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CBO

Replacing Military Personnel in Support Positions With Civilian Employees

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Notes

Unless otherwise specified, all years referred to in this report are federal fiscal years, which run from October 1 to September 30, and are designated by the calendar year in which they end.

Numbers in the text and tables may not add up to totals because of rounding.

The cover photographs show both civilian and military workers. The smaller photograph shows a civilian worker in the fluidized bed section at Red River Army Depot's Rubber Products Division in Texarkana, Texas, on May 2, 2008. The larger photograph shows a U.S. soldier performing maintenance checks at a maintenance and depot facility in Melgar, Colombia, on November 7, 2013. The soldier is assigned to the 2nd Battalion, 151st Aviation Regiment, South Carolina National Guard.

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Replacing Military Personnel in Support Positions With Civilian Employees

Summary

Only military personnel engage in combat operations, according to U.S. government policies. However, either military personnel, civilian employees of the Department of Defense (DoD), or contractors may carry out support functions, such as accounting services. In 2012, about 340,000 active-duty military personnel were assigned to commercial positions that perform support functions. Those functions require skills that could be obtained from the private sector so that, in principle, those same positions could be filled by civilian employees.

To cut costs, DoD could transfer some of those positions to civilian employees and then reduce the number of military personnel accordingly. The Congressional Budget Office estimates that doing so for 80,000 full-time positions could eventually save the federal government $3.1 billion to $5.7 billion per year. (Those savings are measured in terms of *annualized costs*. That term encompasses all liabilities, current and future, that the federal government incurs by employing a military service member or a civilian today, expressed as annual amounts. All annualized amounts are in real terms, meaning that they have been adjusted to remove the effects of inflation.) Some costs of hiring military personnel are paid from accounts outside DoD's budget, so the department would not realize all of those savings.

What Costs of Replacing Military Support Personnel With Civilians Did CBO Analyze?

The annualized costs analyzed in this report include the pay of military and civilian personnel, as well as the accrual payments that DoD sets aside to meet some categories of future obligations to current workers. Those costs also include implicit accrual charges that, by CBO's estimate, account for the costs of deferred benefits for which the government does not make accrual payments. Such deferred benefits include health insurance for retired civil servants and for military retirees not yet eligible for Medicare. Costs also involve spending for in-kind benefits such as DoD-operated schools and for health care provided by the Department of Veterans Affairs (VA). With that definition, CBO calculates annualized costs and refers to a reduction in those costs as annualized savings.

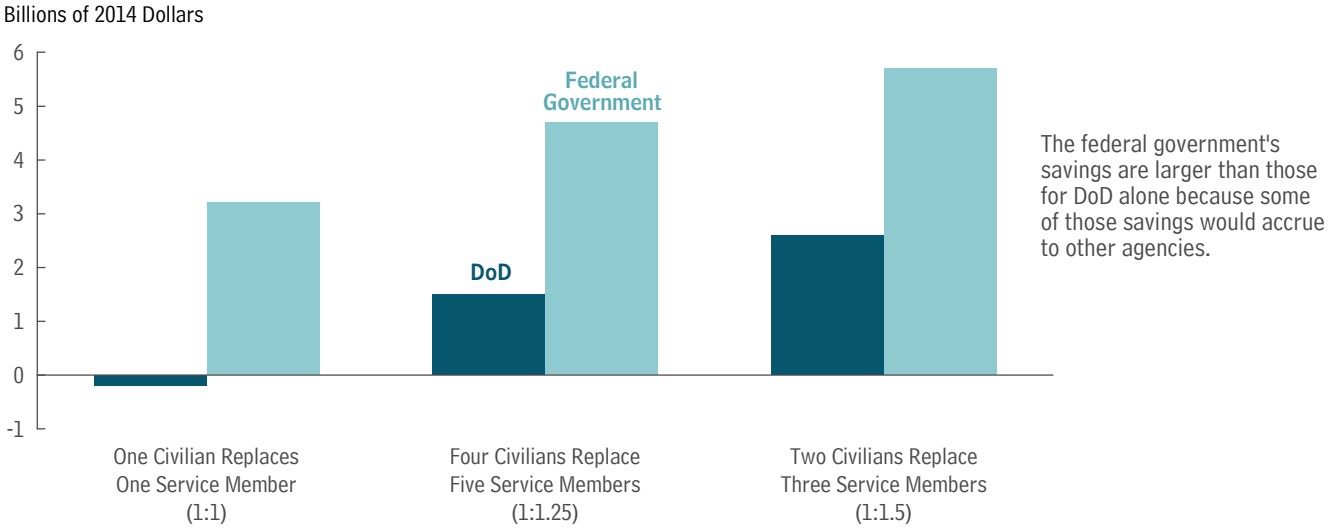
Estimated costs in this report are broader than those reported in CBO's cost estimates for legislation, which project how a bill would affect the budget—spending and revenues—over a limited period. Those budgetary estimates focus on changes in discretionary spending (spending that would be subject to appropriation) for five years after the legislation is enacted; changes in mandatory spending and revenues are estimated for the 10-year period after enactment. Therefore, cost estimates for legislation do not encompass all changes in the government's future long-term liabilities that could result from that legislation. For comparison with the annualized costs of the options analyzed here, this report also notes the *budgetary effects* over a 10-year period.

What Options Did CBO Examine?

In analyzing the effects on costs of replacing military support personnel with civilian employees, CBO focused on occupations in each branch of service that have at least 500 military and civilian workers. This study does not try to identify the optimal mix of military and civilian workers for every occupation and service branch. But because some services have a smaller percentage of civilians than others in similar support positions, civilians could probably fill more such positions in those services than they do now. For example, the other services could adopt the same mix as the service with the largest percentage of civilian personnel in each support occupation. In that scenario, about 80,000 active-duty positions could be available for conversion, CBO estimates—about one-quarter of the active-duty personnel assigned to commercial positions.

