2.9 billion for family housing in DoD's FY 2008 base budget. The FY 2008 request for military construction marks a $10.8 billion increase from the level provided in FY 2007. It also represents the highest level of funding for military construction since the early 1950s. Under the administration's defense plan, military construction funding is projected to decline after FY 2008. Nevertheless, it would remain at historically high levels through FY 2013. In addition to the funding included in DoD's base budget, the administration's FY 2008 request includes $908 million for GWOT-related military construction.

The projected increases in military construction funding included in DoD's base budget are driven primarily by the 2005 base realignment and closure (BRAC) process. The previous BRAC rounds begun in 1988, 1991, 1993, and 1995 resulted in the closure of 97 major bases (equivalent to about 21 percent of DoD's domestic basing structure). The 2005 round identified 22 major bases for closure. Over the long term, base closures save money, but there are substantial upfront costs associated with the BRAC process related, among other things, to environmental cleanup and the need to reconstitute, at remaining bases, some capabilities existing at bases selected for closure. The FY 2008 request includes $8.4 billion to cover BRAC costs.

By contrast, the latest budget includes a decline of $852 million in funding for military family housing in FY 2008, and a more substantial reduction over the next five years. Under the new plan, DoD's family housing budget would fall to $1.8 billion (FY 2008 dollars) by FY 2013.

DEPARTMENT OF ENERGY DEFENSE (DOE) ACTIVITIES

The administration's FY 2008 request would provide $17.4 billion for atomic energy defense activities. This represents about a $339 million increase from FY 2007. The request includes $6.5 billion for weapons activities and $5.7 billion for defense environmental restoration, waste management and other activities. The request would also provide $1.673 billion for non-proliferation programs and $808 million to support naval nuclear reactor programs. About $9.4

[62] This level of funding would be sufficient to equip about one-third of the active Army with the FCS.

billion of DoE funding would come under the purview of the National Nuclear Security Administration, which was established in the FY 2000 defense authorization act, among other things, to improve management and security at DoE weapons labs.

III. CONCLUSION

The administration's FY 2008 defense budget request continues the buildup in funding for defense begun in the late 1990s and accelerated after the terrorist attacks of September 11, 2001. The request should be adequate to cover the FY 2008 costs of DoD's modernization plans, and peacetime manning and operations and support activities. In addition to requesting an FY 2007 supplemental appropriation to pay for military operations in Iraq and Afghanistan this year, for the first time, the administration has also requested funding to cover what it estimates will be the full cost of military operations in these countries in FY 2008.

Under the administration's plan, funding for defense, exclusive or war costs, is projected to continue to grow through FY 2009, and then decline slightly. However, by FY 2013 funding for defense (exclusive of war costs) would still be very high by historical standards—some 20 percent above average Cold War budget levels, and slightly above the average levels sustained even during the 1980s, the decade of the Reagan buildup.

However, even defense budgets of this magnitude are unlikely to prove sufficient to pay for DoD's long-term force structure, modernization and readiness plans. If history is any guide, operations and support costs and DoD's modernization plans are likely to prove substantially more costly to execute than assumed by the administration. Studies conducted by CBO, CSBA and others suggest that fully implementing DoD's plans, over the long-term, could require increasing annual funding for defense by some $65 billion or more beyond the levels called for in the administration's current plan.

On the other hand, sustaining even the level of funding increases projected for defense in the administration's latest budget will be difficult. The long-term federal budget picture has dramatically worsened over the past six years. In early 2001, CBO projected a 10-year surplus of about $5.6 trillion over the FY 2002-11 period. By contrast, CBO's baseline estimate now projects surpluses totaling only $586 billion over the next decade (FY 2008-17). Unfortunately, it is likely that the outlook will deteriorate still further in coming years. In its latest request, the administration has proposed changes in taxes and spending that, if enacted, would result in deficits totaling some $1.06 trillion over the FY 2008-17 period, And, making more realistic assumptions about future war costs and other factors, it is quite possible that deficits over this period will total $3-4 trillion. Moreover, the fiscal outlook is likely to deteriorate even more dramatically after the "baby boomer" generation begins retiring towards the end of the decade.

This means that in coming years pressure will grow for DoD to scale back its plans, including both major modernization efforts (e.g., the F-35, FCS and DDG 1000 programs) and force structure plans. There is good reason to believe that by adopting a scaled-back and more transformation-oriented defense plan the United States could avoid (or offset) much of the cost growth that is otherwise projected in DoD's plans, by CBO and others, and still adequately meet its security requirements. However, so long as a large US military presence is required in Iraq or it is deemed necessary to maintain the capability to conduct such large-scale stability operations in the future, it will be difficult or impossible to make reductions in some programs and activities—especially in Army and Marine Corps force structure.

Alternatively, a decision could be made to address the ballooning budget deficit solely through reductions in domestic and entitlement (e.g., Social Security and Medicare) spending, or tax increases, leaving current defense plans unaffected. But such a choice would be politically difficult and, based on history, seems unlikely. In any case, whatever path is selected, effectively addressing the growing cost of DoD's plans and the growing size of the federal deficit, will require making some very hard decisions. And the sooner those decisions are made the less painful they will be to carry out. Unfortunately, in its most recent defense budget submission, the Bush Administration appears to have kicked these hard decisions further down the road.

