

An hourglass-shaped graphic with a globe inside. The top bulb is dark blue, and the bottom bulb is light blue. The globe is centered in the narrow neck of the hourglass. The top bulb is filled with a dark blue color, and the bottom bulb is filled with a light blue color. The globe is centered in the narrow neck of the hourglass.

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Report RL32877

*Defense Budget: Long-Term Challenges for FY2006 and
Beyond*

Stepen Daggett, Foreign Affairs, Defense, and Trade Division

April 20, 2005

Abstract. This report reviews long-term trends in the defense budget and discusses the challenges Congress and the Defense Department may face in trying to adjust plans in the face of fiscal constraints.

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Defense Budget: Long-Term Challenges for FY2006 and Beyond

April 20, 2005

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Defense Budget: Long-Term Challenges for FY2006 and Beyond

Summary

Over the next few months, Congress will be considering Administration requests for more than half a trillion dollars for national defense, including money in the regular defense budget for Fiscal Year 2006 (FY2006), supplemental appropriations for costs of ongoing military operations in FY2005, and, possibly, additional funds in FY2006 to provide a “bridge” until future supplemental appropriations for operations in Iraq and Afghanistan are available.

The Administration’s defense budget plans face some potentially daunting, though by no means unprecedented, long-term challenges, including:

- Will projected budget deficits constrain the Administration’s long-term defense budget plans?
- Should Congress try to restrain further increases in military personnel pay and benefits, as some Administration officials have argued, in view of dramatic increases in personnel costs in recent years?
- What are the implications of continuing, perennial increases in defense operation and maintenance costs for the affordability of the Administration’s plan?
- How affordable is the Administration’s long-term plan for modernizing military forces in light of substantial and continuing cost growth in many systems?
- How might recent widely discussed changes in defense strategy affect priorities within the defense budget?

This report reviews long-term trends in the defense budget and discusses the challenges Congress and the Defense Department may face in trying to adjust plans in the face of fiscal constraints. It will be updated periodically to reflect congressional action and new information.

Contents

Will Budget Deficits Constrain Long-Term Defense Budget Plans?	2
Should Further Increases in Military Pay and Benefits be Restrained?	6
Will Increasing Operation and Maintenance Costs Compete with Weapons Modernization?	9
Bow Waves, Train Wrecks, and Ship Wrecks: Are Long-Term Weapons Plans Affordable?	11
What Are the Implications of Changes in Military Strategy for Budget Priorities?	15

List of Figures

Figure 1. National Defense Budget Authority and Outlays, FY1950-FY2010	3
Figure 2. National Defense Outlays Percentage of GDP, FY1950-FY2010	3
Figure 3. Federal Outlays by Major Category, Percentage of GDP, FY1962-FY2010	4
Figure 4. DOD Budget Authority by Title, FY1976-FY2006	6
Figure 5. Military Personnel Budget Authority per Active Duty Troop Indexed to FY1972	7
Figure 6. Operation and Maintenance Budget Authority per Active Duty Troop FY1955-FY2010	9

List of Tables

Table 1. Real Growth/Decline in National Defense Budget Authority and Outlays, FY2004-FY2010*	2
Table 2. Alternative Federal Deficit Projections, FY2005-FY2015	6
Table 3. Changes in Defense Funding by Title, FY2000-FY2006	10
Table 4. Allocation of Changes in Defense Funding by Title, FY2000-FY2006	11

Defense Budget: Long-Term Challenges for FY2006 and Beyond

Over the next few months, Congress will be considering Administration requests for more than half a trillion dollars for national defense, including money in the regular defense budget for Fiscal Year 2006 (FY2006), supplemental appropriations for costs of ongoing military operations in FY2005, and, possibly, additional funds in FY2006 to provide a “bridge” until future supplemental appropriations for operations in Iraq and Afghanistan are available. These are the details:

- On February 7, the Administration formally released its budget request for FY2006, the fiscal year that runs from October 1, 2005, to September 30, 2006. The request includes \$442 billion for national defense, of which \$421 billion is for the Department of Defense, \$17 billion for Department of Energy nuclear weapons programs, and \$3 billion for defense-related programs of other agencies. This does not include any projected funding for operations in Iraq, Afghanistan, or elsewhere in FY2006 or beyond.¹
- Subsequently, on February 14, the Administration submitted a request for supplemental appropriations of \$82 billion for FY2005, of which \$75 billion is to cover costs of military operations through the remainder of the fiscal year, which ends on September 30, 2005. The other \$7 billion is for non-defense programs, mostly reconstruction assistance to Iraq and Afghanistan run by the State Department, plus about \$1 billion for Tsunami relief activities.²
- It is also possible that Congress will provide additional money to cover costs of operations in Iraq and Afghanistan in the first few months of FY2006. Last summer, Congress provided a down payment of \$25 billion for military operations in FY2005 as a bridge between the start of the fiscal year and the time it would take to provide supplemental funding.

¹ Details of the Administration request are available from the Department of Defense at [<http://www.dod.mil/comptroller/defbudget/fy2006/index.html>].

² The overall Administration request is available from the Office of Management and Budget at [http://www.whitehouse.gov/omb/budget/amendments/supplemental_2_14_05.pdf]. Additional information on the Department of Defense portion of the request is available at [http://www.dod.mil/comptroller/defbudget/fy2006/fy2005_supp.pdf]. For a review of congressional action, see CRS Report RL32783, *FY2005 Supplemental Appropriations for Iraq and Afghanistan, Tsunami Relief, and Other Activities*, by Amy Belasco and Larry Nowels, at [<http://www.congress.gov/erp/rl/html/RL32783.html>].

The Administration's defense budget plans face some potentially daunting, though not unprecedented, long-term policy challenges, including:

- Will projected budget deficits constrain the Administration's long-term defense budget plans?
- Should Congress try to restrain further increases in military personnel pay and benefits, as some Administration officials have argued, in view of dramatic increases in personnel costs in recent years?
- What are the implications of continuing, perennial increases in defense operation and maintenance costs for the affordability of the Administration's plan?
- How affordable is the Administration's long-term plan for modernizing military forces, particularly in view of recent decisions to slow or terminate some major weapons programs and in light of continuing cost growth in many systems?
- How might recent widely discussed changes in defense strategy affect priorities within the defense budget?