Figure 1.

Estimated Long-Run Annualized Savings From Transferring 80,000 Military Support Positions to Civilians



Source: Congressional Budget Office.

Note: Savings would result from transferring active-duty military positions performing commercial functions to civilian Department of Defense (DoD) employees. Annualized costs represent liabilities to the government from employing a military service member or civilian, including the cost of future benefits that are not accounted for by accrual charges today, such as health care for civilian retirees and for military retirees under 65 years of age. CBO's estimates incorporate the assumption that achieving the full amount of annualized savings shown here would take five years or more. The federal government's costs include those for the Departments of Veterans Affairs, the Treasury, and Education; the Office of Personnel Management; and DoD.

Potential savings would depend on how many civilian employees replaced military personnel. In the mid-2000s, DoD as a whole achieved an average ratio of 1:1.5—that is, two civilians replacing every three service members—when it transferred some 48,000 commercial positions held by military personnel to civilian employees, in part because of the inherent advantages of having civilians in commercial occupations (civilians typically require less on-the-job training, for example) and in part because of some streamlined business practices. However, the efficiency reviews that DoD has conducted in recent years may have already absorbed some of the potential to realize further gains, so CBO examined three options:

- One civilian replacing one service member (a 1:1 ratio),
- Four civilians replacing every five service members (a 1:1.25 ratio), and
- Two civilians replacing every three service members (a 1:1.5 ratio).

The federal government might save even more by converting commercial positions in the reserve forces as well as in the active-duty military. However, CBO did not have adequate data on the pool of mostly part-time reservists to extend the analysis to that group. And because DoD does not provide adequate data on numbers and pay rates of contractors, CBO could not evaluate how shifting positions to contractors instead of to civilian employees would affect costs.

How Much Would the Options Reduce the Government's Costs?

Converting active-duty positions to civilian positions and reducing the number of military personnel could reduce costs for DoD, VA, the Department of the Treasury, the Office of Personnel Management (OPM), and the Department of Education (which helps school districts cover some of the costs of educating service members' children). CBO estimates that doing so for 80,000 active-duty positions would, after a phase-in period of at least five years, reduce annualized costs by $3.1 billion with a 1:1 ratio of civilians to service members or $5.7 billion with a 1:1.5 ratio (see Figure 1). Converting 40,000 or 20,000 positions would save about one-half or one-quarter as much, respectively, as converting all 80,000

positions. Converting more than 80,000 positions would produce larger savings but would increase the likelihood that the conversions would affect DoD's ability to achieve some of its personnel management objectives, such as reserving enough commercial positions for active-duty service members rotating from combat assignments.

The government's costs would decline for two reasons:

- Staffing those commercial jobs with civilians rather than military personnel would cost, on average, about 30 percent less per worker.
- Fewer civilians could replace a given number of military personnel.

Because some of the savings would accrue to agencies other than DoD, the effects of those options on DoD's costs would differ from their effects on the costs of the federal government as a whole: For DoD, they would increase by $0.2 billion with a 1:1 ratio and decrease by $2.6 billion with a 1:1.5 ratio. According to CBO's analysis, a civilian worker costs DoD—as opposed to the entire federal government—slightly more than a service member, on average, in large part because roughly one-quarter of the costs of military personnel are borne by agencies other than DoD. Thus, any changes in annualized costs for DoD depend largely on how many civilians replace a given number of military personnel.

The options' annual effects on the federal budget during the first 10 years would be smaller than CBO's estimate of the reduction in annualized costs, for two reasons: Some of the savings would appear in the budget beyond the 10-year window used for budget estimates; and those budget estimates would altogether exclude certain mandatory costs (such as disability compensation that VA offers veterans) that would result from possible future changes in discretionary spending.

Achieving those savings could take five years or longer; the services would have to determine which positions to convert and hire civilians to fill them. At that pace, converting positions would not require laying off military personnel. Instead, the civilian employees would replace military personnel who retired, moved to other military positions, or left active-duty service in due course.

What Are Some Other Effects of the Options?

Transferring military positions to civilians has some advantages beyond lower personnel costs. For example, civilians can offer more stability and experience than military personnel, who must periodically change jobs. Nevertheless, the services would have to consider the disadvantages of transferring military positions to civilian employees. Besides costs, such considerations involve workforce management objectives—which DoD might have trouble meeting if civilians replaced service members. For example, support jobs can serve as a rotation base for service members who have been assigned overseas or aboard ship, providing them with a temporary break in a nondeploying or onshore position. Alternatively, such positions may offer military personnel paths for advancement. Those positions also help ensure that enough senior enlisted personnel and officers are available for immediate overseas deployment or to form new units.

