



Congressional Budget Office

Testimony

**Statement of
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The 2009 Future Years Defense Program: Implications and Alternatives

**before the
Committee on the Budget
U.S. House of Representatives**

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Mr. Chairman, Congressman Ryan, and Members of the Committee, I appreciate the opportunity to appear before you today to discuss the long-term implications of the Department of Defense's (DoD's) plans. My testimony describes the Congressional Budget Office's (CBO's) most recent projections (in this case, through 2026) for the implications of the 2009 Future Years Defense Program (FYDP), which specifically addresses fiscal years 2009 through 2013.¹ The 2009 FYDP, transmitted in April 2008, reflects changes to the department's programs and priorities since February 2007. The 2009 FYDP and CBO's projections of its long-term implications exclude potential future supplemental or emergency appropriations; CBO's projections include additional appropriations that have already been enacted.² CBO's projections exclude program changes announced by the Bush Administration after it released the 2009 FYDP and any changes proposed by the Obama Administration so far.

Overall, the budgetary implications of DoD's current plans are similar to those described in CBO's previous projections: Carrying out plans proposed in the FYDP would require sustaining annual defense funding over the long term at higher real (inflation-adjusted) levels than those that occurred at the peak of the buildup in the mid-1980s. Four factors in particular account for the projected high level of defense spending under the FYDP:

- Plans to purchase more new military equipment over the next several years and then to sustain that rate of procurement over the longer term;
- Plans, as part of military transformation, to develop and eventually produce weapon systems that provide new capabilities—systems whose estimated costs are also increasing;
- Plans to increase the size of military forces and the growing costs of pay and benefits for DoD's military and civilian personnel; and
- Plans to meet the rising costs of operation and maintenance (O&M) for aging equipment as well as for newer, more complex equipment.

1. The first Congressional Budget Office report on this topic, *The Long-Term Implications of Current Defense Plans*, appeared in January 2003. Every year since then, CBO has published summary and detailed updates (in briefing format); all are available online at www.cbo.gov. *Long-Term Implications of the Fiscal Year 2009 Future Years Defense Program*, released in January 2009, is CBO's most recent report in the series. The FYDP is a database that comprises a historical record of defense forces and funding as well as DoD's plans for future programs. The historical portion of the FYDP shows costs, forces, and personnel levels since 1962. The plan portion presents DoD's program budgets (estimates of funding needed for the next five or six years, based on the department's current plans for all of its programs).

2. For 2008, four separate laws provided supplemental or emergency funding, most but not all for purposes related to the wars in Iraq and Afghanistan. The first three, Public Laws 110-92, 110-116, and 110-161, added \$87 billion in 2008 dollars (\$88 billion in constant 2009 dollars) to DoD's budget and were passed in time to be included in the 2009 FYDP. The fourth, P.L. 110-252, added \$100 billion in 2008 dollars (\$102 billion in constant 2009 dollars) to DoD's budget in 2008 and \$66 billion to DoD's budget in 2009. P.L. 110-252 was enacted after publication of the FYDP. Of the total of \$187 billion in 2008 dollars (\$190 billion in constant 2009 dollars) in additional funds for DoD in 2008, \$180 billion in 2008 dollars (\$183 billion in constant 2009 dollars) was for military operations in Iraq and Afghanistan and other war-related activities, and \$7 billion (in both 2008 and constant 2009 dollars) was for non-war-related activities.

In CBO's projection, defense resources average about \$549 billion annually (in constant 2009 dollars) from 2014 to 2026, or about 6 percent more than the \$517 billion in total obligational authority (TOA) requested by the Bush Administration and the \$515 billion in TOA provided by the Congress for 2009 (see Figure 1 on page 11 and Table 1 on page 23).^{3, 4}

Consideration of potential unbudgeted costs has the effect of increasing the projection of long-term demand for defense funding to an annual average of about \$652 billion through 2026, or 26 percent more than the funding provided for 2009 (and the Bush Administration's 2009 request).

CBO's analysis of unbudgeted costs included several possibilities: that the costs of weapon systems now under development would exceed early estimates, as they have in the past; that medical costs might rise more rapidly than DoD has assumed; and that DoD would continue to conduct military operations overseas as part of the war on terrorism (also called contingency operations), albeit at reduced levels relative to current operations in Iraq and Afghanistan.⁵

Costs for operations in Iraq, Afghanistan, and for other purposes related to the war on terrorism have been rising. In 2007, appropriations for those activities totaled \$170 billion in 2007 dollars (\$176 billion in constant 2009 dollars), or 28 percent of total funding for the Department of Defense. In 2008, the appropriations rose to \$187 billion in 2008 dollars (\$190 billion in constant 2009 dollars), or 28 percent of defense funding that year. (In both years, some of the supplemental and emergency funding was for purposes unrelated to military operations overseas: in 2007, \$5 billion; in 2008, \$7 billion.)

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3. All FYDP funding is calculated as TOA, and the bulk of that funding is annual appropriations sought by DoD. Another common measure of defense resources is budget authority, which is the authority provided by the Congress to incur financial obligations. Both budget authority and TOA reflect annual appropriations; however, unlike TOA, budget authority also includes the effects of certain receipts, permanent spending in certain trust funds and other accounts, and certain payments to the military retirement fund. In most years covered by the FYDP's plans for the future, the difference between total obligational authority and budget authority in subfunction 051 of the federal budget (which funds DoD) is about \$2 billion or less.
 4. A regular appropriations act for DoD for fiscal year 2009 has already become law (P.L. 110-329); it provides \$515 billion in TOA. This testimony is based on the fiscal year 2009 FYDP, which incorporates President Bush's budget request for DoD for \$517 billion, and not on those appropriations. Although DoD will update its plans to reflect the Congress's actions, those changes will not be visible in its plans until submission of the 2010 FYDP. P.L. 110-329 includes \$102 billion for procurement; \$80 billion for research, development, testing, and evaluation; \$125 billion for military personnel; \$179 billion for operation and maintenance; and \$28 billion in other funding. Those amounts do not add to \$515 billion because of rounding.
 5. CBO's estimates of future unbudgeted costs for contingencies are based on the funding provided by the Congress for operations in Iraq and Afghanistan in 2008 and the alternative path presented in *The Budget and Economic Outlook: An Update* (September 2008), pp. 17–21. Although CBO assumes that the size of U.S. forces in Iraq and Afghanistan will be reduced by 75,000 by 2013 in this alternative path, estimates of the associated reduction in future contingency costs could be optimistic (that is, the unbudgeted contingency costs displayed might be too low) because DoD's requests for funding for operations in Iraq and Afghanistan have been growing and because significant needs might arise in other places. Similarly, it is possible that CBO's estimates of future contingency costs are pessimistic, and policy changes might reduce the demand for contingency funding. CBO's projections of unbudgeted costs indicate the magnitude of the changes that would need to be made to DoD's plans in order to accommodate historical trends in cost growth and to pay for ongoing military operations. Those changes could include a combination of several actions, such as requesting additional appropriations or restructuring acquisition programs.

Under DoD's current plans and CBO's projections of them, defense resources would steadily decline in relation to the size of the economy. The share of the U.S. gross domestic product (GDP) allocated to defense spending declined from an annual average of 5.6 percent in the 1980s to 3.8 percent in the 1990s.⁶ If DoD's current plans were carried out, defense spending would drop to 3.1 percent of GDP by 2013 and to 2.5 percent of GDP by 2026, excluding unbudgeted costs (see Figure 2 on page 12).⁷

Projections of Funding for Operation and Support

The 2009 FYDP envisions that funding for operation and support (O&S)—running units, maintaining equipment, and providing pay and benefits—will grow from \$307 billion in 2009 (excluding supplemental and emergency funding) to \$317 billion in 2013 (see Figure 3 on page 13). (Those estimates translate into an average annual rate of real growth of less than 1 percent during the five-year period.) CBO projects that, over the longer term, carrying out current plans would push O&S funding to \$380 billion in 2026 (again, starting from 2009, a 1.3 percent pace of annual real growth); if unbudgeted costs are included, that figure would rise by about 16 percent to \$443 billion.

From 1980 to 2001, the department's funding for operations and maintenance—the subset of O&S that excludes pay for military personnel—grew by about \$2,100 per active-duty service member per year (see Figure 4 on page 14). Beginning in 2013, CBO projects that O&M (excluding war costs) would resume growing at about that historical rate, but starting approximately \$9,700 above the trend line. In CBO's projections, most of the growth in O&S funding, if unbudgeted costs are excluded, would stem from personnel-related increases, such as rising real wages and costs for medical benefits. For its projections, CBO has broken down O&S funding using functional categories that are based on the force and infrastructure codes used by DoD's program analysts:

- *Medical*—medical personnel, military medical treatment facilities (MTFs), purchased care, pharmaceuticals, and medical accrual charges;⁸
- *Operating forces*—military and support units assigned to combatant commands;
- *Bases, installations, and infrastructure*—installations for military forces, communications and information infrastructure, central benefit programs for DoD personnel, and miscellaneous activities;
- *Central training*—training at central locations away from service members' duty stations;

6. Defense spending here is measured by the actual disbursements (outlays) from the Treasury that arise from funding for defense programs.