Will Budget Deficits Constrain Long-Term Defense Budget Plans?

Leaving aside supplemental appropriations to cover war costs, the FY2006 Department of Defense budget is about 4.5% above the regular, FY2005 non-war budget, or about 2% higher after adjusting for inflation. Projections show a similar, modest rate of growth over the next five years (see **Table 1**).

Table 1. Real Growth/Decline in National Defense Budget Authority and Outlays, FY2004-FY2010*
(current and constant FY2006 dollars in billions)

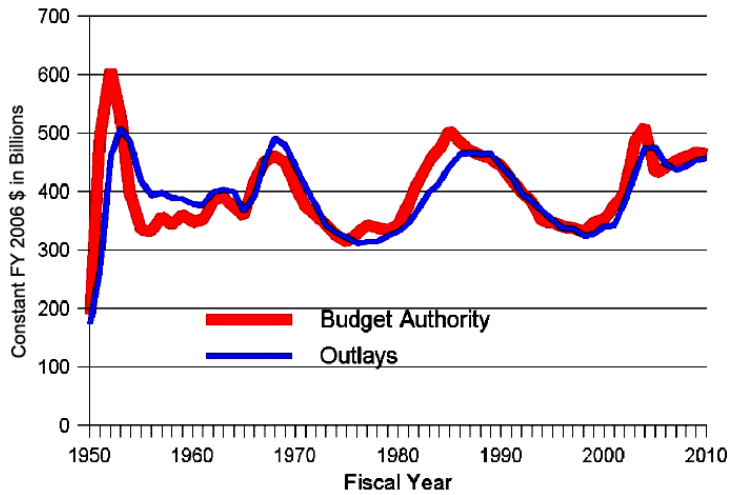
	Actual FY04	Est. FY05	Proj. FY06	Proj. FY07	Proj. FY08	Proj. FY09	Proj. FY10
National Defense Budget Function							
Budget Authority							
Current year dollars	490.6	423.6	441.8	465.4	483.9	503.8	513.9
Constant FY2006 dollars	516.8	433.5	441.8	454.3	461.0	468.1	465.4
Real growth/decline	4.6%	-16.1%	1.9%	2.8%	1.5%	1.5%	-0.6%
Outlays							
Current year dollars	455.9	465.9	447.4	448.9	466.1	487.7	504.8
Constant FY2006 dollars	480.1	476.5	447.4	438.1	443.9	453.0	457.2
Real growth/decline	9.4%	-0.7%	-6.1%	-2.1%	1.3%	2.1%	0.9%

Source: Congressional Research Service from Office of Management and Budget data.

* Administration projections. Figures for FY2005 and beyond do not include additional supplemental appropriations for Iraq and Afghanistan, while the FY2004 figures includes such funds.

This relatively modest pace comes after several years of substantially higher growth. Between FY2000, the last budget controlled wholly by the Clinton Administration, and FY2006, the regular, “non-war” DOD budget has grown by about 45% in nominal terms or about 22% after inflation. The increases of the last few years have boosted defense spending, excluding funding for

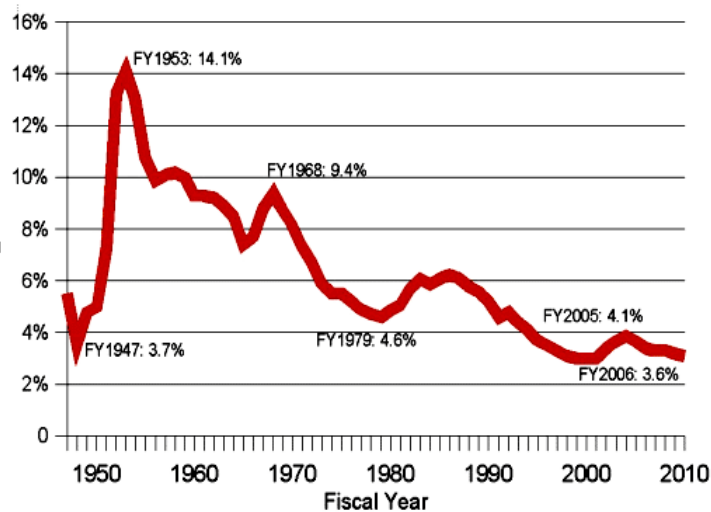
Figure 1. National Defense Budget Authority and Outlays, FY1950-FY2010



Iraq and Afghanistan, to a level above the peacetime average during the Cold War and about equal to the peaks of the Vietnam War and the buildup of the 1980s. **Figure 1** shows the trend in national defense funding, adjusted for inflation, since FY1950.

Even with the recent increases, however, defense spending as a share of the economy has continued to decline over time. **Figure 2** shows national defense outlays as a share of GDP since FY1950. In more recent years, the decline reflects, in part, real reductions in the defense budget between FY1986 and FY1998. For the most part, however, the trend is due simply to

Figure 2. National Defense Outlays Percentage of GDP, FY1950-FY2010



continuing growth in the U.S. economy that progressively reduced the economic burden of maintaining the Cold War and post-Cold War military establishment.

Some defense advocates argue that the nation can easily afford substantially greater defense spending, since it sustained a measurably larger burden in the past. The issue is not only a matter of economics, however, but also of evolving Federal budget pressures and priorities. As **Figure 3** shows, overall Federal spending has remained fairly steady at about 20% of GDP for the past 40 years. Within the budget, mandatory programs, mainly entitlement programs like Social Security, Medicare, and Medicaid, plus interest on the debt have grown substantially, both as a share of