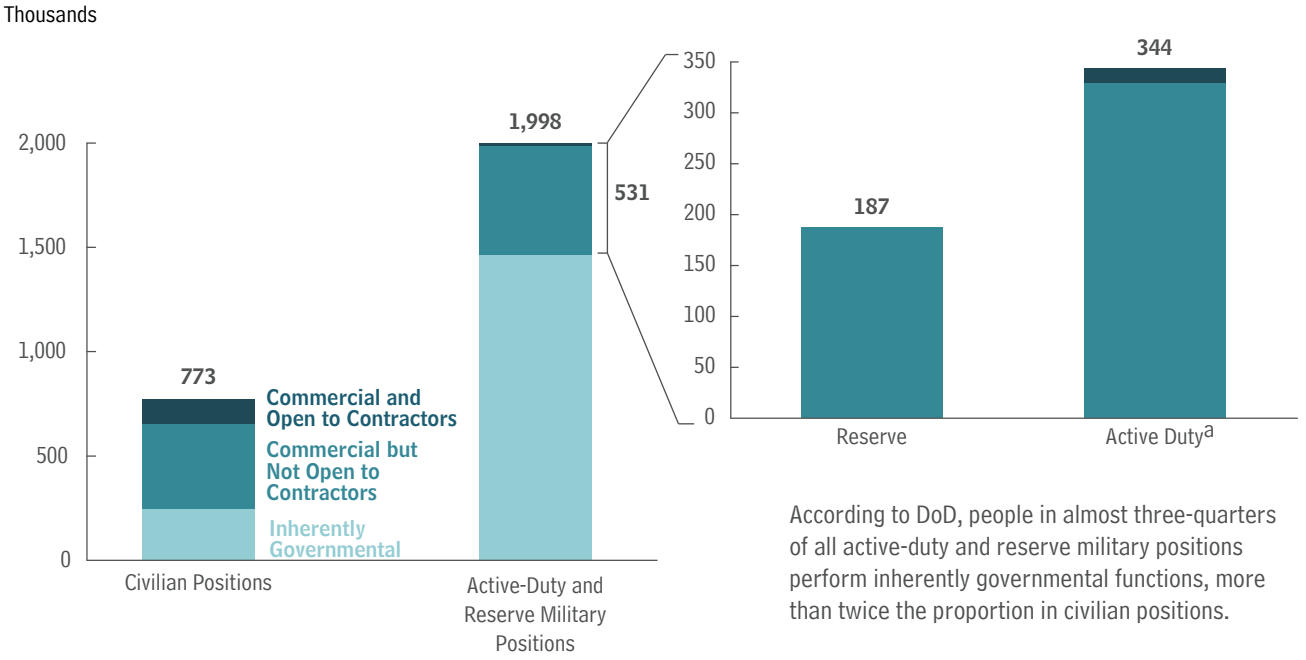
Potential to Expand the Role of DoD's Civilian Employees

In 2012, about three-quarters of DoD's roughly 2 million active and reserve military service members were engaged in combat-related and other inherently governmental tasks. Most inherently governmental positions held by military personnel are in units that routinely deploy overseas and are not normally open to civilian employees. DoD's remaining 500,000 positions in 2012 involved commercial functions, such as accounting services, largely in organizations that do not normally deploy overseas (see Figure 2). The military services reserve most such positions for military personnel. One reason is that safety considerations could make it difficult for civilians to perform some assigned tasks. Also, the services need to meet objectives for managing the military workforce—such as providing a pool of jobs as a base for career paths.

In deciding whether to fill positions with military personnel or civilians, DoD weighs risks to military missions or readiness, workforce management needs, and costs. Indeed, DoD periodically reduces the size of its noncombat military workforce. In 2004, for instance, DoD began an initiative that, over seven years, converted 48,000 such military positions to civilian positions. Because the services did not reduce military end strength (the number of military personnel at the end of the year) after those conversions, they were able to concentrate more personnel in combat units during protracted operations in Iraq and

Figure 2.

Military and Civilian Positions in the Department of Defense, by Function, 2012



Source: Congressional Budget Office based on data from Department of Defense (DoD), Inventory of Commercial and Inherently Governmental Activities, 2012 submission, prepared by the Under Secretary of Defense for Acquisition, Technology, and Logistics.

Note: The total number of civilian and military positions in DoD in 2012 was 2,771,000.

a. Active-duty military positions that DoD categorizes as commercial, whether open to contractors or not.

Afghanistan. In turn, that shift in personnel probably eased the pressure to further increase the end strength of the Army and Marine Corps.

The services take different approaches to categorizing jobs as inherently governmental or commercial and to determining which commercial jobs to reserve for military personnel. Similar occupations thus have different military–civilian mixes in the different services. To comply with spending caps that the Budget Control Act of 2011 established, which extend through 2021, the services could consider reserving fewer commercial positions for military personnel than they do now.

DoD could transfer military positions to civilians on its own, or the Congress could direct the changes by several means. For instance, through the annual National Defense Authorization Act, lawmakers could reduce active-duty end strength while authorizing commensurate funding to add the number of civilian replacements according to a specified replacement ratio. Or the Congress could direct DoD to report to oversight committees the number and types of active-duty positions that might be converted, along with DoD's assumptions (such as for achievable replacement ratios) and estimated savings. If legislation specified a replacement ratio that DoD could not achieve, the department might not be able to sustain current levels of service in support functions.

DoD's Policies on the Mix of Military and Civilian Personnel

Various laws and DoD policies prescribe which personnel can perform which functions. A major demarcation involves whether functions are inherently governmental or commercial.[1] Inherently governmental functions

1. DoD classifies each position by whether its function is inherently governmental, commercial but not open to private contractors, or commercial and subject to review for transfer to private contractors. For this analysis, CBO considers the last two classifications commercial functions. For a discussion of the criteria DoD uses for that classification, see Under Secretary of Defense for Personnel and Readiness, *Policy and Procedures for Determining Workforce Mix,* Department of Defense Instruction 1100.22 (April 12, 2010), www.dtic.mil/whs/directives/corres/pdf/110022p.pdf (302 KB).