7. CBO's estimate of future GDP growth is based on continuing the trend series of GDP growth presented in *The Budget and Economic Outlook: An Update* (September 2008).

8. Medical accrual charges are intragovernmental payments—payments from one governmental account to another—representing future medical costs that current service members (and their eligible family members) will incur to pay for care from civilian providers under the military's TRICARE For Life program and at MTFs once they retire from the military and become eligible for Medicare. Within the FYDP, medical accrual charges are distributed among all of the O&S functional categories. To provide a comprehensive estimate of DoD's medical costs, CBO consolidated all such charges in the medical category.

- *Command and intelligence*—operational headquarters, command-and-control systems, and intelligence collection;
- *Central logistics*—depot-level maintenance, supplies, and transportation of materials; and
- *Headquarters and administration*—acquisition infrastructure, science and technology programs, central personnel administration, and departmental management.

Increases in military and civilian pay would account for the entire growth of funding (excluding unbudgeted costs) in CBO’s projections for all O&S categories except medical and operating forces. DoD planned to raise pay for military personnel at a nominal rate of 3.4 percent each year from 2009 to 2013.⁹ For civilian employees, DoD planned to increase pay at a nominal rate of 2.9 percent in 2009 and 2.3 percent annually from 2010 to 2013. After that, CBO’s projections incorporate the assumption that military and civilian pay would rise at the same rate and match the employment cost index (ECI) for wages and salaries. (The ECI is a standard measure of compensation in the civilian economy. In 27 of the past 33 years, civilian and military personnel have received the same percentage pay increases.¹⁰) If all of those increases occurred, military and civilian pay would grow in real terms by 27 percent and 22 percent, respectively, between 2009 and 2026—because wages (as measured by the ECI) are projected to grow more rapidly than prices (as measured by the GDP deflator).¹¹

CBO projects that annual costs for operating forces would increase from \$126 billion in 2013 to \$145 billion in 2026. About \$13 billion of that growth would be in pay increases. The other \$6 billion reflects the increasing cost of continuing to operate and maintain older weapon systems as they age and the expected higher costs to operate and maintain more complex new generations of weapon systems.

CBO estimates that DoD’s projections in the FYDP would translate into \$5.0 billion in real growth for medical funding between 2009 and 2013, from \$41.1 billion to \$46.1 billion. Under current plans, DoD’s medical funding will grow to \$73.5 billion by 2026, CBO estimates, for a real increase of \$32.4 billion, or 79 percent, compared with the 2009 amount. Medical funding accounts for more than one-third of the growth projected for O&S funding between 2009 and 2026.

Pay increases for uniformed medical personnel account for only 3 percent of the overall medical O&S growth that CBO projects between 2009 and 2026. Various other expenses—most notably accrual charges for TRICARE For Life and the costs of pharmaceuticals and purchased care and contracts—will be more

9. Department of Defense, *Inflation Guidance—FY 2009 President’s Budget* (January 23, 2008), www.ncca.navy.mil/services/OSD_FY09_inflation_guidance.pdf. P.L. 110-417 set the military pay raise at 3.9 percent in 2009. Section 142 of P.L. 110-329 set the federal civilian pay raise at the same percentage.

10. In its calculation of unbudgeted O&S costs, CBO assumed that civilian pay raises will achieve parity with military pay raises during the FYDP period (2009 to 2013).

11. The ECI grew more rapidly than the GDP deflator (an index of overall prices) each year from 1981 to 2008; CBO projects that pattern will continue between 2009 and 2026 and that growth of the ECI will exceed growth of the GDP deflator by an average of 1.4 percentage points per year.

important (see Figure 5 on page 15).¹² Accrual payments make up about 44 percent of the projected increase in medical funding, growing at a long-run nominal rate of 6.25 percent a year after 2013.¹³ According to CBO's estimates, accrual charges will increase by 137 percent in real terms between 2009 and 2026.

DoD anticipates that pharmaceutical funding per capita will rise by about 18 percent in real terms during the period encompassed by the FYDP. CBO projects nominal growth of 9 percent in 2014 in per capita pharmaceutical costs, a pace that, by 2026, slows to about 6 percent per year.¹⁴

CBO projects that per capita funding for direct care and purchased care would grow at a nominal rate of slightly more than 6 percent, beginning in 2014, and taper off to less than 5 percent per year by 2026. Pay for uniformed medical personnel is projected to follow the same trend as other military personnel costs in DoD's budget. Excluding unbudgeted costs, those projections suggest that between 2009 and 2026, DoD's total funding for military medical personnel would rise by 12 percent, that funding for pharmaceuticals would increase by 147 percent, that funding for direct care would rise by 62 percent, and that funds allocated to purchased care and contracts would rise by 57 percent in real terms.

Unbudgeted Operation and Support Costs for Contingency Operations

In its projections for unbudgeted costs, CBO analyzed the potential effects of changes in several assumptions in the 2009 FYDP. If all of those changes were made, funding for O&S would total \$443 billion in 2026, 16 percent more than the amount in CBO's estimate that excludes unbudgeted costs.

Much of the potential unbudgeted cost of O&S funding is associated with ongoing operations in Iraq and Afghanistan and other military efforts in the war on terrorism. The 2009 FYDP does not include future funding for those contingency operations. The Congress provided \$180 billion in 2008 dollars (\$183 billion in constant 2009 dollars) to fund those operations in 2008 (\$88 billion of which has been recorded in the 2009 FYDP) and \$66 billion to fund those operations for part of 2009 (P.L. 110-252). O&S accounted for about \$112 billion in 2008 dollars (\$114 billion in constant 2009 dollars) and \$57 billion of that funding in 2008 and 2009, respectively.

12. Pharmaceuticals include those dispensed by military MTFs, the military's retail pharmacy network, nonnetwork retail pharmacies, DoD's mail-order pharmacies, and private-sector contractors under TRICARE. Purchased care and contracts include managed care support contracts, various other types of purchased care, and supplemental care for active-duty personnel. In the past, that category included pharmaceuticals, but after 2001 DoD began accounting for pharmaceuticals separately in the FYDP. TRICARE is the general term for the military health care system. TRICARE Prime is the health maintenance organization that DoD operates on behalf of its beneficiaries and that encompasses care delivered at military MTFs and through a network of contract providers. TRICARE Prime requires that a beneficiary enroll either for individual or family coverage. Beneficiaries who do not enroll in TRICARE Prime may still receive care at MTFs but only to the extent that space is available. They may also use TRICARE Standard or TRICARE Extra, programs that reimburse a portion of medical expenses incurred by unenrolled beneficiaries who receive care from civilian providers.

13. The independent Board of Actuaries for DoD's Medicare-Eligible Retiree Health Care Fund annually updates its estimate of the accrual charges necessary to fund TRICARE For Life.

14. CBO derived its estimates for the growth of funding for pharmaceuticals from "National Health Expenditure Projections," www.cms.hhs.gov/NationalHealthExpendData/downloads/proj2007.pdf, published by the Centers for Medicare and Medicaid Services. Those projections extend only to 2017, and CBO assumed that growth would slow after that date, eventually reaching a rate in 2032 that is 1 percentage point higher than the growth of per capita GDP.

In the projection that includes unbudgeted costs, CBO includes an additional \$79 billion in 2009 (in addition to the \$66 billion already appropriated) and \$128 billion in 2010 for military operations in Iraq, Afghanistan, and elsewhere (of that two-year total, about \$115 billion would be for O&S funding and \$92 billion would be for investment funding). CBO projects that, over the long term, unbudgeted costs associated with such operations could decline to about \$60 billion annually (\$38 billion would be O&S funding, and \$22 billion would be investment funding). That estimate is based on the assumption that between 2009 and 2013, the number of U.S. military personnel deployed in contingency operations, not necessarily in Iraq and Afghanistan, will fall from about 180,000 to about 75,000 and then stay constant through 2026.

Of course, that kind of specific assumption represents one of many possible scenarios; it is not a prediction from which future war funding or budget requests could be derived. In particular, such an assumption is unlikely to hold true for the entire projection period (2009 through 2026). CBO's estimate of average annual funding of \$60 billion is a proxy for the budgetary impact of the U.S. military's continued engagement in such operations, wherever they might occur. If U.S. foreign policy shifted in a way that increased or decreased the nation's military presence overseas, costs would change accordingly.

Unbudgeted Medical Costs

Aside from contingency operations, the next-largest possible source of additional growth in O&S costs is the military medical system. DoD's FYDP projections for medical funding include declines in per capita funding for pharmaceuticals in 2010, in per capita funding for purchased care and direct care in several years over the FYDP period. Although such declines in costs are possible, they would not be consistent with recent trends. Moreover, DoD's own inflation guidance stipulates growth rates of 6.7 percent per year for direct care, 7.0 percent for purchased care and contracts, and 10.1 percent for pharmaceuticals. In the case including unbudgeted costs, CBO began with DoD's 2009 projected funding as a base and then applied those nominal growth rates to per capita funding in each category for 2010 through 2013.