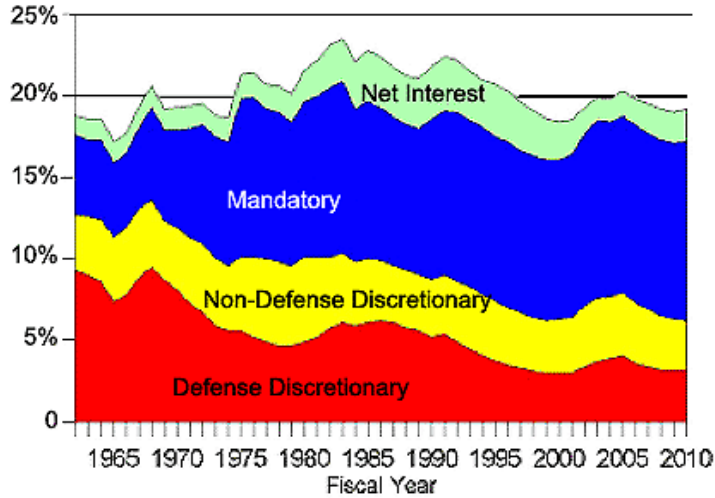
the budget and as a share of the economy. Meanwhile, non-defense discretionary spending has remained quite stable as a share of GDP, while the decline in the defense share of the budget has offset the increase in mandatory spending. To increase defense spending substantially as a share of GDP, therefore, would require either increasing total Federal spending above historical norms or imposing offsetting cuts in other parts of the budget.

Increased spending would require either higher taxes or greater borrowing. Growth in mandatory budget accounts may put even more pressure on other parts of the budget — including defense — after 2010, as members of the “baby boom” generation reach retirement age.

Moreover, defense spending may be constrained, for the foreseeable future as it has been in the past, by pressures to reduce the Federal budget deficit. For most of the past 25 years, congressional debate about both defense and non-defense Federal spending has been dominated by apparently intractable budget deficits. In November 1985, in an effort to cope with budget deficits that reached a peak of 6% of GDP in FY1983, Congress passed the Gramm-Rudman-Hollings deficit control act, P.L. 99-177. The Gramm-Rudman-Hollings law set annual targets for reducing the deficit to zero in five years and imposed automatic cuts in spending if congressional action fell short, with 50% of the cuts in defense and 50% in non-defense expenditures. Congress amended the law in 1987, 1990, 1993, and 1997, each time pushing out the date for balancing the budget.³

In each of the 13 years from FY1986 through FY1998, defense spending declined in inflation-adjusted dollars. Initially driven by deficit concerns, the decline in defense spending continued with the end of the Cold War and the subsequent reduction of almost one-third in the size of the force. Throughout the period, pressures to reduce the deficit remained a major factor shaping the debate over defense spending. The defense budget began to turn up again in FY1999, once the budget situation began to ease, and increases accelerated during the first four years of the Bush Administration.

Figure 3. Federal Outlays by Major Category, Percentage of GDP, FY1962-FY2010



³ The 1997 deficit control measures expired after FY2002. In 2002, Congress did not extend automatic deficit reduction measures, and limits on spending are now established only in annual congressional budget resolutions.

For a few years, projected budget surpluses fostered an atmosphere of budgetary abundance that propelled tax cuts, increased spending on defense, and more money for domestic priorities like transportation and, even after surpluses had disappeared, Medicare prescription drug coverage. That interlude was very brief, however. Now the Bush Administration has announced its intention to reduce the budget deficit by one-half between FY2004 and FY2009. And in Congress, a sober, late-1980s-style tone of fiscal abstinence has returned. Last year, proposals to reduce defense spending were, for the first time in many years, on the congressional agenda. Though the Senate rejected a Budget Committee recommendation to pare \$7 billion from the Administration's defense plan, the final, regular FY2005 defense appropriations bills were about \$2 billion below the request. More recently, in December 2004, in the final stages of preparing the FY2006 budget request, the White House Office of Management and Budget directed the Defense Department to trim \$30 billion from the six-year FY2006-FY2011 program.

If the past is a guide, current plans to reduce budget deficits may prove more difficult to implement than official projections anticipate. As the Congressional Budget Office and others have pointed out, Administration estimates do not take into account additional war costs, the effects of extending tax cuts after FY2009, or the costs of indexing or repealing the Alternative Minimum Tax. The Administration plan also assumes cuts in spending that have not yet been identified or enacted, and it includes no contingency for potential costs of changes in Social Security. **Table 2**, based on CBO projections, shows alternative baseline deficit trends under various assumptions.⁴ If deficits remain stubbornly difficult to control, as they have proven to be in the past, then it may be too optimistic to expect defense budgets to grow at even the moderate pace the Administration is now projecting.

⁴ For a similar analysis and a discussion see CRS Report RS22045, *Baseline Budget Projections Under Alternative Assumptions*, by Gregg Esenwein and Marc Labonte.

Table 2. Alternative Federal Deficit Projections, FY2005-FY2015
(outlays in billions of current year dollars)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CBO baseline deficit, March 2005	-365	-298	-268	-246	-219	-201	-95	57	69	99	122
Include war costs after FY2004*	-30	-73	-82	-76	-59	-47	-44	-48	-51	-54	-57
Extend tax cuts*	0	-5	-17	-32	-49	-53	-207	-324	-355	-388	-424
Index AMT to inflation*	0	-12	-35	-44	-56	-69	-62	-42	-50	-60	-70
AMT/tax extension interaction**	0	-1	-2	-5	-7	-8	-30	-47	-52	-57	-62
Adjusted baseline	-395	-389	-404	-403	-390	-378	-438	-404	-439	-460	-491
Increase discretionary with GDP*	0	-15	-41	-71	-103	-135	-168	-201	-234	-269	-306
Baseline with discretionary growth	-395	-404	-445	-474	-493	-513	-606	-605	-673	-729	-797

Source: Congressional Budget Office, *The Economic and Budget Outlook: Fiscal Years 2006 to 2015*, January 2005, Table 1-3, with revised March 2005 baseline from Congressional Budget Office, *CBO's Current Budget Projections*, March 2005, online at [http://www.cbo.gov/showdoc.cfm?index=1944&sequence=0].