APPENDIX

Table 1
National Defense Budget Authority and Outlays
(in billions of current dollars)

	FY 80	FY 85	FY 90	FY 95	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07*	FY08**	FY 09^	FY 10	FY 11	FY 12
Budget Authority																			
DoD (051)	140.7	286.8	291.0	255.7	258.3	278.4	290.3	318.7	344.9	437.7	470.9	483.9	536.5	600.2	624.6	563.1	523.5	529.5	538.4
DoE & Other	3.2	7.9	10.3	10.7	12.8	13.9	13.7	16.2	17.1	18.3	19.6	21.9	23.4	22.2	22.5	21.7	21.7	22.1	22.2
National Defense (050)	143.9	294.7	303.3	266.4	271.0	292.3	304.0	334.9	362.0	456.0	490.6	505.8	559.8	622.4	647.2	584.8	545.2	551.6	560.7
annual real change	NA	NA	NA	NA	NA	*5.1%*	*1.5%*	*6.9%*	*5.4%*	*22.3%*	*4.2%*	*-0.2%*	6.7%	8.3%	1.4%	-11.9%	-9.0%	-1.2%	-0.8%

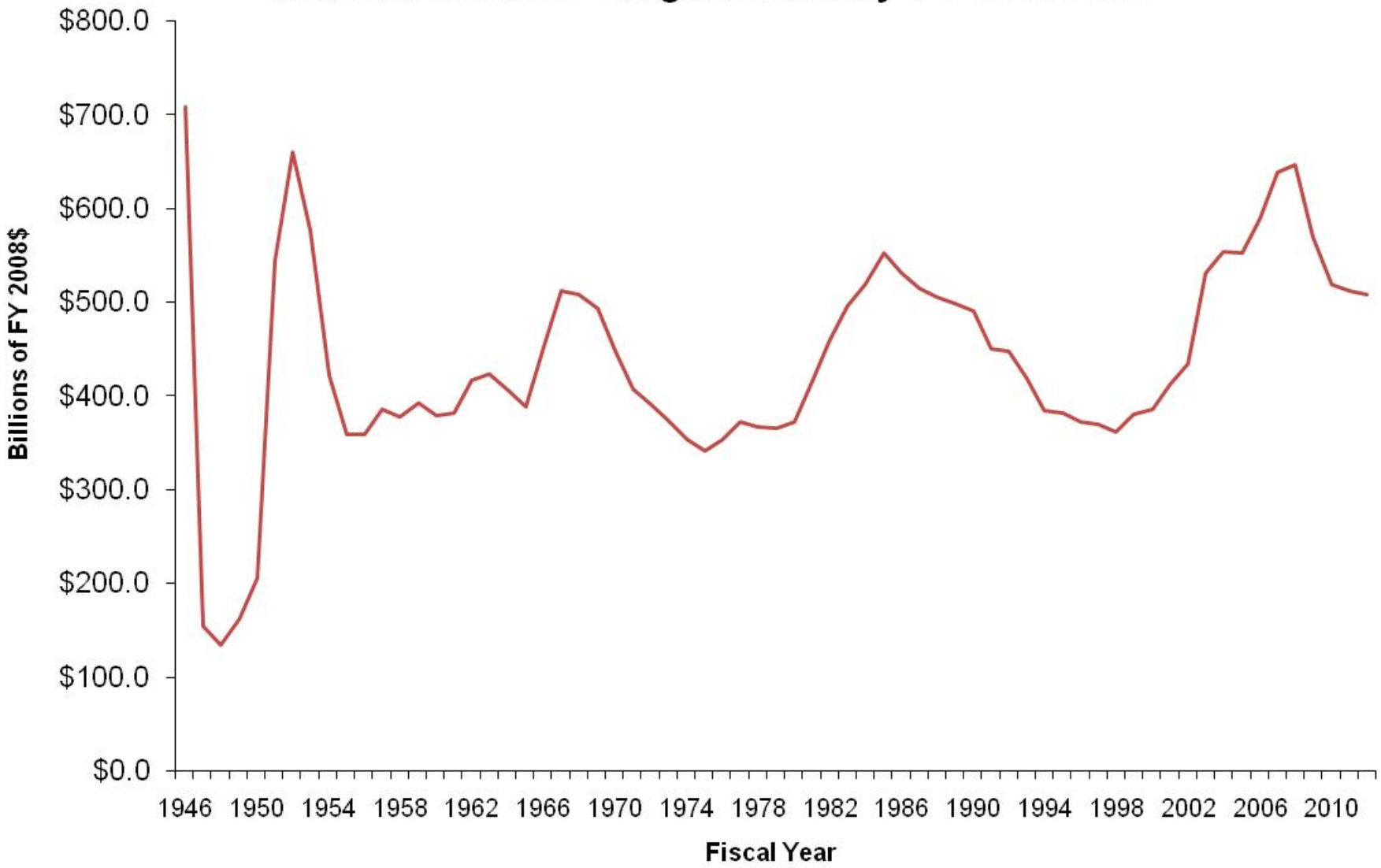
	FY 80	FY 85	FY 90	FY 95	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY08	FY 09	FY10	FY 11	FY10
Outlays																			
DoD (051)	130.9	245.1	289.7	259.4	255.8	261.2	281.1	290.2	331.9	387.2	436.5	474.1	499.3	548.9	583.3	579.0	543.0	534.4	527.4
DoE & Other	3.1	7.6	9.6	12.7	12.4	13.6	13.3	14.7	16.6	17.6	19.4	21.2	22.5	23.0	23.3	22.8	22.3	22.0	22.1
National Defense (050)	134.0	252.7	299.3	272.1	268.2	274.8	294.4	304.9	348.5	404.8	455.8	495.3	521.8	571.9	606.5	601.8	565.3	556.4	549.5
annual real change	NA	NA	NA	NA	NA	*0.5%*	*4.1%*	*0.4%*	11.4%	13.7%	9.2%	5.1%	1.3%	6.7%	3.3%	-3.3%	-8.4%	-4.0%	-3.6%