"require the exercise of substantial discretion in applying government authority and/or making decisions for the government."[2] DoD policy restricts inherently governmental functions to government personnel, either military or civilian.[3] However, U.S. law imposes further restrictions so that only active or reserve military personnel—not civilians—may perform some inherently governmental functions (such as commanding troops in battle). Commercial functions, by contrast, generally involve skills and services available in the private sector (such as transportation services) that DoD has not deemed inherently governmental. DoD policy allows military personnel, civilian employees, contractors, or personnel from nations that host U.S. military bases to perform commercial functions.[4]

In determining the military–civilian mix in its workforce, DoD strives to balance readiness objectives, workforce management objectives, and costs. Readiness objectives aim to ensure that DoD's labor force can perform its war-time missions: That means sometimes filling support positions with military personnel if the risk of physical harm to civilian employees is too great, for example. The Air Force, for instance, reserves some security positions for military personnel because serving in a combat zone would expose civilians to unacceptable risks. Workforce management objectives entail reserving positions for military personnel to offer career paths or to serve as a base for job rotations, such as for personnel assigned outside the country or assigned to ships that regularly deploy away from their home ports.[5]

Nevertheless, DoD's policies call for using the least costly military–civilian mix to achieve mission goals.[6] Furthermore, DoD's policies specify using civilians (and contractors) except when military personnel are required to perform a function.[7] In 1960, civilians made up about a third of DoD's workforce; that share has remained relatively constant, showing the importance of civilians in DoD's workforce.

Previous Initiatives to Change the Mix of Military and Civilian Personnel

To reduce costs and focus on its core missions, DoD has periodically evaluated the military–civilian mix of personnel performing commercial functions. For example, the 1995 Commission on Roles and Missions of the Armed Forces endorsed outsourcing some support functions.[8] DoD then outlined plans to open more than 220,000 government positions (military and civilian) to competition between the public and private sectors

2. Office of Management and Budget, *Performance of Commercial Activities,* Circular A-76 Revised (May 29, 2003), Attachment A, http://go.usa.gov/3WmbA. Inherently governmental activities across the federal government also include those "so intimately related to the public interest as to mandate performance by government personnel." Ibid. For more on inherently governmental functions, see 5 U.S.C. §306 (2012); 31 U.S.C. §§501, 1115, 1116; and Office of Management and Budget, *Revised Supplemental Handbook: Performance of Commercial Activities,* Circular A-76 (March 1996), http://go.usa.gov/3WEJ3 (PDF, 968 KB).

3. See Under Secretary of Defense for Personnel and Readiness, *Guidance for Manpower Management,* Department of Defense Directive 1100.4 (February 12, 2005), www.dtic.mil/whs/directives/corres/pdf/110004p.pdf (90 KB).

4. In 2011, the Administration defined two new categories of functions—functions closely associated with inherently governmental functions and critical functions—and offered new guidance to increase government officials' role in decisions with public interests at stake; see Office of Federal Procurement Policy, *Performance of Inherently Governmental and Critical Functions*, Policy Letter 11-01 (September 12, 2011), http://go.usa.gov/3WmTd (PDF, 214 KB). That policy does not affect CBO's analysis, which focuses on transferring commercial positions from one type of government employee (military personnel) to another (civilian personnel).

5. A rotation base is a pool of positions in the United States that permit service members to have a break from long or frequent deployments at sea or overseas. For example, the Navy designates some nonseagoing positions as military. Doing so offers sailors assigned to a ship that deploys periodically an onshore position for a few years.

6. See Under Secretary of Defense for Personnel and Readiness, *Guidance for Manpower Management,* Department of Defense Directive 1100.4 (February 12, 2005), www.dtic.mil/whs/directives/corres/pdf/110004p.pdf (90 KB); Under Secretary of Defense for Personnel and Readiness, *Policy and Procedures for Determining Workforce Mix,* Department of Defense Instruction 1100.22 (April 12, 2010), www.dtic.mil/whs/directives/corres/pdf/110022p.pdf (302 KB); and 10 U.S.C. §129a.

7. See Under Secretary of Defense for Personnel and Readiness, *Guidance for Manpower Management,* Department of Defense Directive 1100.4 (February 12, 2005), www.dtic.mil/whs/directives/corres/pdf/110004p.pdf (90 KB).

8. See Department of Defense, *Directions for Defense: Report of the Commission on Roles and Missions of the Armed Forces* (May 1995), http://go.usa.gov/cZrmR (PDF, 8.2 MB).

Table 1.

Military Positions Transferred to Civilian Employees or Contractors, 2004–2010

Thousands

Service	Military Positions Converted	DoD Civilians and Contractors Placed in Formerly Military Positions[a]	Average Number of Military Positions Replaced per Civilian
Army	14.7	13.6	1.1
Navy	19.1	8.8	2.2
Air Force	10.1	8.4	1.2
Marine Corps	4.4	1.7	2.6
Total	**48.3**	**32.5**	**1.5**

Source: Congressional Budget Office based on data from Under Secretary of Defense (Comptroller), Operation and Maintenance Overview: Fiscal Year 2010 Budget Estimates (May 2009, rev. June 2009), p. 173, http://go.usa.gov/3WGw5 (PDF, 8.1 MB).

Note: DoD = Department of Defense.

a. Civilians accounted for at least 80 percent of the combined civilian and contractor personnel placed in formerly military positions.

between 1997 and 2005 and outsourced to contractors many positions identified in those plans.[9]

CBO has no information about whether DoD has evaluated the military–civilian mix of noncommercial, inherently governmental positions. Moreover, almost all military positions performing inherently governmental functions are in deployable units, which are not ordinarily open to civilians—a main reason that CBO's analysis concentrates on commercial functions.

In 2000, RAND Corporation studied instances during the outsourcing period in the 1990s when in-house military organizations, in-house civilian organizations, and private contractors bid competitively to perform tasks for DoD.[10] When in-house civilian organizations won competitions with in-house military organizations, personnel-cost savings from the winning bid stemmed largely from using fewer people to do the job. On average, one civilian replaced two military personnel. Moreover, for each service member who fills a support position, additional military personnel must go through the pipeline of training and career development. RAND's report did not account for that factor, which would yield greater savings.

Because streamlined business processes usually accompanied the competitions, those replacement ratios could reflect either more efficient processes or inherent efficiencies of using civilians. RAND's report suggests that, in general, replacing more than one military position with one civilian position is possible if the conversions include reassessed approaches to performing each support function.