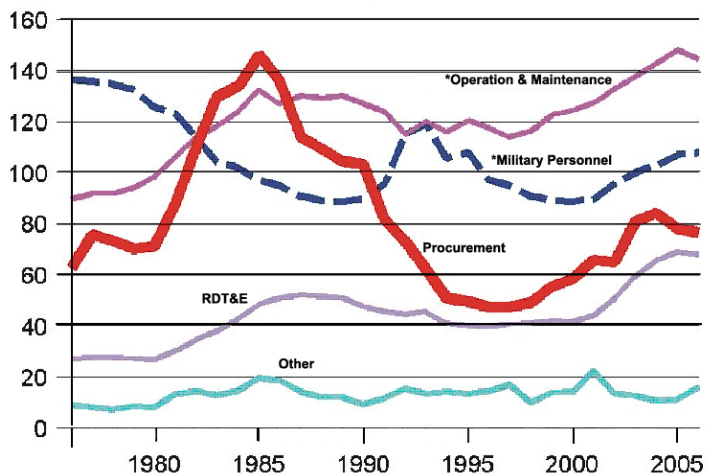
* All figures include interest costs resulting from increased borrowing. Additional war cost outlays in FY2005 are amounts resulting if the pending FY2005 \$76 billion supplemental appropriations request is enacted.

** AMT/tax extension interaction estimated by CRS as a proportion of the cost of tax extensions.

Should Further Increases in Military Pay and Benefits be Restrained?

Within the defense budget, when budgets are declining or growing only slowly, there are necessary trade-offs between, on the one hand, costs of paying personnel and operating the force and, on the other hand, investments in modernizing the force by developing and procuring new weapons. As a rule, the most variable part of the budget has been the amount spent to procure new weapons. **Figure 4** illustrates the point. Funding for weapons procurement has varied dramatically, climbing rapidly when overall budgets were growing but also plunging disproportionately when budgets declined.

Figure 4. DOD Budget Authority by Title, FY1976-FY2006



In contrast, Military Personnel and Operation and Maintenance costs have been considerably more stable, though there are some noteworthy trends. Military

Personnel funding fell in the 1990s, as the size of the force declined following the end of the Cold War, but then began to climb. Operation and Maintenance costs leveled off for several years after the mid-1980s, again as the size of the force declined, but then also began to climb.

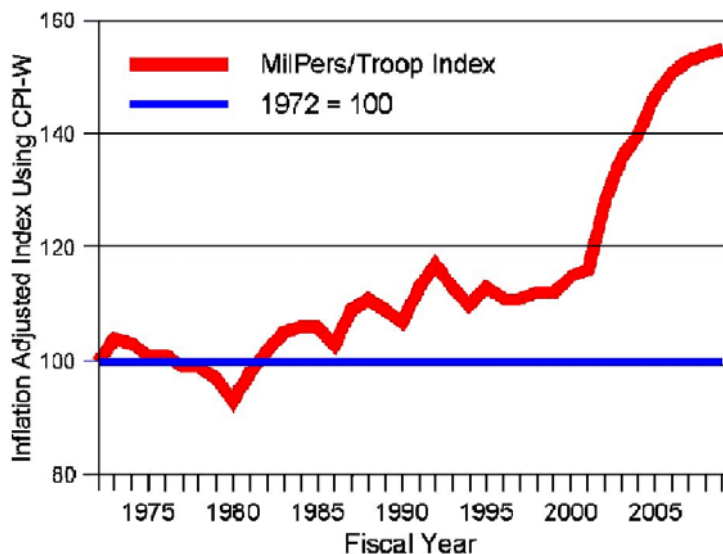
The leap in military personnel costs between FY2000 and FY2005 is particularly dramatic. Beginning with the FY2000 defense authorization bill, Congress approved substantial pay and benefits increases, partly with Administration concurrence and partly over its objections. The increases include

- six years of pay raises of ½ percent above the “Employment Cost Index,” an economy-wide measure of wage costs,
- three rounds of “pay table reform” that gave much larger pay raises in middle grades to improve retention of skilled personnel,
- a multi-year plan to eliminate differences in on-base and off-base housing costs,
- approval of a phased-in plan to allow military retirees with a veteran’s disability rating of 50% or greater to receive both retired pay and veteran’s administration disability benefits,
- a program known as “TRICARE for Life” under which 65 and older military retirees will have access to DOD provided health care in addition to Medicare,
- repeal of the 1986 “Redux” retirement program which gave lower pensions to those recruited after that time, and
- repeal of a measure that lowered benefits to survivors of military retirees once they qualified for Social Security benefits at age 62.

Taken together, as **Figure 5** illustrates, these changes have driven up active duty personnel costs by more than 30%, after adjusting for inflation, since 1999. The rate of increase in personnel costs may slow over the next few years, though starting from a higher base than just a few years ago, provided Congress does not authorize additional major increases in personnel benefits. But that proviso has become a matter of some

controversy. In January, David Chu, the Under Secretary of Defense for Personnel and Readiness, argued against further boosts in benefits for military retirees, saying “The amounts have gotten to the point where they are hurtful. They are taking away

Figure 5. Military Personnel Budget Authority per Active Duty Troop Indexed to FY1972



from the nation's ability to defend itself.”⁵ That judgment provoked some harsh recriminations from veterans organizations and some Members of Congress.⁶

The problem for defense planners is that many of the recent, large benefit increases, such as TRICARE for Life, concurrent receipt of VA disability benefits and retired pay, Redux repeal, and increased survivor benefits, do not necessarily promote recruitment and retention of high quality military personnel. They are, however, costly for the Defense Department, which is required to contribute the actuarially determined cost of future benefits for current personnel into the military retirement fund in order to capture the full costs of personnel.⁷ From the Pentagon's point of view, if recruitment and retention falter, it would be much cheaper to expand enlistment and reenlistment bonuses. As Under Secretary Chu commented, “I'd like to believe 19-year-olds paid attention to their annuity package, [but] [n]ineteen-year-olds want cash to buy a pickup truck.”⁸ For veterans groups and for many legislators, however, the question has been whether military retirees and their survivors are being treated equitably in view of their contributions to the nation, and Congress has approved benefit increases for reasons quite apart from their effects on recruitment and retention.

<http://wikileaks.org/wiki/CRS-RL32877>

⁵ Gregg Jaffe, “As Benefits For Veterans Climb, Military Spending Feels Squeeze,” *Wall Street Journal*, January 25, 2005, p. 1, quoting Undersecretary of Defense David Chu.