Source: CSBA, June 2007. Based on OMB, CBO and DoD data.
* Includes $93.4 billion supplemental appropriations request.
** Includes $141.7 billion request for GWOT operations.
^ Includes $50 billion projected for GWOT operations.

FY 2008 Dollars

Graph 1

National Defense Budget Authority FY 1946-2012



Source: CSBA, June 2007. Based on OMB, DoD and CBO data. Includes $93.4 billion supplemental request for FY 2007, $142.7 billion request for GWOT operations in FY 2008 and $50 billion projected for GWOT operations in FY 2009.

Table 2
National Defense (050) Budget Authority, FY 1946-FY 2012
(by fiscal year in billions of dollars)

	Current Dollars	*FY 2008 Dollars*	*% real change*		*Current Dollars*	*FY 2008 Dollars*	*% real change*
1946	44.0	708.7		1979	126.5	366.4	*(0.2%)*
1947	9.0	153.9	*(78.3%)*	1980	143.9	372.6	*1.7%*
1948	9.5	134.4	*(12.7%)*	1981	180.0	415.6	*11.5%*
1949	10.9	162.7	*21.1%*	1982	216.5	459.8	*10.6%*
1950	16.5	205.6	*26.4%*	1983	245.0	496.4	*8.0%*
1951	57.8	544.6	*164.9%*	1984	265.2	518.6	*4.5%*
1952	67.5	660.2	*21.2%*	1985	294.7	552.8	*6.6%*
1953	56.9	576.8	*(12.6%)*	1986	289.1	531.4	*(3.9%)*
1954	38.7	422.7	*(26.7%)*	1987	287.4	514.9	*(3.1%)*
1955	32.9	359.5	*(15.0%)*	1988	292.0	505.0	*(1.9%)*
1956	35.0	359.3	*(0.0%)*	1989	299.6	498.9	*(1.2%)*
1957	39.4	385.3	*7.2%*	1990	303.3	491.1	*(1.6%)*
1958	40.0	377.2	*(2.1%)*	1991	288.9	450.7	*(8.2%)*
1959	45.1	392.6	*4.1%*	1992	295.1	448.2	*(0.6%)*
1960	44.3	379.5	*(3.3%)*	1993	281.1	419.4	*(6.4%)*
1961	45.1	382.5	*0.8%*	1994	263.3	384.9	*(8.2%)*
1962	50.2	417.4	*9.1%*	1995	266.4	381.3	*(0.9%)*
1963	52.1	423.8	*1.5%*	1996	266.2	372.9	*(2.2%)*
1964	51.6	405.7	*(4.3%)*	1997	270.4	370.1	*(0.8%)*
1965	50.6	389.1	*(4.1%)*	1998	271.0	361.7	*(2.2%)*
1966	64.4	451.9	*16.1%*	1999	292.3	380.3	*5.1%*
1967	73.1	512.2	*13.3%*	2000	304.0	385.8	*1.5%*
1968	77.8	508.7	*(0.7%)*	2001	334.7	412.3	*6.9%*
1969	78.5	493.4	*(3.0%)*	2002	362.0	434.6	*5.4%*
1970	75.3	447.4	*(9.3%)*	2003	456.0	531.5	*22.3%*
1971	72.7	407.1	*(9.0%)*	2004	490.6	554.1	*4.2%*
1972	76.4	391.8	*(3.8%)*	2005	505.8	552.7	*(0.2%)*
1973	79.1	373.2	*(4.8%)*	2006	559.8	589.6	*6.7%*
1974	81.5	353.4	*(5.3%)*	2007*	622.4	638.4	*8.3%*
1975	86.2	341.9	*(3.3%)*	**2008****	**647.2**	**647.2**	***1.4%***
1976	97.3	353.2	*3.3%*	2009^	584.8	570.1	*(11.9%)*
1977	110.2	373.0	*5.6%*	2010	545.2	518.6	*(9.0%)*
1978	117.2	367.3	*(1.5%)*	2011	551.6	512.1	*(1.2%)*
				2012	560.7	507.9	*(0.8%)*

Source: CSBA, June 2007. Based on OMB and DoD data.
* Includes $93.4 billion supplemental appropriations request.
** Includes $141.7 billion request for GWOT operations.
^ Includes $50 billion projected for GWOT operations.