For the years beyond the FYDP period, CBO's projection with unbudgeted costs incorporates nominal growth that is 30 percent more than in the projection without those costs. For direct care and purchased care, those rates start at 8.0 percent per year in 2014 and slow to 6.4 percent per year by 2026 (rather than 6.2 percent and 5.0 percent, respectively). For pharmaceuticals, CBO assumed 11.4 percent growth in 2014, falling to 8.3 percent in 2026 (rather than the 8.8 percent and 6.4 percent, respectively, used in the base case). Under those assumptions, DoD's total medical spending would increase by 126 percent (rather than by 79 percent) in real terms from 2009 to 2026.

CBO did not project unbudgeted costs for accrual payments to fund the medical benefits of military retirees over the age of 65. Those payments are currently projected to grow at a nominal rate of 6.25 percent a year, which reflects the best estimate by DoD's independent Board of Actuaries of the long-term growth rate for health care spending for that group.

Other Unbudgeted Operation and Support Costs

CBO's estimates of other unbudgeted costs include the possibility that military pay raises will be higher than anticipated in DoD's current plans. Section 601 of the 2009 National Defense Authorization Act (P.L. 110-417) includes language that sets military pay raises at 3.9 percent in 2009 (the Bush Administration's plan called for a 3.4 percent raise). CBO included the extra half-point pay raise as an unbudgeted cost relative to

the Bush Administration's plan. CBO's estimates also reflect the possibility that the Congress will continue to enact pay raises 0.5 percentage points higher than assumed in the FYDP for each year through 2013. Setting military pay raises by that method would add about \$2 billion of unbudgeted costs by 2013 and close to \$3 billion by 2026.

CBO's estimates of other unbudgeted costs also account for the possibility that civilian pay raises will equal military pay raises, as has historically been the case. Under DoD's current plans, the annual pay raise for civilians would be about 1 percentage point less than the pay raise for uniformed service members. Making the raises equivalent in percentage terms from 2009 to 2013, including the extra 0.5 percentage point, would add between \$3 billion and \$4 billion in unbudgeted costs by 2013 and between \$4 billion and \$5 billion annually by 2026. (Although CBO projects that after 2013, military and civilian pay will rise by equal annual percentages, the difference in cumulative increases through that year compounds in later years, and CBO thus includes it as part of its projection of unbudgeted costs.)

Projections of Funding for Investment

The Bush Administration's 2009 FYDP envisions that investment funding will remain relatively constant from 2009 to 2013, averaging about \$185 billion annually (see Figure 6 on page 16). Carrying out current plans over the long term would cause investment funding—excluding unbudgeted costs—to peak at \$207 billion in 2017, CBO projects, and to average about \$187 billion annually from 2014 through 2026.

CBO projects that unbudgeted costs—including costs for repairing, replacing, and upgrading equipment used in contingency operations—could cause investment funding to peak in 2017 at \$262 billion. In that case, funding for investment would average \$239 billion annually, about 28 percent more than in the case excluding unbudgeted costs.

Army Investment

In 2008, the Army's investment funding included about \$40 billion provided through emergency appropriations (of which \$22 billion was not included in the FYDP) for repairing and replacing equipment that had been worn out or destroyed in operations in Iraq and Afghanistan; for upgrading equipment; and for buying new equipment, including equipment for the Army National Guard. Funding provided through emergency appropriations constituted 50 percent of total Army investment in 2008 (see Figure 7 on page 17). With emergency appropriations excluded, total investment resources allocated to the Department of the Army in the 2009 FYDP remain unchanged relative to those in the 2008 FYDP for the 2009–2013 period common to both plans. Annual investment funding would average \$34 billion over that period. A total of \$125 billion would be devoted to procurement. Funds devoted to research, development, testing, and evaluation (RDT&E) over the same period also would remain unchanged at \$43 billion.

CBO's updated projection of the investment resources needed beyond 2013 to carry out the Army's programs averages \$36 billion per year, excluding unbudgeted costs, and as much as \$58 billion annually when adjusted for past rates of cost growth and equipment-related costs for future contingencies (see Figure 7). In part because of an increase in this year's FYDP in the number of trucks and Stryker vehicles and upgrades to the Abrams tanks and Bradley vehicles purchased, investment in the updated projection is about \$4 billion more per year than in the previous projection.

Navy and Marine Corps Investment

Under the 2009 FYDP, investment resources for the Department of the Navy (which includes the Marine Corps) would start at \$60 billion in 2009, rise to about \$70 billion in 2017, and then decline to \$47 billion by 2026, CBO projects. Between 2014 and 2026, Navy investment would average \$58 billion a year. If program costs grow as they have in the past, however, the department's investment funding could peak at \$82 billion in 2017 and then fall back to about \$54 billion by 2026—averaging \$67 billion a year from 2014 to 2026. The decline in funding through 2013 from that shown in the 2008 FYDP to that in the 2009 FYDP is driven by several relatively small changes to the Navy's ship, aircraft, and ground procurement programs (see Figure 8 on page 18).

Air Force Investment

Under the Bush Administration's plans, funding for RDT&E and for procurement of Air Force systems would total roughly \$63 billion in 2009 and then increase to about \$65 billion per year from 2010 through 2013. CBO projects that continuing those plans beyond the FYDP period would require about \$70 billion per year through 2026. Year-to-year funding would climb steadily from about \$65 billion in 2014 to more than \$73 billion in 2018 and then remain stable through 2026 (see Figure 9 on page 19). If the costs of developing and purchasing Air Force systems grew beyond the service's current estimates to the same extent that they have in the past, carrying out the Bush Administration's plans for that period would require an additional \$6 billion per year between 2014 and 2026.

The Bush Administration's 2009 budget request for Air Force investment is about \$2 billion below that in the previous year's FYDP. That decrease was, for the most part, broadly spread across Air Force programs and split about evenly between RDT&E and procurement. Average investment funding from 2009 to 2013, a period that was covered in the 2008 FYDP and again in 2009, increased by about \$1 billion, or less than 1 percent.

Defense Agency Investment, Including Missile Defense

In addition to resources for the Departments of the Army, Navy, and Air Force, DoD's budget provides money for specialized agencies that perform advanced research, develop missile defenses, oversee special operations, and manage information systems. Excluding development of missile defenses, CBO's projection of DoD's current plans places investment funding for those agencies at about \$17 billion per year in the 2009 FYDP and at about \$16 billion per year over the 2014–2026 period (see Figure 10 on page 20).

President Bush's 2009 budget request and the 2009 FYDP propose average annual funding of about \$9.6 billion for RDT&E for missile defense systems and about \$800 million for procurement of terminal-phase defense programs (see Figure 11 on page 21).¹⁵ CBO based its projection on the Bush Administration's policy statements, on detailed plans developed by the Missile Defense Agency (MDA), and on plans developed by the armed services for executing the individual programs for which they are responsible. The Bush Administration indicated that throughout the period of the FYDP, MDA would focus on research and development of a broad range of technologies and systems. Decisions about which systems should proceed

15. Ballistic missile defense programs are categorized by the portion of the incoming missile's trajectory that they target. Boost-phase defenses attempt to destroy hostile missiles before their warheads separate from their booster rockets. Midcourse-phase defenses attempt to destroy warheads after they separate from their boosters but before they reenter the Earth's atmosphere. Terminal-phase defenses attempt to destroy warheads after they have reentered the Earth's atmosphere and are relatively close to their intended targets.

to procurement and operational deployment eventually will be informed by the results of those efforts. As with existing programs, CBO has included projected procurement costs in the investment budgets of the branches of the military that would operate them; in cases in which the end service has not been designated, CBO has assigned programs on the basis of the nature of the program. (Thus, Figure 11 displays a combination of MDA and service funding for missile defense programs.)

Carrying out current plans would cause total investment on missile defenses to peak in 2018 at about \$17 billion (excluding unbudgeted costs), CBO projects, and then to decrease as the procurement phase was concluded and systems became operational. That peak is about \$1 billion higher than projected by CBO in December 2007 because of increases in the estimated costs for several programs. If historical cost growth is considered, DoD's needs for missile defenses might be about \$4 billion more each year.

Alternative Defense Programs

CBO has developed projections for two sets of alternatives to the 2009 FYDP. An “evolutionary” scenario illustrates the implications of having DoD forgo or scale back acquisition of the new, advanced capabilities that the agency associates with military transformation and instead pursue evolutionary upgrades to its current capabilities. A “transformational” scenario illustrates the implications of having DoD increase its emphasis on acquiring the advanced capabilities it associates with military transformation and change its plans for compensating military personnel in a manner that some would characterize as a sufficient break with past practices as to also be called “transformational.”

DoD's current plans encompass a mixture of evolutionary and transformational programs. Neither of the alternatives developed by CBO is intended to provide a specific spending path, nor is either a recommendation for a particular approach. Instead, the alternatives illuminate the kinds of choices available to DoD. The particular programmatic choices incorporated in each set of alternatives—including both the types and the numbers of weapon systems—are examples of the possibilities for changing current plans in light of the emphasis ascribed to each alternative. Many other choices are possible.

In developing the content of the two alternatives, CBO does not consider whether adopting either approach would provide the military capabilities that may be needed to meet future threats, which are uncertain and subject to continual debate. Nor does it consider the changes in military tactics and operational plans that may be needed if current plans for acquiring new capabilities are changed.