⁶ See, for example, Rick Maze, “Hurtful Benefits Comment Draws Wrath from Hill,” *Army Times*, January 26, 2005 and Joseph L. Galloway, “U.S. Must Keep Promises to Veterans,” *Miami Herald*, February 13, 2005.

⁷ The principle is known as “accrual accounting,” which holds that agencies should pay the total costs of hiring personnel, including the costs of future retirement benefits, out of current budgets. Benefits to retirees are then paid from the retirement fund rather than by the agency. Accrual accounting was first applied to uniformed military personnel in 1985.

⁸ Gregg Jaffe, “As Benefits For Veterans Climb, Military Spending Feels Squeeze,” *Wall Street Journal*, January 25, 2005.

Will Increasing Operation and Maintenance Costs Compete with Weapons Modernization?

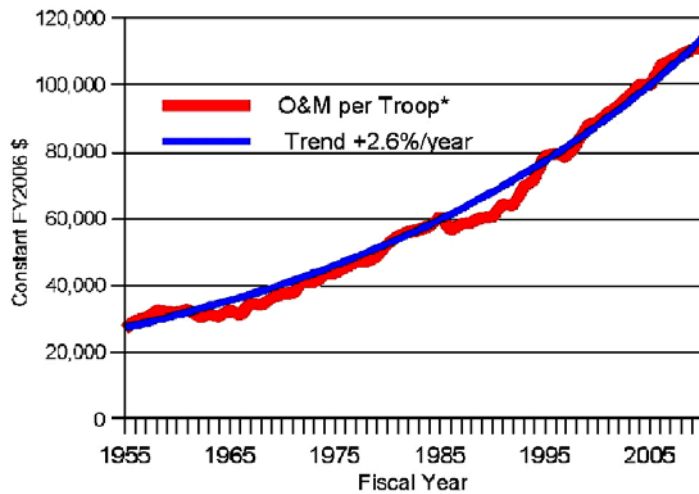
The growth of Operation and Maintenance spending is a longstanding phenomenon. As

Figure 6 illustrates, O&M funding per troop has increased at an average annual rate of 2.6% above inflation ever since the end of the Korean War. Many things explain the trend: (1) the steadily growing cost of operating and maintaining new generations of more capable and sophisticated weapons; (2) efforts to improve the extent and

quality of military training; (3) efforts to ensure that the quality of life in the military keeps up with the quality of life in the civilian sector as the military has shifted to an all volunteer, older, more commonly married, and more skilled force; (4) the growth in health care costs for military personnel and their dependents; (5) requirements that the Defense Department, like other Federal agencies and private organizations, reduce pollution and clean up earlier contamination; and (6) modest but steady real growth in the compensation of DOD civilian personnel, most of whom are paid with O&M funds. The cost of maintaining aging equipment in recent years does not appear to be a major factor.⁹

The growth in Military Personnel costs after 1999, together with ongoing increases in Operation and Maintenance costs, account for the largest share of the fairly substantial increases in military spending in the first years of the Bush Administration. As **Table 3** shows, under the Administration plan, the overall Department of Defense for FY2006, not including war costs, is about 45% greater than the FY2000 budget. It is about 22% higher after adjusting for inflation. Much of the increase, however, has gone, not to buy or develop new weapons, but simply to pay the cost of paying the troops and operating the force.

Figure 6. Operation and Maintenance Budget Authority per Active Duty Troop FY1955-FY2010



*Excluding Supplementals

⁹ Congressional Budget Office, *The Effects of Aging on the Costs of Operating and Maintaining Military Equipment*, August 2001.

Table 3. Changes in Defense Funding by Title, FY2000-FY2006
(current year dollars in billions)

	Actual FY2000	Request FY2006	Change	Percent change
Military Personnel	73.8	111.3	+37.4	+50.7%
Operation & Maintenance	108.8	148.4	+39.7	+36.5%
Procurement	55.0	78.0	+23.1	+42.0%
RDT&E	38.7	69.4	+30.6	+79.2%
Military Construction	5.1	7.8	+2.7	+52.9%
Family Housing	3.5	4.2	+0.7	+19.7%
Other	5.6	1.9	-3.6	-65.0%
Subtotal, DOD	290.5	421.1	+130.6	+45.0%
Atomic Energy Defense Activities	12.4	17.5	+5.1	+40.6%
Other Defense-Related Activities	1.2	3.2	+2.0	+167.7%
Total, National Defense	304.1	441.8	+137.7	+45.3%

Source: Congressional Research Service calculations based on data from the Department of Defense and the Office of Management and Budget.

Specifically, **Table 3** compares the FY2006 request with the FY2000 budget, broken down by titles of the annual defense appropriations bill. Of the \$131 billion difference in the DOD portion of the budget, \$77 billion, almost 60%, is in the “Military Personnel” and “Operation and Maintenance” accounts (see **Table 4**). In effect, this is the cost of maintaining the current force, without significantly increasing the pace of weapons modernization.

The remaining 40% of the increase has still permitted substantial increases in weapons procurement and, particularly, in research and development, in which the growth rate, though from a smaller starting point, far outstripped any other category of the defense budget. In the future, however, assuming that defense spending levels off as the Administration is projecting, increases in personnel and operating accounts may leave relatively little room for new initiatives in weapons acquisition. Trade-offs between major weapons programs may become more contentious. Increased funding for Army programs, for example, may come only at the expense of funding for Navy and Air Force programs. In addition, cost growth in major programs will drain funds for other priorities. An environment in which a growing budget allows new priorities to be funded without cutting something else is very different from one in which any new initiative may be seen as a threat to established programs — and it may be less fertile ground for innovation.

Table 4. Allocation of Changes in Defense Funding by Title, FY2000-FY2006

(budget authority, current year dollars in billions)

	Amount of increase (\$)	Percentage of total increase
Total Increase in DOD Budget	+130.6	—
Increase for Military Personnel + O&M	+77.1	59.0%
Increase for Procurement + RDT&E	+53.7	41.1%

Source: Congressional Research Service calculations based on data from the Department of Defense and the Office of Management and Budget.

Bow Waves, Train Wrecks, and Ship Wrecks: Are Long-Term Weapons Plans Affordable?