Table 3
National Defense (050) Outlays, FY 1946-FY 2012
(by fiscal year in billions of dollars)

	Current Dollars	*FY 2008 Dollars*	*% real change*		*Current Dollars*	*FY 2008 Dollars*	*% real change*
1946	42.7	587.0		1979	116.3	355.7	*3.2%*
1947	12.8	165.7	*(71.8%)*	1980	134.0	363.9	*2.3%*
1948	9.1	112.6	*(32.0%)*	1981	157.5	381.4	*4.8%*
1949	13.2	189.4	*68.2%*	1982	185.3	406.9	*6.7%*
1950	13.7	186.1	*(1.7%)*	1983	209.9	438.4	*7.7%*
1951	23.6	292.6	*57.2%*	1984	227.4	455.7	*4.0%*
1952	46.1	500.5	*71.1%*	1985	252.7	484.6	*6.3%*
1953	52.8	549.0	*9.7%*	1986	273.4	508.4	*4.9%*
1954	49.3	521.8	*(5.0%)*	1987	282.0	510.2	*0.4%*
1955	42.7	449.8	*(13.8%)*	1988	290.4	508.2	*(0.4%)*
1956	42.5	425.9	*(5.3%)*	1989	303.6	509.8	*0.3%*
1957	45.4	431.6	*1.3%*	1990	299.3	489.2	*(4.0%)*
1958	46.8	422.3	*(2.2%)*	1991	273.4	430.3	*(12.0%)*
1959	49.0	421.5	*(0.2%)*	1992	298.4	452.1	*5.1%*
1960	48.1	410.8	*(2.5%)*	1993	291.1	430.6	*(4.8%)*
1961	49.6	409.7	*(0.3%)*	1994	281.6	407.2	*(5.4%)*
1962	52.3	433.2	*5.7%*	1995	272.1	387.1	*(5.0%)*
1963	53.4	437.1	*0.9%*	1996	265.8	370.6	*(4.2%)*
1964	54.8	433.4	*(0.8%)*	1997	270.5	367.3	*(0.9%)*
1965	50.6	398.5	*(8.0%)*	1998	268.2	355.9	*(3.1%)*
1966	58.1	426.6	*7.1%*	1999	274.8	357.8	*0.5%*
1967	71.4	524.3	*22.9%*	2000	294.4	372.6	*4.1%*
1968	81.9	510.1	*(2.7%)*	2001	304.8	374.0	*0.4%*
1969	82.5	524.7	*2.9%*	2002	348.5	416.8	*11.4%*
1970	81.7	487.4	*(7.1%)*	2003	404.8	473.7	*13.7%*
1971	78.9	443.8	*(8.9%)*	2004	455.8	517.1	*9.2%*
1972	79.2	413.0	*(6.9%)*	2005	495.3	543.2	*5.1%*
1973	76.7	376.8	*(8.8%)*	2006	521.8	550.2	*1.3%*
1974	79.3	360.7	*(4.3%)*	2007*	571.9	586.9	*6.7%*
1975	86.5	353.8	*(1.9%)*	**2008****	**606.5**	**606.5**	***3.3%***
1976	89.6	343.2	*(3.0%)*	2009^	601.8	586.2	*(3.3%)*
1977	97.2	344.9	*0.5%*	2010	565.3	537.1	*(8.4%)*
1978	104.5	344.5	*(0.1%)*	2011	556.4	515.7	*(4.0%)*
				2012	549.5	496.9	*(3.6%)*

Source: CSBA, June 2007. Based on OMB and DoD data.

* Includes outlays from $93.4 billion supplemental appropriations request.

** Includes outlays from $141.7 billion appropriations request for GWOT operations.

^ Includes outlays from $50 billion appropriations projected for GWOT operations.

Table 4
Department of Defense (051) Budget Authority by Title
(in billions of dollars)

	FY 80 ~	FY85 ~	FY 90 ~	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY06	FY07*	FY08^	FY09^	FY10	FY11	FY12	FY13
Current Dollars																								
Personnel	41.1	67.8	78.9	76.0	71.4	71.6	69.8	70.3	69.8	70.6	73.8	76.9	87.0	109.1	116.1	121.3	128.5	118.7	118.9	127.0	130.4	135.5	140.5	145.2
O&M	46.4	77.8	88.4	89.1	88.6	93.7	93.6	92.3	97.2	104.9	108.7	125.2	133.2	178.3	189.8	179.2	213.5	191.6	165.3	174.4	180.6	184.6	189.7	196.0
Procurement	35.3	96.8	81.4	52.8	44.1	43.6	42.6	43.0	44.8	51.1	55.0	62.6	62.7	78.5	83.1	96.6	105.4	103.2	101.7	110.6	114.8	117.7	123.8	125.2
RDT&E	13.6	31.3	36.5	37.8	34.6	34.5	35.0	36.4	37.1	38.2	38.7	41.6	48.7	58.1	64.6	68.8	72.9	72.9	75.1	77.2	77.1	72.7	70.7	68.1
Military Construction	2.3	5.5	5.1	4.6	6.0	5.4	6.9	5.7	5.5	5.4	5.1	5.4	6.6	6.7	6.1	7.3	9.5	9.5	18.2	18.4	16.3	14.0	11.4	10.4
Family Housing	1.5	2.9	3.1	3.9	3.5	3.4	4.3	4.1	3.8	3.6	3.5	3.7	4.0	4.2	3.8	4.1	4.4	4.4	2.9	3.2	2.5	2.0	2.0	1.9
Other	0.5	4.7	-0.4	3.0	3.1	3.4	2.4	6.1	0.1	4.5	5.5	3.3	2.6	2.9	7.4	6.6	2.3	6.7	1.0	2.4	1.9	3.0	0.4	1.5
DoD	140.7	286.8	292.9	267.1	251.3	255.7	254.5	257.9	258.3	278.4	290.3	318.7	344.9	437.7	470.9	483.9	536.5	507.0	483.2	513.1	523.5	529.5	538.4	548.5