More recently, DoD transferred about 48,000 military positions to civilian employees (and some contractors) between 2004 and 2010 (see Table 1).[11] Those conversions permitted the Army, the Marine Corps, and (to some degree) the Air Force to refocus their military workforces on combat duties and other core defense missions

9. The competitions were carried out under the formal structure prescribed by OMB Circular A-76. That circular instructs government agencies to conduct public–private competitions to determine which sector could perform selected functions more cost-effectively. DoD competed and outsourced many positions outlined in those plans. However, CBO does not have information showing whether DoD carried out the plans in their entirety in the specified time. For more on the plans during the late 1990s to open those positions to competition, see General Accounting Office (now the Government Accountability Office), *DoD Competitive Sourcing: Questions About Goals, Pace, and Risks of Key Reform Initiative*, GAO/NSIAD-99-46 (February 1999), www.gao.gov/assets/230/226952.pdf (162 KB). See also Office of Management and Budget, *Competitive Sourcing Requirements in Division D of Public Law 110-161,* Memorandum M-08-11 (February 20, 2008), http://go.usa.gov/3Wy3P (PDF, 60 KB).

10. See RAND Corporation, *Personnel Savings in Competitively Sourced DoD Activities: Are They Real? Will They Last?* (2000), www.rand.org/pubs/monograph_reports/MR1117.html.

11. DoD civilian personnel (rather than contractors) accounted for about 80 percent of replacements in the Army and Navy and for all replacements in the Air Force and Marine Corps.

needed for the wars in Iraq and Afghanistan.[12] About 32,000 civilians replaced those military personnel, a ratio of 1:1.5, on average; that ratio ranged from about 1:1.1 in the Army to roughly 1:2.6 in the Marine Corps. According to the services, they achieved those replacement ratios both because civilians required less on-the-job training and because streamlined work processes accompanied the conversions. To CBO's knowledge, no study has looked at how replacing military personnel with fewer civilians affected the functioning of each office.

DoD's 2004–2010 conversions may be more relevant to CBO's analysis than DoD's experience in the 1990s (as reflected in the RAND report) because those conversions were more recent and transferred military positions directly to civilians. However, the average replacement ratio of 1:1.5 may be toward the upper end of what DoD can reasonably achieve today because streamlining work processes may have been partly responsible for the realized efficiencies.

Streamlining work processes may be harder today than during the period that RAND studied or during DoD's more recent experience. DoD has already made several efforts in recent years to make its support organizations more efficient, and the easiest improvements may have already occurred. Also, some steps the services took during those efforts in the mid-2000s may be difficult to repeat. For example, one analyst familiar with the Navy's approach at the time suggested that the service was able to cut more military positions because some of them were authorized but not filled. The changes during the mid-2000s may also have produced unintended effects that could discourage replacing military personnel with civilians at the rate that prevailed at that time. For instance, some analysts have suggested that the Army removed too many military personnel from some occupations—particularly writing Army doctrine, for which a military background is important.

12. The Army and Marine Corps did not reduce their military end strength because of those conversions. Instead, they transferred personnel in affected units to deployable units. The Navy reduced its end strength and planned to use the savings (which, in its analysis, resulted because civilians were less costly than military personnel) to upgrade equipment. The Air Force reduced its end strength only partially and moved some military positions to other areas of its force structure.

Differences in How the Services Categorize Job Functions

According to an inventory of jobs from DoD's Inherently Governmental and Commercial Activities (IGCA) database, military personnel fill jobs as varied as conducting combat operations and operating child care and youth programs.[13] DoD categorizes each position along a continuum of duties according to what type of employee can fill it. At one end are positions that involve direct combat, which are restricted to military personnel. In the middle are inherently governmental positions, which are restricted to military or civilian personnel. At the other end are commercial positions, which are open to military or civilian personnel, or contractors. Therefore, DoD has some flexibility in choosing the type of employee to fill positions in the second and third groups.

Positions the Services Consider Inherently Governmental or Commercial. DoD classifies most positions that its employees—particularly military personnel—hold as inherently governmental; less than 40 percent of its positions are classified as commercial. DoD's IGCA database for 2012 identifies nearly 2 million military (active-duty and reserve) positions and about 770,000 civilian positions located in the military services and in defensewide organizations such as defense agencies (see Figure 2 on page 4 and Table 2). People in one-quarter, or roughly 500,000, of the 2 million active-duty and reserve military positions perform commercial functions largely in support of combat forces; people in the remaining three-quarters, or 1.5 million, active-duty and reserve military positions perform inherently governmental functions.[14] Other than in deployable units (which are not the focus of CBO's analysis), commercial military positions, including those that DoD reserves for military personnel, are prevalent in occupational groups such as logistics,

13. The IGCA database describes DoD's mix of military personnel, civil service personnel, and contractors. It includes the occupation and geographic location for each authorized military and civilian position in all DoD components. The database includes an inventory that identifies authorized civilian positions performing commercial functions as required by the Federal Activities Inventory Reform (FAIR) Act of 1998 (Public Law 105-270, 112 Stat. 2382) and by 10 U.S.C. §2462(b) (2012).

14. By contrast, only about one-third (250,000) of DoD's 770,000 civilian positions are inherently governmental.

Table 2.