A perennial issue in defense policy is whether future weapons acquisition budgets will be large enough to finance all of the programs that are in the pipeline. There are a couple of variations on the theme.

One issue is whether a “bow wave” of acquisition costs will become unsustainable at some point in the future. The term “bow wave” technically refers to the normal funding profile of a major program: funding is small in the early stages of development, climbs during engineering development, peaks during full rate procurement, and then declines again as production winds down. When several weapons programs appear likely to grow in concert, then a large collective “bow wave” may appear to be looming in the future.

A second issue is whether projected weapons procurement budgets are large enough to replace aging weapons as they reach the ends of their nominal service lives. A 1999 report by the Center for Strategic and International Studies (CSIS), entitled *The Coming Defense Train Wreck*, argued that projected procurement budgets would fall as much as 50% a year short of the amount needed to maintain a modernized force.¹⁰ That study evoked considerable controversy. Very different estimates of the amounts needed to finance the weapons inventory would result from minor changes in assumed rates of cost growth from one generation of weapons to the next, in assumptions about possible extensions of nominal service lives with upgrades, and in assumptions about whether some elements of the force (such as strategic nuclear weapons) need to be updated at all.¹¹

Since 1999, the Congressional Budget Office has done a series of closely related studies of what it calls a “steady state” procurement rate (i.e., the rate at which

¹⁰ Daniel Goure and Jeffrey M. Ranney, *Averting the Defense Train Wreck in the New Millennium*, (Washington: Center for Strategic and International Studies, 1999).

¹¹ See Steven Kosiak, *CSIS ‘Train Wreck’ Is OffTrack Backgrounder*, Washington: Center for Strategic and Budgetary Assessments, March 28, 2000.

weapons would have to be replaced to maintain a modernized force of a given size) and also of the cumulative cost of the Pentagon's actual weapons plans.¹² These assessments have been much less alarmist than the CSIS "train wreck" scenario. CBO's initial "steady state" studies found a shortfall, but not of the magnitude CSIS projected. CBO's most recent affordability studies, however, have warned against a potentially substantial "cost risk" if program costs grow above what the services have been projecting.

Now it appears that the future "cost risk" that CBO warned against is becoming an imminent threat. Cost growth in major weapons programs has become so endemic and so severe that it may be producing, if not a train wreck, then, perhaps, a ship wreck. A key issue in Congress this year is "Whatever happened to the shipbuilding budget?" The Navy's FY2006 shipbuilding plan calls for constructing just four new ships, two fewer than the Navy planned for the FY2006 budget last year, and far short of the 8-9 ships per year that the Navy has said are needed to preserve the current size of the fleet in the long term.¹³

Navy plans have also been revised to procure fewer ships over the following five years. A Defense Department budget decision in December 2004, called "Program Budget Decision 753" or PBD-753, reduced the planned procurement rate of DD(X) destroyers from two per year to one, cut planned submarine production from three boats every two years to one per year, eliminated funds for an amphibious ship from the FY2008 plan, and delayed by one year planned funding for a new aircraft carrier.

Navy officials have said that cost growth in Navy shipbuilding is at the root of the problem. In testimony before the Senate Armed Services Committee on February 10, 2005, the outgoing Chief of Naval Operations, Admiral Vernon Clark, said that costs of the major types of ships had grown by as much as 400% beyond inflation over the past thirty years, that greater capabilities explain only part of the increase, that so few ships are being built that overhead costs are spread too narrowly, and that the Navy cannot afford more than 250 ships in the long run unless costs are brought under control.¹⁴ In his prepared statement for the hearing, Admiral Clark said:

¹² The most recent reports are Congressional Budget Office, *The Long-Term Implications of Current Defense Plans: Detailed Update for Fiscal Year 2005*, September 2004, and Congressional Budget Office, *The Long-Term Implications of Current Defense Plans: Summary Update for Fiscal Year 2005*, September 2004.

¹³ The math is straightforward. Assuming an average service life of 35 years for each ship, a Navy of 300 ships requires building $300 \div 35 = 8.6$ ships per year on average. Recently the Navy responded to a congressionally mandated requirement that it provide an estimate of long-term ship building requirements with a report that showed two alternatives, one with 260 ships in 2035 and one with 325 ships. See Department of the Navy, "An Interim Report to Congress on Annual Long-Range Plan for the Construction of Naval Vessels for FY2006," March 2005.

¹⁴ Scott Nance, "Clark Calls for Reform in Shipbuilding Practice," *Defense Today*, February 11, 2005. For an overview of recent cost growth in Navy shipbuilding, see Government Accountability Office, *Defense Acquisitions: Actions Can Be Taken to Reduce Cost Growth* (continued...)

Among the greatest risks we face is the spiraling cost of procurement for modern military systems, and shipbuilding is no exception. When adjusted for inflation, for example, the real cost increase in every class of ship that we have bought since I was an Ensign, United States Navy, has been truly incredible. It becomes more so when taken in comparison to other capital goods like automobiles, where the inflation-adjusted cost growth has been relatively flat over the same period of time. Shipbuilding cost increases have grown beyond our ability to control as compared to decades prior. As we seek greater combat capability and greater operational efficiencies through upgraded power, propulsion, and computing technologies, we find a ratio of cost growth beyond our seeming control, which may not be fully explainable solely by reduced economies of scale.¹⁵

In recent years, the pace of growth in shipbuilding costs has not abated. For the past several years, the Navy has requested additional appropriations to cover cost growth in ships already under construction. In the FY2006 budget, the Navy is requesting \$394.5 million for “Completion of Prior Year Shipbuilding Programs,” and the Navy’s long-term program includes and additional \$449.8 million in FY2007 and \$502.5 million for cost growth. Moreover, the Navy is now beginning to reestimate future shipbuilding costs in light of recent experience. The President of Northrop Gumman’s Newport News shipbuilding division recently acknowledged that the CVN-21, the next-generation carrier, will likely cost more \$13 billion, compared to last year’s estimate of \$11.7 billion.¹⁶ And Navy officials are beginning to increase estimates of DD(X) destroyer costs substantially. As recently as 2003, the Navy estimated costs of \$1.5-1.8 billion per ship after the initial design models of the ship were built, but more recently has said \$2.2-2.6 billion. Now it appears the cost of later ships in the production run could exceed \$3 billion each.¹⁷

PBD-753 made cuts in a number of other major acquisition programs as well, notably, terminating F/A-22 fighter production after FY2008, terminating C-130J cargo aircraft production after FY2006, cutting \$5 billion over the six year FY2006-FY2011 period from missile defense, and trimming funds for a number of satellite programs.