Evolutionary Approach

The evolutionary alternative developed by CBO explores whether it might be possible to reduce long-term demands for defense resources by adopting a different approach to modernizing U.S. military forces. Under the evolutionary alternative, the average annual demand for defense resources between 2010 and 2026 would be about \$500 billion, or about 7 percent less than the \$540 billion, excluding unbudgeted costs, that CBO projects would be needed to carry out DoD's plans for the same period (see Figure 12 on page 22 and Table 2 on page 24).¹⁶ The resource demands for investment during the period spanning 2010 to 2026 would average about \$148 billion per year, excluding unbudgeted costs, CBO projects—\$161 billion with unbudgeted

16. CBO displays funding and savings for the period spanning 2010 to 2026 because CBO's projections for alternative defense programs assume no changes to the Bush Administration's plans for fiscal year 2009.

costs associated with historical trends in cost growth of major weapon systems included—for a reduction of about 21 percent relative to CBO’s projection of funding under the 2009 FYDP. Unbudgeted investment costs associated with historical cost growth under the evolutionary alternative would be 53 percent of the analogous unbudgeted costs associated with CBO’s projections of the 2009 FYDP, in part because the alternative incorporates the assumption that DoD will purchase upgraded versions of systems that are currently being produced and for which costs can be more accurately estimated.

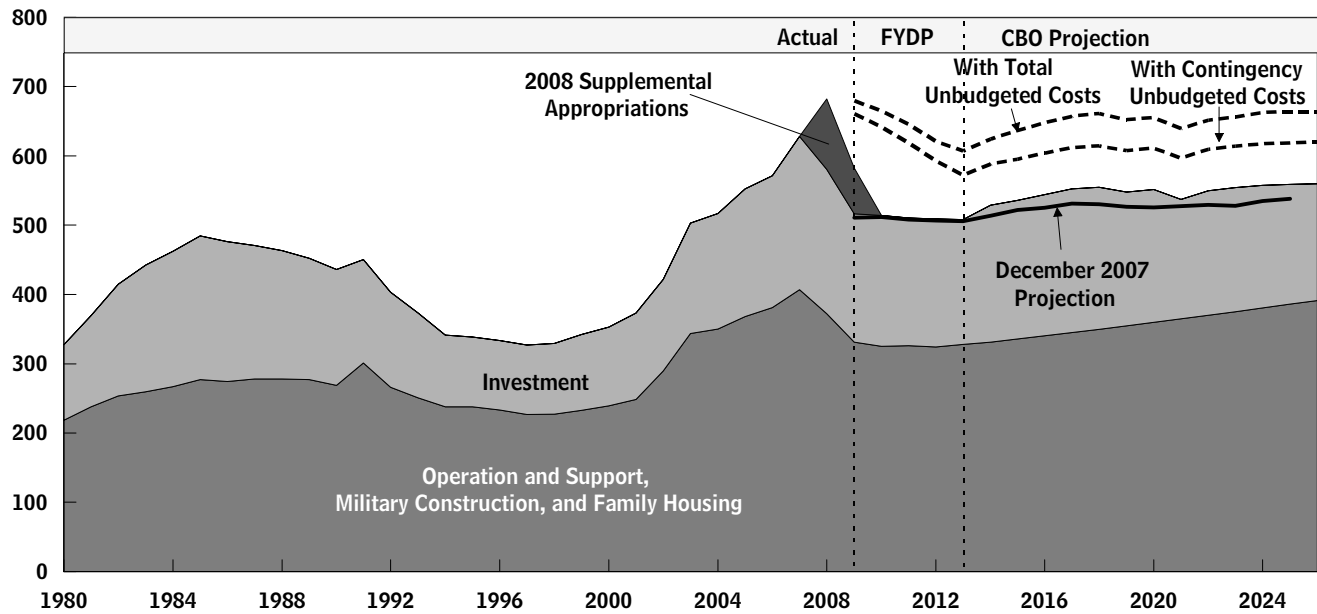
Transformational Approach

As with the evolutionary alternative, the transformational approach explores whether it might be possible to reduce the long-term demands for defense resources by adopting a different path to modernizing and compensating U.S. military forces. The average annual demand for defense resources between 2010 and 2026 would be about \$510 billion, about 5 percent less than CBO’s projection of the resources necessary to carry out DoD’s current plans for the same period (see Figure 13 on page 23 and Table 3 on page 26). Under the transformational alternative, resource demands for investment during the period between 2010 and 2026 would average about \$176 billion per year, excluding unbudgeted costs, CBO projects, and \$200 billion if unbudgeted costs associated with historical trends in cost growth of weapon systems are included. The unbudgeted costs associated with cost growth in weapon systems in the transformational alternative are about 91 percent of the analogous unbudgeted costs in CBO’s projection of the implications of the 2009 FYDP.

Figure 1.

Past and Projected Resources for Defense

(Billions of 2009 dollars)



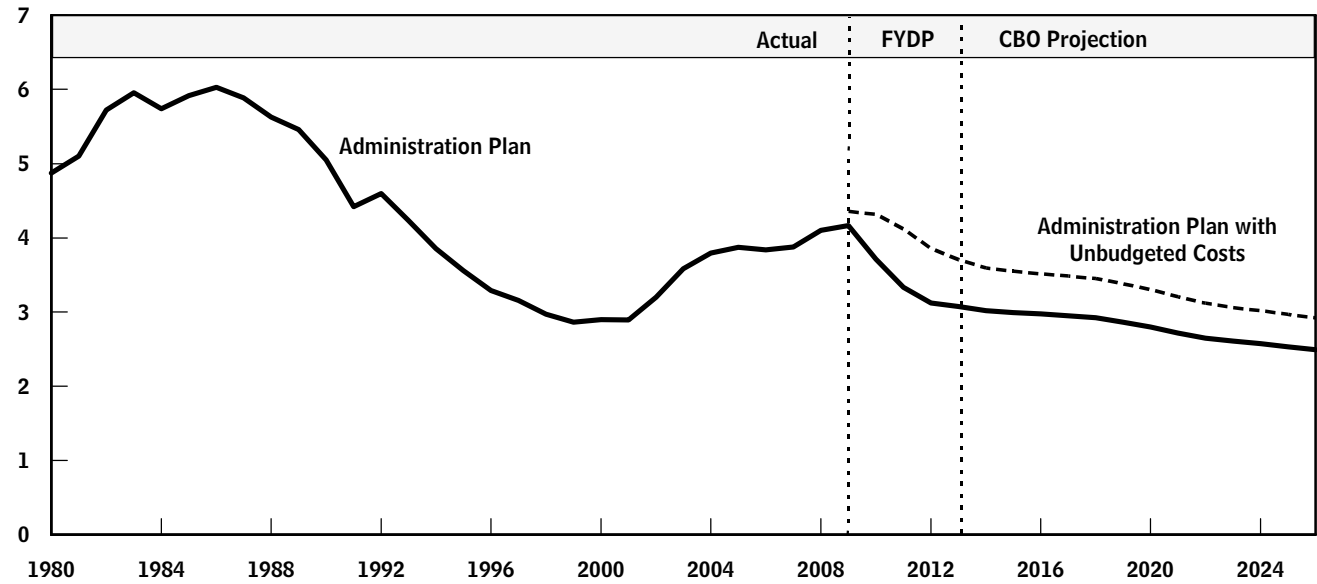
Source: Congressional Budget Office.

Note: FYDP = Future Years Defense Program.

Figure 2.

Defense Resources as a Percentage of Gross Domestic Product

(Percent)



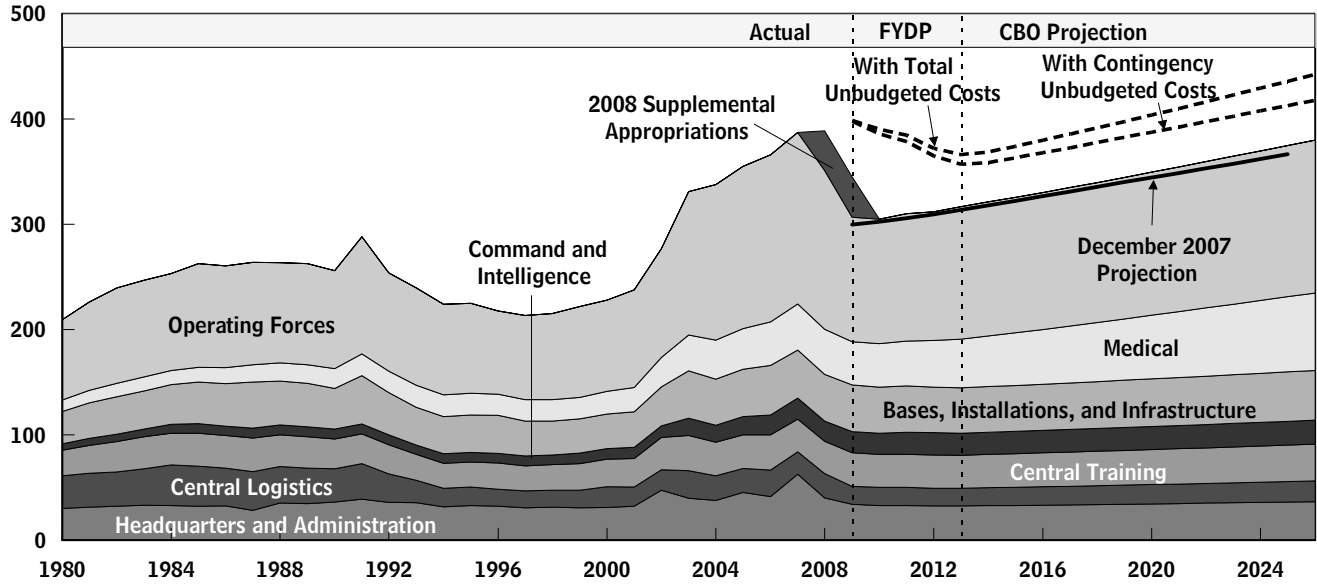
Source: Congressional Budget Office.