DoD's Military and Civilian Positions, by Function, 2012

Thousands

Function	Active Duty	Guard and Reserves	Total Military	Civilian Employees	All Personnel
Commercial and Open to Contractors					
Army	0	0	0	21	21
Navy	11	0	11	41	52
Air Force	1	0	1	21	22
Marine Corps	3	0	3	7	9
Defensewide	0	0	0	25	25
Subtotal	14	0	14	115	129
Commercial but Not Open to Contractors					
Army	55	47	102	215	318
Navy	104	23	126	63	189
Air Force	154	116	270	89	359
Marine Corps	14	0	15	7	22
Defensewide	3	0	3	34	37
Subtotal	330	187	517	407	924
Inherently Governmental[a]					
Army	413	488	900	34	934
Navy	161	24	186	86	272
Air Force	112	50	163	67	230
Marine Corps	154	37	192	8	200
Defensewide	18	9	27	55	82
Subtotal	858	609	1,467	251	1,718
Total	**1,203**	**795**	**1,998**	**773**	**2,771**

Source: Congressional Budget Office based on data from Department of Defense (DoD), Inventory of Commercial and Inherently Governmental Activities, 2012 submission, prepared by the Under Secretary of Defense for Acquisition, Technology, and Logistics.

Note: Commercial functions involve skills and services readily available in the private sector that DoD has not deemed inherently governmental.

a. Government employees, either military or federal civilian, must perform inherently governmental functions because such functions involve decisionmaking on behalf of the government (or similar reasons).

education and training, and health services (see Table 3).[15] Most inherently governmental military positions are in units designated as deployable overseas—so-called expeditionary forces—that ordinarily are not open to civilians.

In 2012, the Army classified about 90 percent of its military positions as inherently governmental and almost all the rest as commercial but not open to contractors for various reasons (see Figure 3). By contrast, the Air Force considered only about 40 percent of its military positions inherently governmental that year (the lowest among DoD components) and classified almost all the rest (about 270,000 positions) as commercial but not open to contractors (the highest among DoD's components). The Navy was in the middle: It classified about 60 percent of its military positions as inherently governmental in 2012. The Marine Corps, like the Army, considered nearly all its military positions inherently governmental.[16]

15. An occupational group consists of single occupations that share a common broad mission. For example, the logistics group includes such occupations as motor vehicle transportation services, traffic/transportation management services, and retail supply operations.

16. Those percentages for the various services did not change significantly from 2010 through 2012.

Table 3.

Distribution of Military Positions, by Occupation and Function, 2012

Percent

Occupational Group and Specialty	Function: Commercial and Open to Contractors	Commercial but Not Open to Contractors	Inherently Governmental
Infrastructure			
Logistics	36.8	10.8	2.0
Education and training	14.7	8.3	4.1
Communications, computing, and other information services	12.0	1.7	0.6
Force management and general support	11.2	4.0	3.1
Installation/facility management, force protection, and utility plant operation and maintenance	10.3	2.0	0.8
Personnel and social services	8.4	6.6	2.1
Systems, acquisition, test and evaluation, engineering, and contracting	2.5	0.6	0.7
Real property project management, maintenance, and construction	1.3	0.2	0.1
Health services	0.5	12.7	1.1
Environmental security and natural resource services	0.3	0.5	0.1
Science and technology (S&T) and research and development (R&D) management and support	0.3	0.3	0.1
Products manufactured or fabricated	0	0	0
Civil works	0	0	0
Forces and Direct Support			
Command and intelligence	1.3	2.1	1.5
Expeditionary force defense—operating forces	0.3	49.6	83.3
Homeland defense—operating forces	0	0.1	0.2
Space defense—operating forces	0	0.2	0.1
Cyberspace operations	0	0.2	0.1
Total	**100**	**100**	**100**

Source: Congressional Budget Office based on data from Department of Defense, Inventory of Commercial and Inherently Governmental Activities, 2012 submission, prepared by the Under Secretary of Defense for Acquisition, Technology, and Logistics.

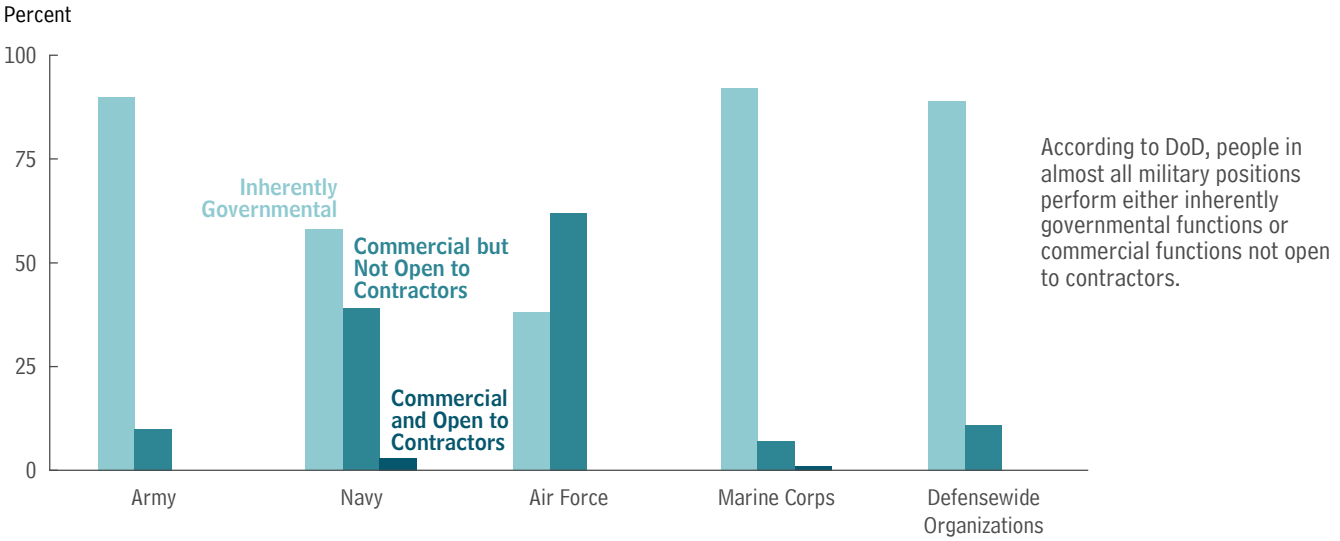
Note: Total positions (in thousands) by function: commercial and open to contractors, 14; commercial but not open to contractors, 517; inherently governmental, 1,467.