The fate of the F/A-22 may be an object lesson. Originally, as the aircraft was being developed in the late 1980s, the Air Force planned to buy 750 aircraft as replacements for 1970s-era F-15s. When the Defense Department formally decided to begin engineering development in 1990, the program timeline was delayed by two years and the plan was for 648 aircraft. The Clinton Administration’s 1993 Bottom-Up Review of post-Cold War requirements reduced the planned total to 442 aircraft,

¹⁴ (...continued)
in Navy Shipbuilding Programs, GAO-05-183, February 28.

¹⁵ See Statement of Admiral Vernon Clark, USN, Chief of Naval Operations, Before the Senate Armed Services Committee, 10 February 2005, pp. 20-21, available online at [<http://armed-services.senate.gov/statemnt/2005/February/Clark%2002-10-05.pdf>].

¹⁶ Dave Ahearn, “Northrop Aide Urges Splitting Ships Funding; Killing Subs Yard Costly,” *Defense Today*, March 10, 2005.

¹⁷ See CRS Report RL32109, *Navy DD(X), CG(X), and LCS Ship Acquisition Programs: Oversight Issues and Options for Congress*, by Ronald O’Rourke.

enough for four deployable wings of 72 aircraft each, with spare aircraft for training, maintenance, and replacement reserves.

Subsequently, projected program costs grew, procurement plans were delayed and trimmed further, Congress imposed a ceiling on total production costs, costs grew yet again, and the planned total production run was further reduced. By 2004, the total planned procurement was reduced to 279 aircraft, about one-third of the original plan, to fit within the cost cap, though the Air Force still wanted more than 330 to equip three deployable wings. The initial Air Force development estimates in 1990 projected a total program unit cost of \$93 million per aircraft in FY1990 prices, or about \$140 million in FY2006 prices. In the end, the spiral of cost increases, production cuts, and further unit cost increases had pushed the price up to over \$300 million per aircraft in FY2006 dollars. Now the Defense Department, against the wishes of the Air Force, has decided to halt production after building about 180 airplanes.¹⁸

Cost growth has also been severe in many other programs, including,

- Air Force/Navy/Marine Corps F-35 Joint Strike Fighter: Official DOD estimates of JSF costs, provided to Congress in quarterly Selected Acquisition Reports, grew by \$45 billion, from \$199.7 billion in the September 30, 2003 estimates, to \$244.8 billion in the December 31, 2003 estimates, in current year dollars, not adjusted for inflation, a 23% increase.
- Space launch systems: Over the same period projected Air Force Evolved Expendable Launch Vehicle (EELV) program costs grew by \$11.6 billion, from \$20.8 billion to \$32.3 billion, a 56% increase.
- Space-Based Infrared System-High (SBIRS-High), Space Tracking and Surveillance System (STSS) (formerly called the Spaced-Based Infrared System-Low (SBIRS-Low)), and Airborne Laser (ABL) programs: The SBIRS-High, an Air Force-run program to develop a new missile launch detection and tracking satellite that would be tied into a national missile defense, has more than doubled in cost since 1995 to over \$8 billion, including a \$2 billion estimate increase in 2001, and it still appears to be experiencing delays and cost growth. Last year, the Air Force confirmed reports that the cost would grow by another \$1 billion and that satellite launches would be delayed another two years. There have been similar, though less severe delays and cost growth in the Missile Defense Agency-run STSS program to develop a low-earth-orbit missile tracking satellite, though costs are now classified. And the Air Force-run, Missile

¹⁸ See CRS Report RL31673, *F/A-22 Raptor*, by Christopher Bolcom, available online at [<http://www.congress.gov/erp/rl/html/RL31673.html>]. For initial and current cost estimates, see Department of Defense, "Selected Acquisition Report Summary Tables," as of September 30, 2004, available online at [<http://www.acq.osd.mil/ara/am/sar/2004-Sept-SST.pdf>].

Defense Agency-funded Airborne Laser program has been delayed and has suffered enough cost growth that the Air Force has decided to use available R&D funds for one rather than two aircraft.

- The Army Future Combat System (FCS): The FCS program remains at a very early stage of development, with several differing design alternatives still under consideration. Until last year, production was planned to begin in 2008 with an initial operational capability in 2010. In an April 2004 report, GAO found that 3/4 of the necessary technologies for the system were immature when the program started and that prototypes would not be available for testing until shortly before production was planned.¹⁹ Subsequently, the Army announced a major restructuring of the program which will delay major components for at least two years and increase total program costs by \$25 to \$30 billion.²⁰ A year ago, estimated procurement costs (not including R&D) were estimated at \$92 billion. Recently, Army officials said that procurement could total as much as \$145 billion, not including \$25 billion for an associated communications system.²¹

Taken together, constraints on future amounts of funding for procurement and for R&D, plus widespread, substantial cost growth in major weapons programs,²² draw into question the viability of long-term service weapons acquisition plans. The program cuts imposed in PBD-753 in December may very well turn out to be only the first in a number of fairly substantial changes needed to keep acquisition costs within bounds.

What Are the Implications of Changes in Military Strategy for Budget Priorities?

A final long-term question is how changes in the international environment — and in U.S. perceptions of it — will affect defense budget priorities. Currently, the Defense Department is engaged in a congressionally-mandated “Quadrennial Defense Review” (QDR), which is required to be completed no later than February 2006, but which may well be reported before then. This QDR is the fifth such reassessment of U.S. defense policy in the post-Cold War era — the others were the “Base Force”

¹⁹ U.S. Government Accountability Office, *Defense Acquisitions: The Army’s Future Combat Systems’ Features, Risks, and Alternatives*, GAO-04-635T, April 1, 2004.