	FY 80 ~	FY85 ~	FY 90 ~	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13
FY 2007 Dollars																								
Personnel	131.7	145.3	145.6	124.3	113.9	111.4	106.3	104.0	99.2	97.4	97.2	98.0	104.9	127.1	130.9	132.3	135.8	118.7	118.9	123.1	122.6	123.5	124.2	124.5
O&M	115.7	154.0	149.8	138.7	134.2	138.7	135.3	130.6	133.2	140.3	142.6	157.9	164.8	212.6	218.5	199.2	225.4	191.6	165.3	169.9	171.7	171.3	171.8	173.2
Procurement	77.7	162.5	114.9	69.3	56.9	55.4	53.2	53.1	54.8	61.7	65.4	73.4	72.4	88.8	91.7	103.7	110.3	103.2	101.7	108.2	110.0	110.6	114.1	113.1
RDT&E	29.7	54.0	52.8	50.7	45.5	44.6	44.3	45.4	45.7	46.6	46.3	48.9	56.4	66.1	71.6	74.1	76.4	72.9	75.1	75.5	73.8	68.2	65.0	61.4
Military Construction	4.9	9.6	7.4	6.1	7.9	7.0	8.7	7.1	6.8	6.6	6.1	6.4	7.7	7.6	6.7	7.8	10.0	9.5	18.2	18.1	15.6	13.2	10.5	9.4
Family Housing	3.3	4.9	4.6	5.2	4.6	4.3	5.3	5.1	4.7	4.3	4.2	4.3	4.7	4.8	4.3	4.4	4.6	4.4	2.9	3.1	2.4	1.9	1.9	1.8
Other	1.2	7.8	-0.6	4.1	4.3	4.6	3.3	7.7	0.3	5.4	6.5	3.6	3.0	3.2	8.2	7.1	2.4	6.7	1.0	2.3	1.8	2.8	0.3	1.4
DoD	364.3	538.1	474.4	398.6	367.3	366.0	356.5	353.1	344.7	362.2	368.5	392.6	414.1	510.1	531.9	528.8	564.9	507.0	483.2	500.2	497.9	491.6	487.8	484.8

Source: CSBA, June 2007. Based on OMB, DoD and Other data.

* The FY 2007 figure includes $70 billion in GWOT funding included in the FY 2007 annual defense appropriations act, but excludes FY 2007 GWOT supplemental funding.
^ Figures for FY 2008 and beyond exclude all GWOT funding.

Table 5
FY 2008 Request for Selected Weapon Systems
(funding in millions of dollars)

	Qty	Proc	R&D	Total
Tactical Aircraft				
F-22A Fighter	20	3,861.3	743.6	4,604.9
F/A-18E/F Super Hornet	24	2,545.8	63.3	2,609.1
E/A-18G Super Hornet	18	1,318.8	272.7	1,591.5
F-35 Joint Strike Fighter (JSF)	12	2,653.9	3,488.3	6,142.2
Other Aircraft				
C-17 Cargo Aircraft		471.8	181.7	653.5
C-130	13	1,326.9	262.3	1,589.2
JPATS	83	551.0	0.0	551.0
E-2C Hawkeye		68.3	831.7	900.0
V-22 Osprey	26	2,454.4	134.7	2,589.1
KC-X		0.0	314.5	314.5
Ships				
Virginia Class Submarine	1	2,498.9	224.0	2,722.9
CVN-21 (carrier replacement prog.)		2,848.4	232.2	3,080.6
DDG 1000 Destroyer		2,953.5	503.4	3,456.9
Littoral Combat Ship (LCS)	3	990.8	217.5	1,208.3
LHA Replacement	1	1,135.9	34.5	1,170.4
LPD-17		1,398.9	4.3	1,403.2
LHA (R)		1,377.4	4.3	1,381.7
T-AKE Dry Cargo Ship	1	456.1	0.0	456.1
Missiles/Munitions				
AMRAAM	285	312.1	41.4	353.5
JDAM	4,962	146.4	0.0	146.4
JASSM	210	201.1	12.2	213.3
JAVELIN	385	103.8	0.0	103.8
JSOW	421	156.2	0.0	156.2
Small Diameter Bomb (SDB)	1,395	95.3	155.0	250.3
Tactical Tomahawk	394	383.1	11.4	394.5
Trident II	12	1,087.8	126.4	1,214.2
Helicopters				
AH-64D Longbow Apache		711.7	193.7	905.4
CH-47	29	770.8	11.2	782.0
Armed Recon. Helo.	37	468.3	82.3	550.6
Light Utility Helo.	44	230.5	0.0	230.5
MH-60R	27	997.5	78.2	1,075.7
MH-60S	18	503.5	44.0	547.5
UH-60 Blackhawk	42	705.4	87.9	793.3
Combat Vehicles				
Future Combat System		100.0	3,563.0	3,663.0
M1 Tank Upgrade Program	9	641.9	27.6	669.5
Stryker	127	1,039.0	142.5	1,181.5

Source: CSBA, May 2007. Based on DoD data.