Note: FYDP = Future Years Defense Program.

Figure 3.

Past and Projected Resources for Operation and Support

(Billions of 2009 dollars)



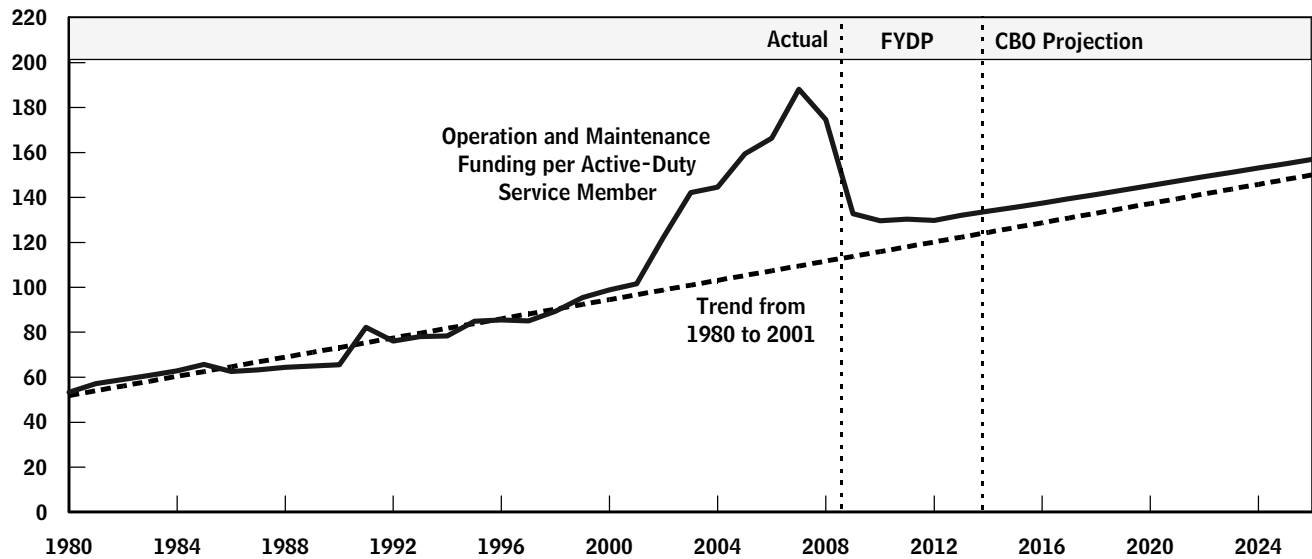
Source: Congressional Budget Office.

Note: FYDP = Future Years Defense Program.

Figure 4.

Trends in Operation and Maintenance Funding per Active-Duty Service Member

(Thousands of 2009 dollars)



Source: Congressional Budget Office.

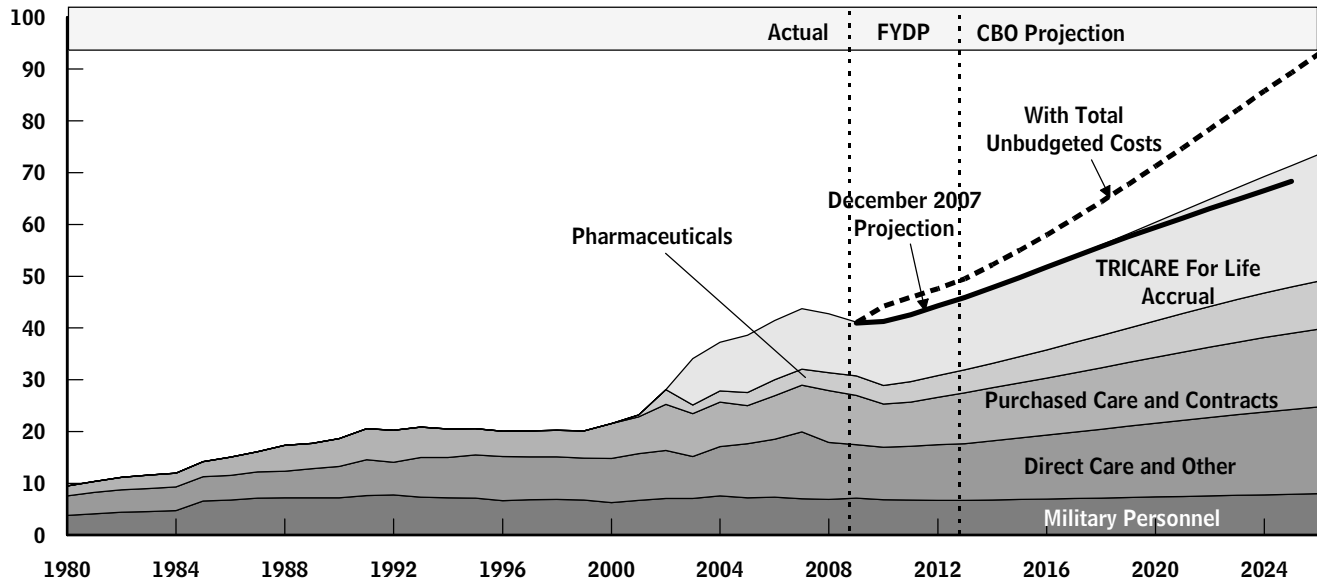
Notes: FYDP = Future Years Defense Program.

Funding for the period spanning 2002 to 2008 includes operations in Iraq and Afghanistan.

Figure 5.

Past and Projected Resources for the Military Medical System

(Billions of 2009 dollars)



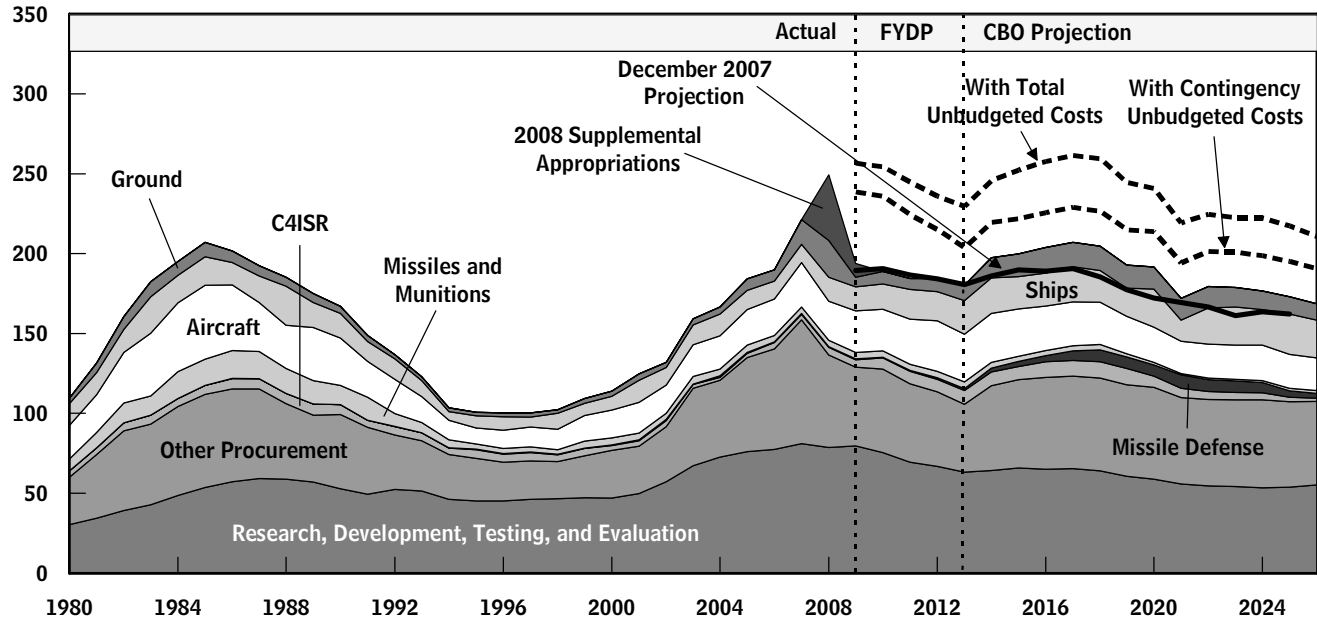
Source: Congressional Budget Office.

Note: FYDP = Future Years Defense Program.

Figure 6.