²⁰ Jonathan Karp and Greg Jaffe, “Army Plans To Postpone Modernization Program: Boeing-Led Development Of Technology Will Require At Least Two More Years,” *Wall Street Journal*, July 14, 2004.

²¹ See Tim Weiner, “An Army Program To Build A High-Tech Force Hits Cost Snags,” *New York Times*, March 28, 2005, p. 1.

²² For a similar assessment, see Government Accountability Office, *Defense Acquisitions: Assessments of Selected Major Weapons Programs*, GAO-05-301, March 31, 2005, available online at [<http://www.gao.gov/cgi-bin/getrpt?GAO-05-301>].

analysis of 1990, the Clinton Administration's "Bottom-Up Review" of 1993, and two previous QDRs in 1997 and 2001.

While the 2001 QDR was released after the terrorist attacks of September 11, 2001 — specifically on September 30 — it was prepared very early in the Bush Administration, and it did not reflect the full weight of developments in the post-9/11 period. Significantly, it also preceded the Bush Administration's first statement of the "National Security Strategy of the United States," which the White House issued in September 2002,²³ and which, among other things, called for the United States to act preemptively to prevent potentially unacceptable threats to U.S. security from arising. And, of course, it preceded the wars in Afghanistan and Iraq.

So the 2005-2006 QDR will be the first to reflect fully the lessons the Defense Department has drawn from its post-9/11 experiences. And it will be the first to reflect, as well, the full imprint of changes in Pentagon organization and procedures that have been instituted under Secretary of Defense Donald Rumsfeld.

Perhaps the key issue in the QDR is to what extent Defense Department priorities may be reshaped in view of new assessments of long term challenges to U.S. security. Over the past year-and-a-half or so, senior defense officials have laid out what they call a new "strategic framework" that identifies "four challenges" to U.S. security.²⁴ Priorities among the four challenges in turn, are based on the likelihood that threats will appear and on the perceived vulnerability of the United States to such dangers.

- "Traditional" challenges from regional competitors like Iraq under Saddam are seen as unlikely and U.S. forces are seen as fully capable of coping with them, so vulnerability is low.
- "Irregular" challenges of unconventional warfare are highly likely, but the vulnerability of the U.S. homeland is seen as low.

²³ The White House, *National Security Strategy of the United States of America* (Washington, September 2002). Available online at [<http://www.whitehouse.gov/nsc/nss.pdf>].

²⁴ The "four challenges" framework was first briefly mentioned publicly in March 2004 in a congressionally mandated report on base closures, entitled, "Report Required by Section 2912 of the Defense Base Closure and Realignment Act of 1990, as Amended through the National Defense Authorization Act for Fiscal Year 2003" (March 2004), available online at [http://www.defenselink.mil/brac/docs/04_0_body032403.pdf]. The framework was later discussed in May 2004 in Joint Chiefs of Staff, *The National Military Strategy of the United States of America* (May 2004), available online at [http://www.oft.osd.mil/library/library_files/document_377_National%20Military%20Strategy%2013%20May%2004.pdf]. The fullest discussion is in a briefing for the Department of Defense "Senior Level Review Group," entitled "A Framework for Strategic Thinking," (August 2004), not released publicly by the Defense Department and restricted as "For Official Use Only," but available online at [<http://www.fas.org/irp/agency/dod/framework.pdf>]. The briefing was first discussed in Thomas E. Ricks, "Shift from Traditional War Seen at Pentagon," *Washington Post*, September 3, 2004, p. 1.

- “Disruptive” threats from a future global peer or near-peer competitor that would attack U.S. military advantages — through, for example, attacks on satellites or cyberwarfare — are seen as unlikely, but vulnerability is seen as high.
- And “catastrophic” threats from states or non-state actors with weapons of mass destruction are seen as likely and U.S. vulnerability as high.

It is possible to read into this list of priorities some far-reaching implications for future U.S. defense programs. The F/A-22 and the Navy ships that the Pentagon cut from its plan in December, 2004, for example, might well be classified as forces for traditional challenges. An obvious question, then, is whether the reductions imposed by PBD-753 are harbingers of deeper contractions in major programs yet to come. For their part, Navy officials have said that they are redesigning forces to be more relevant to future challenges, so conflict in the littorals (i.e., in coastal areas) and the concept of sea-basing of forces to project power ashore are being emphasized.²⁵ Army officials, similarly, have cast the current wholesale reorganization of the Army as an attempt to make the Army more deployable in order cope with irregular threats that, in DOD’s view, are highly likely.²⁶ It remains to be seen, however, how disruptive and catastrophic challenges will be reflected in future budget trade-offs.

Meanwhile, in Congress and elsewhere, China’s potential to pose a military challenge to the United States has become a matter of increasing discussion, particularly since China passed an anti-secession law threatening military action if Taiwan declares independence.²⁷ Recent assessments from the Defense Department²⁸ and the intelligence community²⁹ have stressed Chinese investments in military capabilities, including air and naval forces, that might challenge U.S. naval predominance in East Asia.³⁰ A potential future threat from China may be cited as a rationale for more and more substantial shares of U.S. defense budgets

²⁵ John T. Bennett, “Clark: QDR Likely Will Endorse Shift in How Navy Designs New Ships,” *Inside the Pentagon*, January 13, 2005.

²⁶ Jen DiMascio, “Chief Cites Modularity, Balancing and Stabilizing Force as Focal Points,” *Inside the Army*, January 17, 2005.

²⁷ See, for example, Jim Yardley and Thom Shanker, “Chinese Navy Buildup Gives Pentagon New Worries,” *New York Times*, April 8, 2005

²⁸ Department of Defense, *Chinese Military Power*, May 2004, available online at [<http://www.defenselink.mil/pubs/d20040528PRC.pdf>].

²⁹ National Intelligence Council, *Mapping the Global Future*, December 2004, available online at [http://www.cia.gov/nic/NIC_globaltrend2020.html].

³⁰ For an independent assessment, see Harold Brown, Joseph W. Prueher, and Adam Segal, *Chinese Military Power*, Council on Foreign Relations Independent Task Force Report, May, 2003, available online at [http://www.cfr.org/pdf/China_TF.pdf].