Table 6
Department of Defense Budget by Service*
(budget authority in billions of dollars)

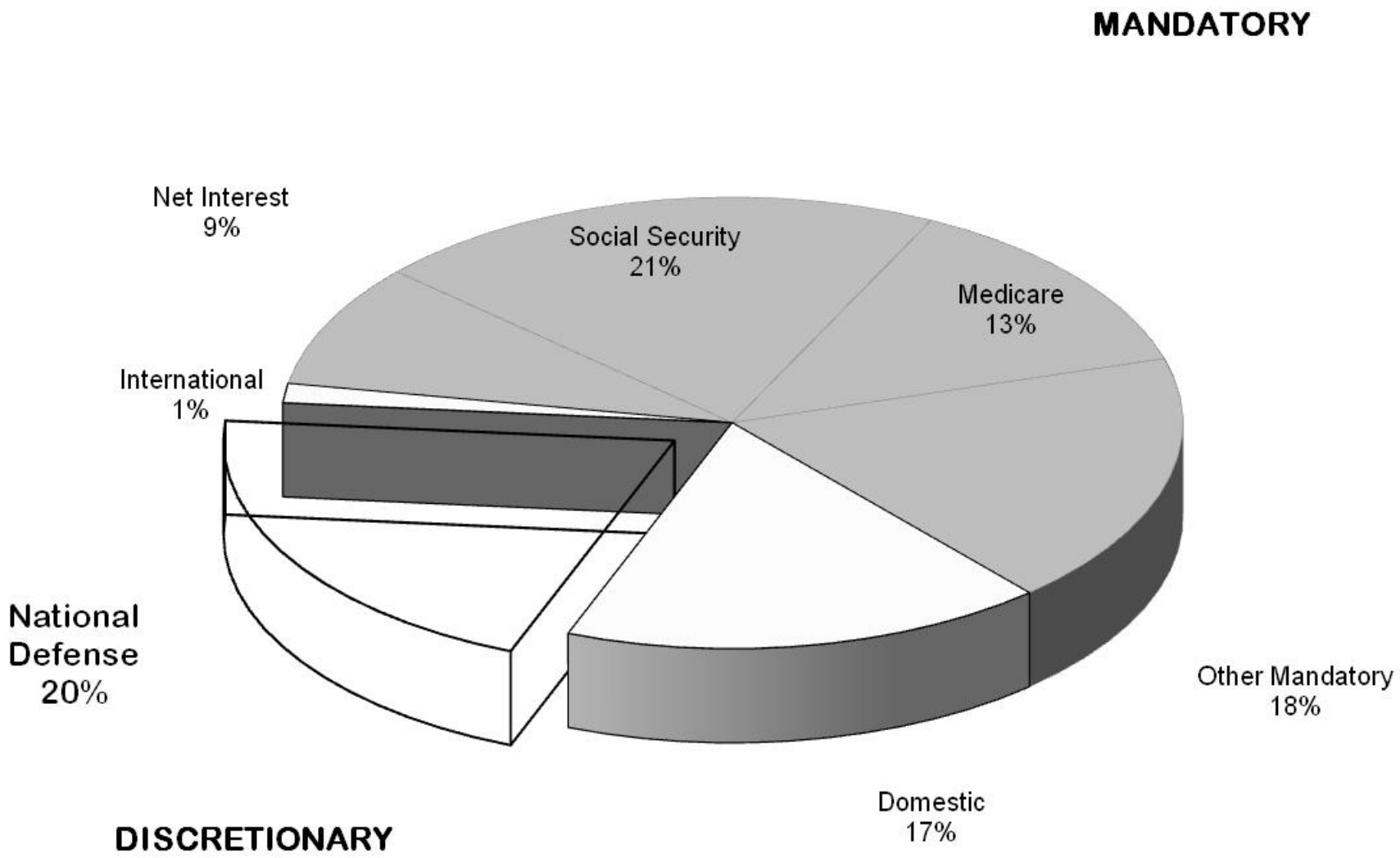
	1980 - 1985 -	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	**2008**	2009	2010	2011	2012	2013
Army																									
Current $	34.4 74.3	78.5	91.8	73.6	64.8	62.4	63.3	64.5	64.4	64.0	68.4	73.2	77.0	85.9	121.1	153.1	152.8	174.9	155.1	**128.4**	139.1	142.2	141.3	142.72	142.6
FY 2008$	89.0 139.3	127.1	143.3	111.8	96.7	91.2	90.6	90.4	88.2	85.5	89.0	92.8	94.9	103.1	141.2	172.9	167.0	184.2	155.1	**128.4**	135.6	135.3	131.1	129.3	126.0
% of total	*24% 26%*	*27%*	*29%*	*26%*	*24%*	*25%*	*25%*	*25%*	*25%*	*25%*	*25%*	*25%*	*25%*	*25%*	*28%*	*33%*	*32%*	*33%*	*31%*	***27%***	*27%*	*27%*	*27%*	*27%*	*26%*
Navy																									
Current $	47.2 99.0	100.0	103.5	90.3	83.2	78.1	76.9	80.1	79.6	80.7	84.0	88.8	95.5	102.4	124.1	124.3	131.7	143.8	136.7	**139.5**	147.4	152.6	155.8	158.1	160.2
FY 2008$	122.3 185.8	161.9	161.4	137.2	124.1	114.1	110.1	112.2	108.9	107.7	109.3	112.7	117.6	122.9	144.6	140.4	143.9	151.4	136.7	**139.5**	143.7	145.2	144.6	143.2	141.5
% of total	*34% 35%*	*34%*	*32%*	*31%*	*31%*	*31%*	*30%*	*31%*	*31%*	*31%*	*30%*	*31%*	*31%*	*30%*	*28%*	*26%*	*27%*	*27%*	*27%*	***29%***	*29%*	*29%*	*29%*	*29%*	*29%*
Air Force																									
Current $	41.7 99.4	92.9	91.3	82.3	79.1	74.6	73.9	73.0	73.2	76.3	81.9	83.1	89.5	100.2	125.2	125.5	127.9	141.7	134.1	**136.4**	142.6	144.4	147.5	150.2	152.2
FY 2008$	108.1 186.5	150.4	142.4	125.1	118.1	109.0	105.8	102.2	100.2	101.8	106.6	105.4	110.3	120.3	146.0	141.8	139.8	149.2	134.1	**136.4**	139.0	137.3	136.9	136.1	134.5
% of total	*30% 35%*	*32%*	*29%*	*29%*	*30%*	*30%*	*29%*	*29%*	*28%*	*30%*	*29%*	*29%*	*29%*	*29%*	*29%*	*27%*	*26%*	*26%*	*26%*	***28%***	*28%*	*28%*	*28%*	*28%*	*28%*
Defense-wide																									
Current $	17.3 14.1	21.7	32.8	40.8	40.0	36.3	41.6	36.9	40.8	37.6	44.3	45.52	47.9	57.1	67.4	68.1	71.5	76.1	81.1	**78.9**	83.9	84.3	85.0	87.4	93.6
FY 2008$	44.9 26.5	35.1	51.2	62.0	59.7	53.0	59.5	51.8	55.9	50.1	57.6	57.8	59.0	68.6	78.5	76.9	78.1	80.1	81.1	**78.9**	81.8	80.2	78.9	79.2	82.7
% of total	*12% 5%*	*7%*	*10%*	*14%*	*15%*	*14%*	*16%*	*15%*	*16%*	*15%*	*16%*	*16%*	*15%*	*17%*	*15%*	*14%*	*15%*	*14%*	*16%*	***16%***	*16%*	*16%*	*16%*	*16%*	*17%*