Past and Projected Resources for Defense Investment

(Billions of 2009 dollars)



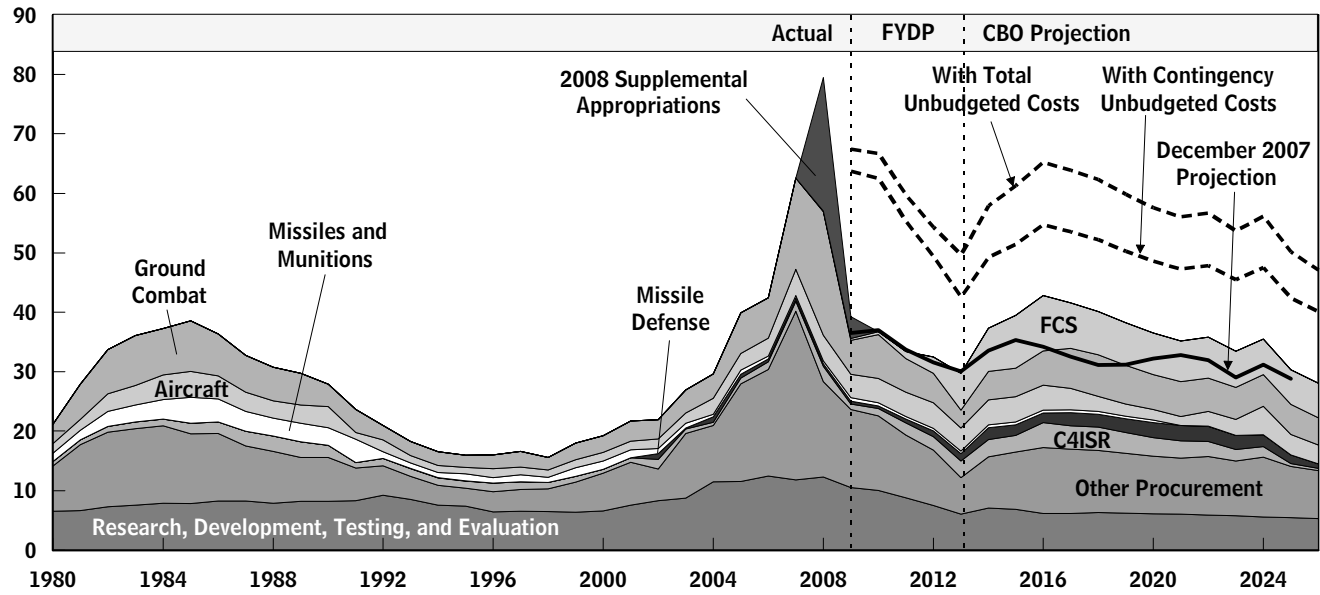
Source: Congressional Budget Office.

Note: FYDP = Future Years Defense Program; C4ISR = command, control, communications, computers, intelligence, surveillance, and reconnaissance.

Figure 7.

Past and Projected Resources for Army Investment

(Billions of 2009 dollars)



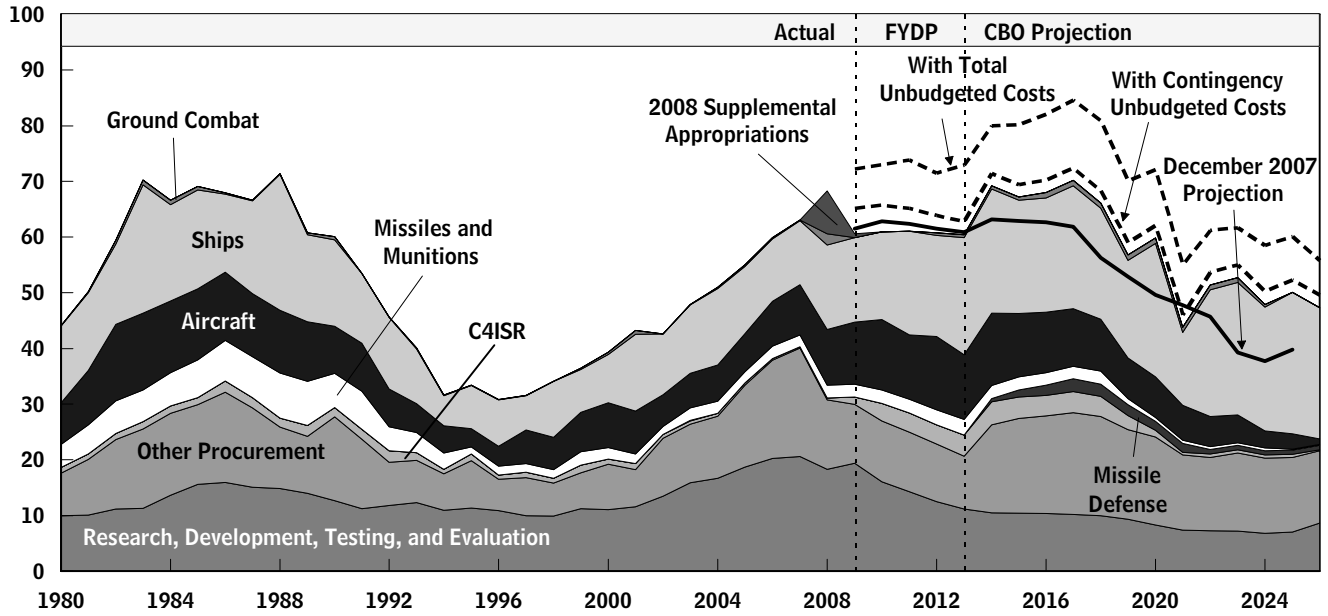
Source: Congressional Budget Office.

Note: FYDP = Future Years Defense Program; C4ISR = command, control, communications, computers, intelligence, surveillance, and reconnaissance; FCS = Future Combat Systems.

Figure 8.

Past and Projected Resources for Navy and Marine Corps Investment

(Billions of 2009 dollars)



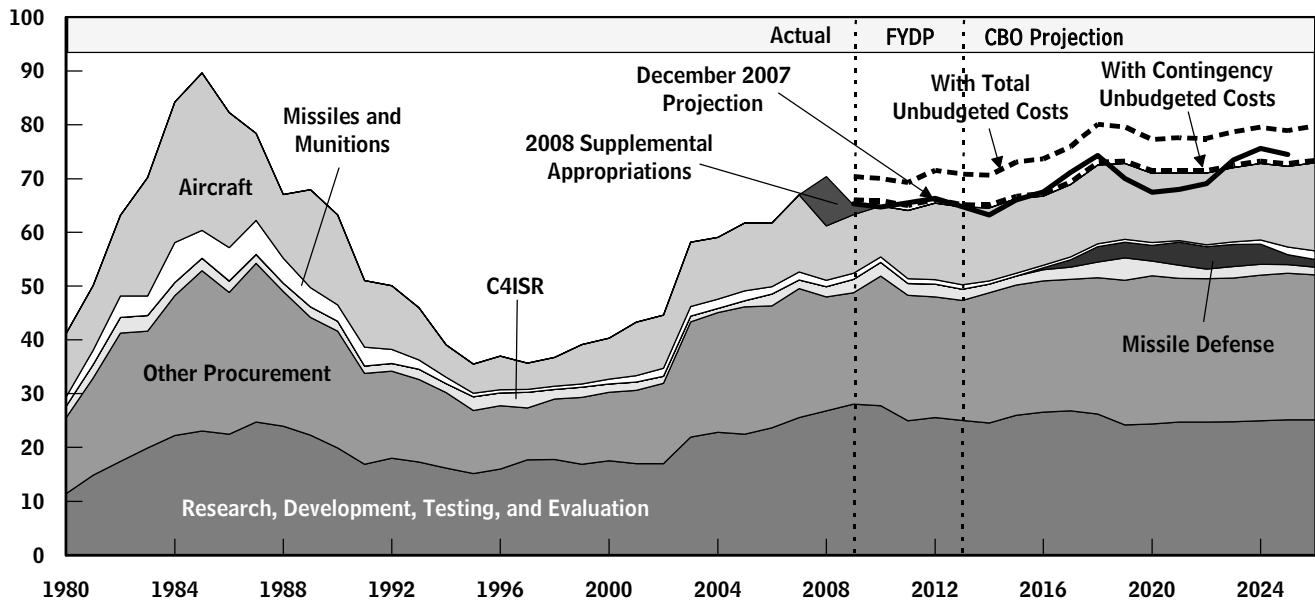
Source: Congressional Budget Office.

Note: FYDP = Future Years Defense Program; C4ISR = command, control, communications, computers, intelligence, surveillance, and reconnaissance.

Figure 9.