Commercial Positions Not Open to Contractors. Commercial positions are mostly in support organizations generally not expected to deploy overseas. However, the services reserve many such positions for military personnel by applying exemptions to bar contractors from performing those jobs. Criteria for those exemptions are based on laws, executive orders, treaties, and international agreements as well as on DoD's policies intended to address the department's readiness and workforce management objectives (see Box 1). But the services apply those exemption criteria differently. For example, workforce management objectives played a minor role in how many commercial positions the Air Force reserved for its service members in 2012; that service reserved virtually all such positions for readiness reasons. The Army and Navy, however, emphasized workforce management objectives more (see Figure 4 on page 12).

Commercial positions that involve retail supply operations in nondeploying organizations illustrate that difference. CBO calculated that about 70 percent of such positions in the Air Force were military, almost all of which the Air Force reserved for military personnel for readiness reasons. By contrast, about 50 percent of such

Figure 3.

Military Positions in the Military Services and Defensewide Organizations, by Function, 2012



Source: Congressional Budget Office based on data from Department of Defense (DoD), Inventory of Commercial and Inherently Governmental Activities, 2012 submission, prepared by the Under Secretary of Defense for Acquisition, Technology, and Logistics.

positions in the Navy were military, less than 1 percent of which the Navy reserved for military personnel for readiness reasons.[17] (Workers in retail supply operations provide supplies and equipment to units. Their work includes delivery, customer support, inventory management, and local warehouse operations.)

Among the services, those varied approaches result in different military–civilian mixes working in similar commercial occupations. For example, in 2012, military personnel made up 4 percent of the Navy's workforce in motor vehicle transportation but 74 percent of the Air Force's workforce in that occupation (see Table 4 on page 13).[18] In another example, 62 percent of the Marine Corps' workforce in finance and accounting services was military, in sharp contrast with the Army (17 percent), Navy (6 percent), and Air Force (2 percent).

Some service officials attribute part of the variation to the unique missions of each service that require them to use personnel differently.[19] For example, Air Force officials believe that military security guards are a more appropriate choice than civilians to safeguard U.S. nuclear weapons. Other service officials also point to an existing military culture in which officials prefer to use military personnel rather than civilians for certain functions.[20]

Estimating How Many Military Positions DoD Could Open to Civilians

CBO's analysis accepts as given DoD's designation of three-quarters of military positions as inherently governmental. CBO's analysis also accepts the scope and volume of work produced by the combination of military and civilian personnel who fill commercial positions. Instead, CBO examines the possibility of producing that scope and volume of work with a smaller and less costly blend of military and civilian personnel. CBO's analysis did not examine the optimal military–civilian mix in each occupation in each service—that task would require analysis beyond the scope of this study. Instead, to estimate how many active-duty positions DoD might be able to transfer to civilians, CBO

17. Military personnel filled 46 percent of positions in retail supply operations in the Army and 37 percent in the Marine Corps. The Army reserved over 95 percent of those military positions for military personnel for readiness reasons, and the Marine Corps reserved about 25 percent of such positions for readiness reasons.

18. The commercial occupations listed in Table 4 are a small sample of those that CBO studied, each having a total workforce of at least 500 military and civilian personnel in each service.

19. See General Accounting Office (now the Government Accountability Office), *DOD Force Mix Issues: Greater Reliance on Civilians in Support Roles Could Provide Significant Benefits*, GAO/NSIAD-95-5 (October 1994), www.gao.gov/assets/160/154677.pdf (430 KB).

20. Ibid.

Box 1.

Reasons to Exclude Private Contractors From Performing Commercial Functions for DoD

Only government employees (military or civilian) are allowed to carry out inherently governmental functions, such as obligating government funds or commanding troops in battle. Private contractors may perform commercial government work, typically involving skills readily available in the private sector, such as accounting or retail operations. However, in general, the functions of nearly all commercial positions within the Department of Defense (DoD) cannot be performed by private contractors because of laws, executive orders, treaties, international agreements, or DoD's policies on readiness and workforce management objectives.

Laws, Executive Orders, Treaties, and International Agreements

Federal law regulates DoD's use of civilian employees, excludes contractors from certain activities, and establishes a preference for DoD civilians (rather than contractors) to perform certain functions.[1] The law requires DoD to establish and retain a government workforce necessary to maintain "core depot-level maintenance and repair capability" for some weapon systems.[2] Also, DoD may not use more than half of the annual funds allocated for depot-level maintenance and repair to contract for nongovernmental personnel to perform such work.[3] In addition to laws, treaties and international agreements, such as those governing U.S. activities in Korea, may require the United States to hire civilians instead of using contractors to provide many services.

Readiness Needs

DoD does not retain contractors for some commercial activities to reduce the risk that, for various reasons, they may not be able to carry them out. Sometimes DoD has excluded federal civilians from such activities as well. Those excluded positions fall in two main categories:

- Combat support (such as military police and tactical communications) and combat service support (such as construction and supply) functions in deployable units—DoD reserves those functions for military personnel because workers in those occupations may have to deploy to hostile areas that could be unsafe for contractors.[4]
- Positions with dual peacetime and wartime roles and positions necessary to maintain continuity of operations—Incumbents of dual-role positions, who must be military personnel or federal civilians, normally perform commercial functions during peacetime but may be reassigned to critical tasks in deployable units in case of war, mobilization, or other emergency. DoD could require that personnel who fill the positions that those dual-role workers vacated during a war be government employees (military or civilian) if necessary for the continuity of operations of those vacated positions.