Source: CSBA, June 2007. Based on DoD data.

* FY 2007 figures exclude GWOT supplemental appropriations. Figures for FY 2008 and future years exclude all GWOT funding.

Graph 2

FY 2008 Federal Budget Request



Source: CSBA, June 2007, Based on OMB and CBO data.

Table 7
National Defense, Federal Spending and the Gross Domestic Product*
FY 1980-FY 2012
(outlays in billions of current dollars)

Fiscal Year	National Defense Outlays (050)	Federal Outlays	050 as % of Federal Outlays	GDP	050 as % of GDP
1980	134.0	590.9	22.7%	2,726.5	4.9%
1981	157.5	678.2	23.2%	3,054.7	5.2%
1982	185.3	745.7	24.8%	3,227.6	5.7%
1983	209.9	808.4	26.0%	3,440.7	6.1%
1984	227.4	851.9	26.7%	3,840.2	5.9%
1985	252.7	946.4	26.7%	4,141.5	6.1%
1986	273.4	990.4	27.6%	4,412.4	6.2%
1987	282.0	1,004.1	28.1%	4,647.1	6.1%
1988	290.4	1,064.5	27.3%	5,008.6	5.8%
1989	303.6	1,143.8	26.5%	5,400.5	5.6%
1990	299.3	1,253.1	23.9%	5,735.4	5.2%
1991	273.3	1,324.3	20.6%	5,935.1	4.6%
1992	298.4	1,381.6	21.6%	6,239.9	4.8%
1993	291.1	1,409.5	20.7%	6,575.5	4.4%
1994	281.6	1,461.9	19.3%	6,961.3	4.0%
1995	272.1	1,515.8	17.9%	7,325.8	3.7%
1996	265.8	1,560.5	17.0%	7,694.1	3.5%
1997	270.5	1,601.2	16.9%	8,182.4	3.3%
1998	268.5	1,652.6	16.2%	8,627.9	3.1%
1999	274.8	1,701.9	16.1%	9,125.3	3.0%
2000	294.4	1,789.2	16.5%	9,709.8	3.0%
2001	304.8	1,863.2	16.4%	10,058.0	3.0%
2002	348.5	2,011.2	17.3%	10,377.0	3.4%
2003	404.8	2,160.1	18.7%	10,809.0	3.7%
2004	455.8	2,293.0	19.9%	11,518.0	4.0%
2005	495.3	2,472.2	20.0%	12,266.0	4.0%
2006	521.8	2,655.4	19.7%	13,061.0	4.0%
2007*	571.9	2,784.3	20.5%	13,761.0	4.2%
2008**	606.5	2,901.9	20.9%	14,515.0	4.2%
2009***	601.8	2,985.5	20.2%	15,306.0	3.9%
2010	565.3	3,049.1	18.5%	16,112.0	3.5%
2011	556.4	3,157.3	17.6%	16,938.0	3.3%
2012	549.5	3,246.3	16.9%	17,786.0	3.1%