Past and Projected Resources for Air Force Investment

(Billions of 2009 dollars)



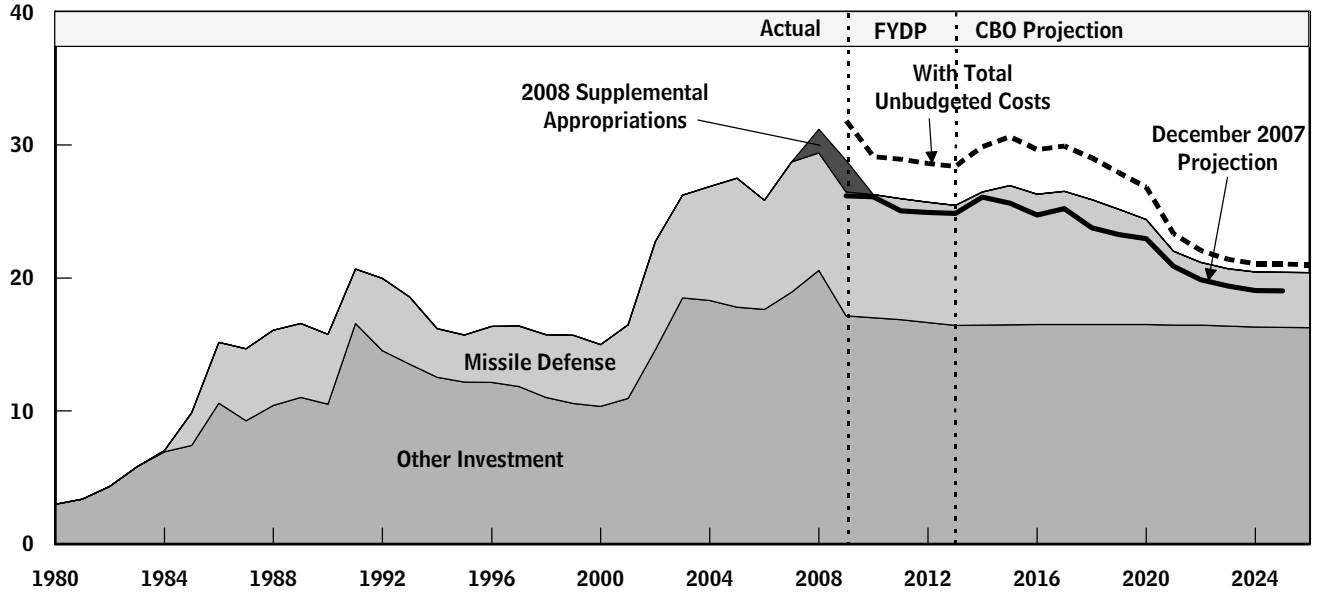
Source: Congressional Budget Office.

Note: FYDP = Future Years Defense Program; C4ISR = command, control, communications, computers, intelligence, surveillance, and reconnaissance.

Figure 10.

Past and Projected Resources for Defense Agency Investment, Including Missile Defense

(Billions of 2009 dollars)



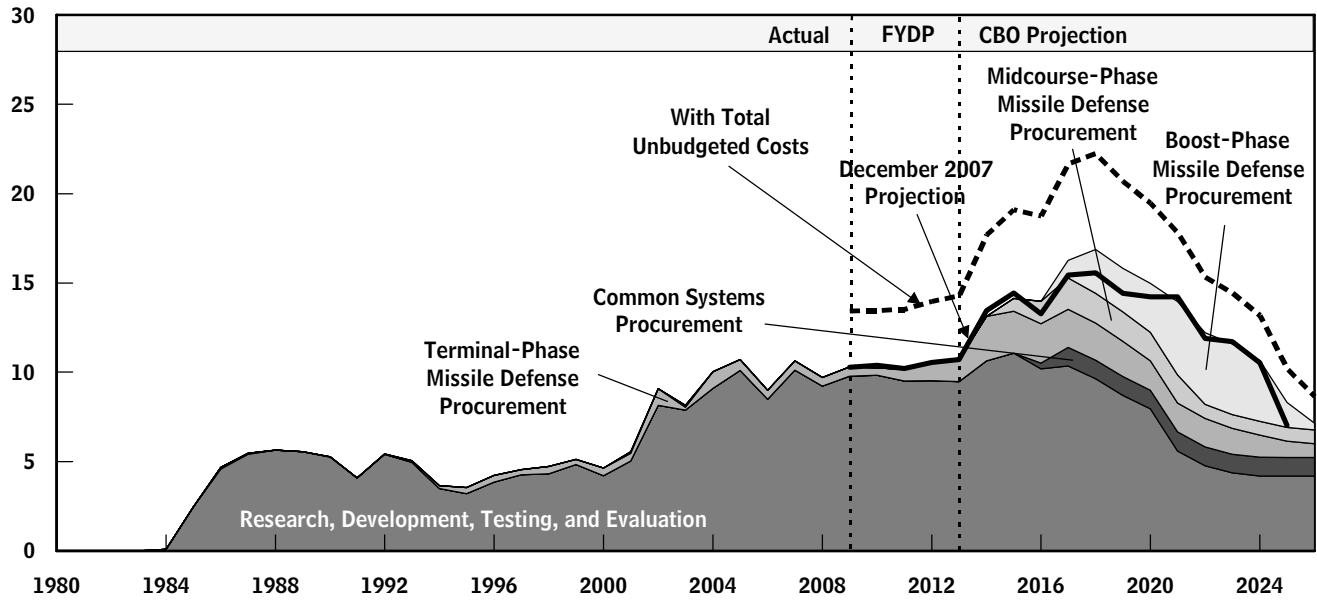
Source: Congressional Budget Office.

Note: FYDP = Future Years Defense Program.

Figure 11.

Past and Projected Resources for Missile Defense Investment

(Billions of 2009 dollars)



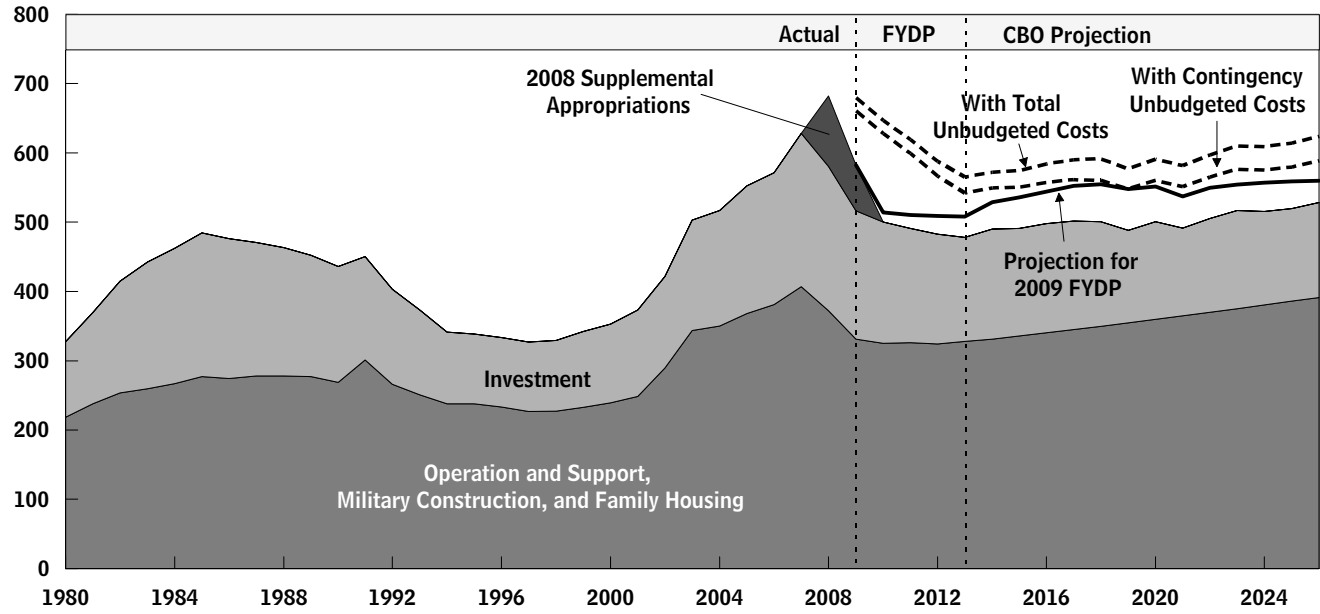
Source: Congressional Budget Office.

Note: FYDP = Future Years Defense Program.

Figure 12.