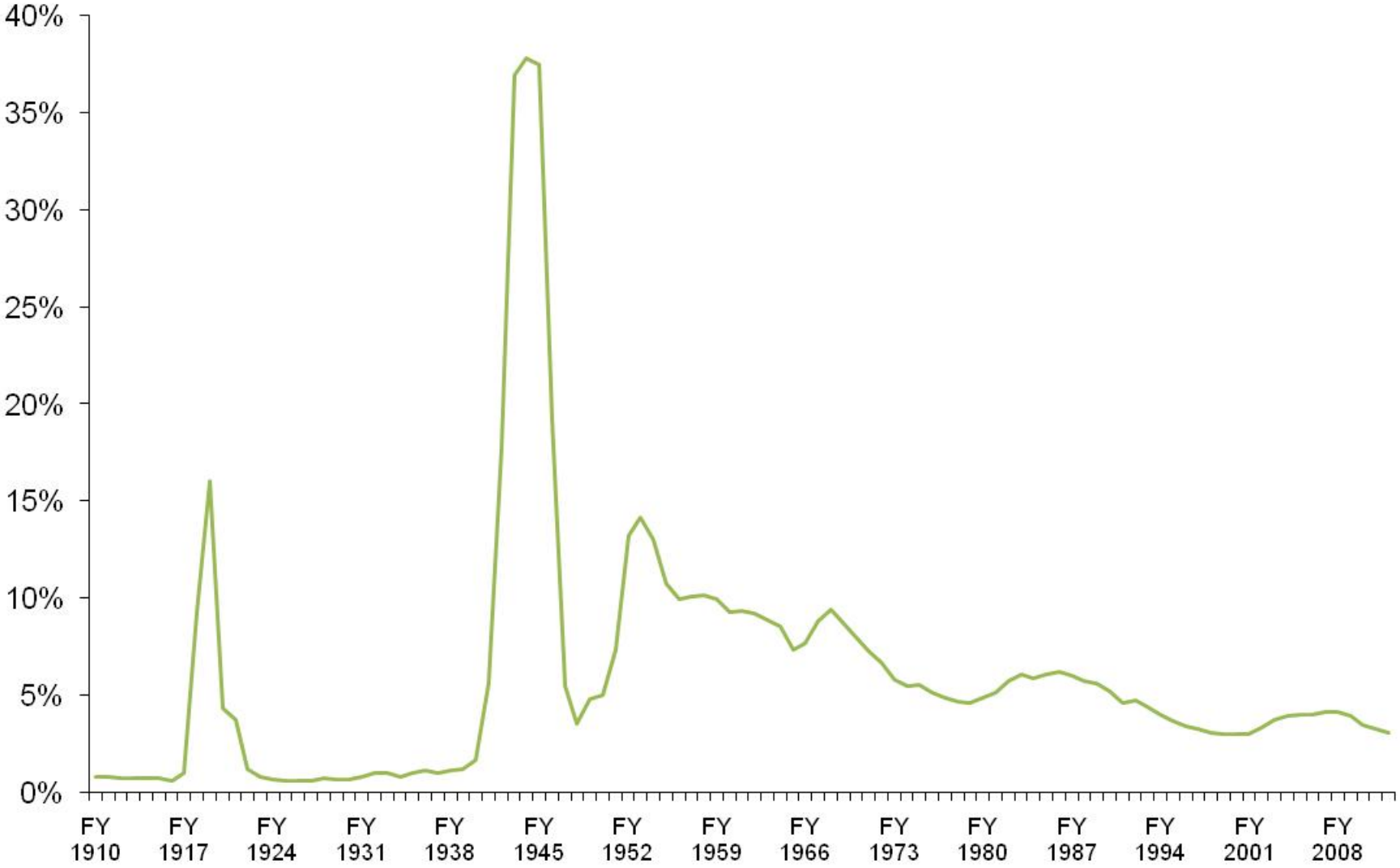
Source: CSBA, June 2007. Based on OMB and DoD data.

* Includes outlays from $93.4 billion supplemental appropriations request.

** Includes outlays from $141.7 billion appropriations request for GWOT operations.

*** Includes outlays from $50 billion appropriations projected for GWOT operations.

Graph 3
National Defense Outlays as a Share of GDP



Source: CSBA, June 2007.