Past and Projected Resources for Defense (Evolutionary Alternative)

(Billions of 2009 dollars)



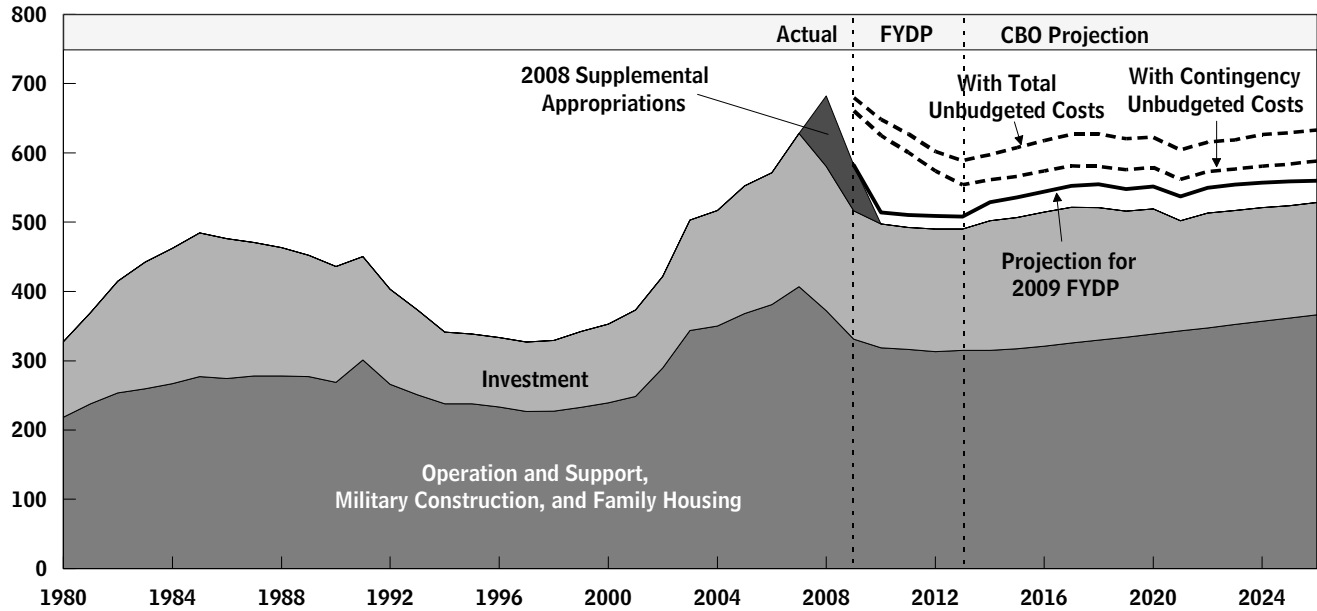
Source: Congressional Budget Office.

Note: FYDP = Future Years Defense Program.

Figure 13.

Past and Projected Resources for Defense (Transformational Alternative)

(Billions of 2009 dollars)



Source: Congressional Budget Office.

Note: FYDP = Future Years Defense Program.

Table 1.

Past and Projected Resources for Defense in Selected Years

(Billions of 2009 dollars)

	Actual	FYDP		Projected		Average	
	2008	2009	2013	2020	2026	2009–2013	2014–2026
Procurement	130	106	117	133	113	114	129
Research, Development, Testing, and Evaluation	79	80	63	59	55	71	59
Military Personnel	120	125	133	148	162	129	148
Operation and Maintenance	231	182	183	202	218	181	202
Other	21	24	11	10	11	17	10
Additional Supplemental and Emergency Funding	102 ^a	66	n.a.	n.a.	n.a.	n.a.	n.a.
Total	683	582	508	552	560	512	549
Including Total Unbudgeted Costs	n.a.	680	607	655	664	631	652

Source: Congressional Budget Office.

Note: FYDP = Future Years Defense Program; n.a. = not applicable.

a. This figure excludes \$88 billion in other supplemental and emergency funding allocated among the appropriation titles listed above.

Table 2.

CBO's Projection of Resources for an Evolutionary Alternative for Defense Compared with CBO's Projection of the Implications of the 2009 FYDP

(Billions of 2009 dollars)

	Annual Average		
	2010-2013	2014-2026	2010-2026
Total, DoD Resources (Excluding unbudgeted costs)	510.4	548.6	539.6
Army			
Upgrade existing combat vehicles; restructure Future Combat Systems to pursue "spin-outs" only	-3.3	-5.5	-5.0
Continue to buy HMMWVs; cancel the joint light tactical vehicle program	+0.1	-0.8	-0.6
Cancel joint heavy lift aircraft program	0	-1.5	-1.1
Upgrade existing Kiowa warrior attack helicopters; cancel the armed reconnaissance helicopter	-0.4	-0.1	-0.2
Cancel the Joint Tactical Radio System	-0.4	-1.2	-1.0
Reduce other programs	0	-2.9	-2.2
Subtotal, Army	-4.0	-12.0	-10.1
Department of the Navy			
Reduce planned purchases of joint strike fighters	+2.4	-1.6	-0.6
Reduce planned purchases of multimission maritime aircraft	-1.0	-0.5	-0.6
Continue to buy DDG-51 destroyers; delay the new CG(X) cruiser by 10 years	+0.5	-0.8	-0.5
Reduce the carrier force to 10 by canceling overhauls	0	-0.6	-0.4
Build only two DDG-1000 destroyers	-2.8	*	-0.7
Do not build the DDG(X) destroyer	0	-1.3	-1.0
Build one version of the littoral combat ship	*	*	*
Reduce the strategic submarine force to 10 boats	-0.4	-0.8	-0.7
Retain existing command ships; cancel the new command ship	-0.6	-0.2	-0.2
Cancel the future maritime prepositioning program	-1.8	-0.3	-0.7
Continue to buy HMMWVs; cancel the joint light tactical vehicle program	-0.2	-0.2	-0.2
Reduce other programs	-0.1	-2.7	-2.1
Subtotal, Department of the Navy	-3.9	-8.9	-7.7

Continued

Table 2.

Continued

CBO's Projection of Resources for an Evolutionary Alternative for Defense Compared with CBO's Projection of the Implications of the 2009 FYDP

(Billions of 2009 dollars)

	Annual Average		
	2010-2013	2014-2026	2010-2026
Air Force			
Reduce planned purchases of joint strike fighters	-0.3	-2.2	-1.8
Upgrade existing aerial tankers; cancel the new tanker	-1.6	-1.4	-1.4
Delay new bomber by five years	-1.6	-0.8	-1.0
Continue to buy existing communications satellites; cancel the Transformational Satellite Communications program	-1.3	-1.1	-1.1
Continue to build existing infrared detection satellites; cancel the Third Generation Infrared Satellite System	-0.2	-0.3	-0.2
Reduce other programs, including intelligence activities	-4.1	-13.5	-11.3
Subtotal, Air Force	-9.1	-19.2	-16.8
DoD-wide and Cross-Service^a			
Focus missile defense programs on supporting existing ground-based missile defense system; defer work on future deployments	-4.6	-4.2	-4.3
Reduce advisory and assistance services by 20 percent	-0.8	-1.0	-0.9
Subtotal, DoD-wide and Cross-Service	-5.3	-5.2	-5.2
Total	-22.4	-45.2	-39.8
Revised Funding for DoD	488.0	503.4	499.8

Source: Congressional Budget Office.

Note: FYDP = Future Years Defense Program; DoD = Department of Defense; HMMWV = high-mobility multipurpose wheeled vehicle; * = between zero and \$500 million. Numbers may not add up to totals because of rounding.

b. Cross-service savings would accrue to the individual military departments in addition to those specifically identified above.

Table 3.

CBO's Projection of Resources for a Transformational Alternative for Defense Compared with CBO's Projection of the Implications of the 2009 FYDP

(Billions of 2009 dollars)

	Annual Average		
	2010–2013	2014–2026	2010–2026
Total, DoD Resources (Excluding unbudgeted costs)	510.4	548.6	539.6
Army			
Rely on unmanned aerial vehicles fielded as part of the Future Combat Systems program; cancel the armed reconnaissance helicopter	-0.6	-0.2	-0.3
Discontinue upgrades to existing combat vehicles	-1.3	-2.1	-1.9
Rely on Future Combat Systems; forgo replacing M113 series infantry carrier vehicles	-0.1	-1.1	-0.9
Reduce combat brigades	-7.7	-9.8	-9.3
Reduce other programs	<u>0</u>	<u>-0.9</u>	<u>-0.7</u>
Subtotal, Army	-9.7	-14.1	-13.0
Department of the Navy			
Reduce planned purchases of joint strike fighters; increase purchases of armed unmanned aerial vehicles	+0.2	-1.3	-0.9
Develop new unmanned reconnaissance vehicles; cancel multimission maritime aircraft and broad area maritime surveillance programs	-2.0	+0.1	-0.4
Reduce Marine Corps end strength	-2.3	-3.7	-3.3
Reduce other programs	<u>0</u>	<u>-0.5</u>	<u>-0.3</u>
Subtotal, Department of the Navy	-4.1	-5.3	-5.0
Air Force			
Reduce planned purchases of joint strike fighters; increase purchases of armed unmanned aerial vehicles	-0.3	-1.5	-1.2
Plan for the next long-range strike aircraft to be an unmanned, large payload, long range supersonic/hypersonic aircraft; restructure the current bomber replacement program	-1.1	-2.2	-2.0
Reduce other programs	<u>0</u>	<u>-2.1</u>	<u>-1.6</u>
Subtotal, Air Force	-1.4	-5.8	-4.7
DoD-wide and Cross-Service ^a			
Plan for pay increases through 2015 to match the employment cost index minus 0.5 percentage point; expand special pay and bonuses to partially compensate	-0.6	-2.1	-1.8
Increase enrollment fees and copayments for defense medical care	<u>-2.1</u>	<u>-5.5</u>	<u>-4.7</u>
Subtotal, DoD-wide and Cross-Service	-2.8	-7.7	-6.5
Total	-17.9	-32.8	-29.3
Revised Funding for DoD	492.5	515.8	510.3

Source: Congressional Budget Office.

Note: FYDP = Future Years Defense Program; DoD = Department of Defense. Numbers may not add up to totals because of rounding.

a. Cross-service savings would accrue to the individual military departments in addition to those specifically identified above.