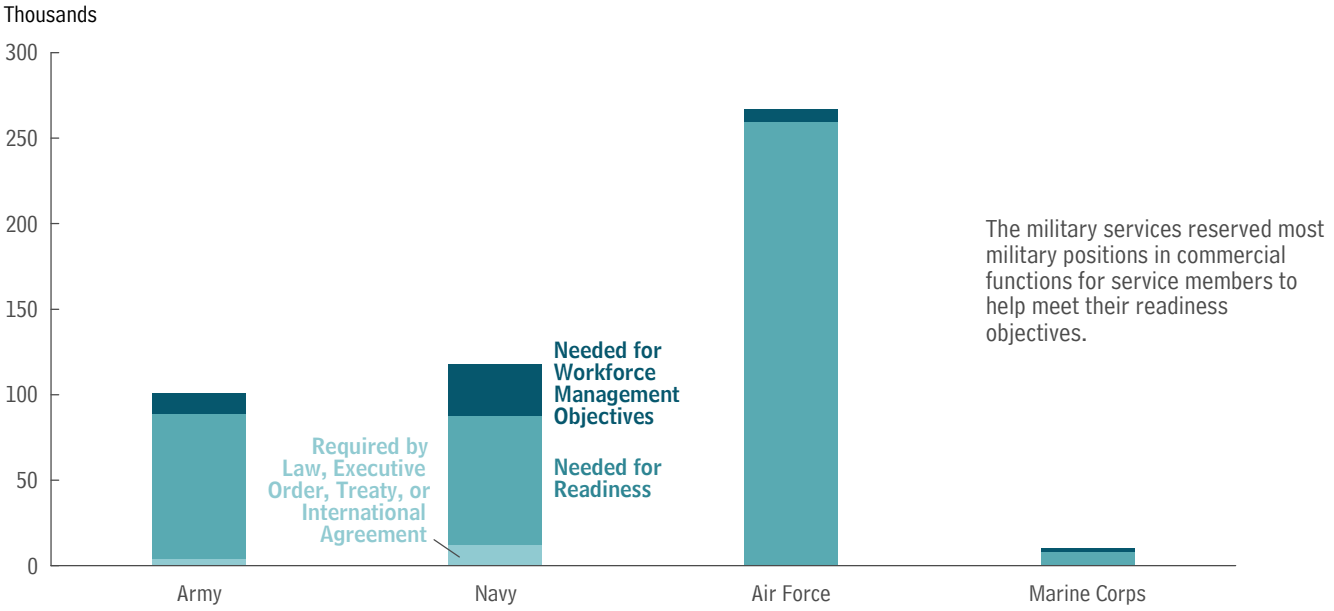
Workforce Management Objectives

DoD manages its workforce to meet certain objectives, which may require excluding private contractors from the department's commercial work. Those objectives include fostering group spirit ("esprit de corps"), job rotation, and career progression. Military bands can promote group spirit and pride, an example of esprit de corps; therefore, some positions in military bands are reserved for military personnel. Some positions that do not otherwise require military incumbency, such as staff jobs in headquarters, are designated as military to provide a base for overseas or sea-to-shore rotation or to offer career paths for developing military leaders. High-level DoD officials can also reserve some positions for government personnel for reasons not otherwise specified in DoD's policy. However, according to DoD's guidance, exercise of such authority should be temporary, pending resolution at higher levels in the department.[5]

1. See 10 U.S.C. §2463 (2012).
2. See 10 U.S.C. §2464 (2012).
3. See 10 U.S.C. §2466 (2012).
4. However, DoD has relied on contractors to provide combat-service-support tasks in theaters of operations during past contingencies. See Congressional Budget Office, *Logistics Support for Deployed Military Forces* (October 2005), www.cbo.gov/publication/17395, and *Contractors' Support of U.S. Operations in Iraq* (August 2008), www.cbo.gov/publication/41728.
5. See Under Secretary of Defense for Personnel and Readiness, *Policy and Procedures for Determining Workforce Mix,* Department of Defense Instruction 1100.22 (April 12, 2010), www.dtic.mil/whs/directives/corres/pdf/110022p.pdf (302 KB).

Figure 4.

Military Positions in Commercial Functions Not Open to Contractors, by Reason, 2012



Source: Congressional Budget Office based on data from Department of Defense, Inventory of Commercial and Inherently Governmental Activities, 2012 submission, prepared by the Under Secretary of Defense for Acquisition, Technology, and Logistics.

Note: In addition to positions not open to contractors as shown in this figure, some commercial positions were not excluded for any of the reasons discussed and are awaiting review for divestiture or transfer to contractors. The numbers of such positions for the Navy, Air Force, and Marine Corps in 2012 were roughly 11,000, 1,000, and 3,000, respectively (the Army had no positions in that category).

examined instances in which the services use different military–civilian mixes in the same occupation, excluding commercial positions in deployable units (such as those providing combat support and combat service support).[21]

CBO estimates that if all the services adopted the approach of the service with the smallest percentage of military personnel in each commercial occupation, about 80,000 active-duty positions could be available for conversion.[22] That would mean, for example, that all the services would have the same 37 percent of positions performing retail supply operations filled with military personnel that the Marine Corps has. That estimate includes only occupations with at least 500 total workers (military and civilian) in each service in nondeploying units because occupations with fewer than 500 total workers are more likely to have unique workforce management needs such as maintaining military career paths.[23] That estimate represents about 23 percent of DoD's active-duty commercial positions.[24] (This report's

21. CBO's analysis does not include reserve positions in the pool considered for transfer to civilians. Usually, reserve personnel fill positions for only part of a year. CBO had no information on the number of part-time reserve personnel needed to fill each reserve position for a full year.

22. If DoD converted fewer positions—say, 40,000 or 20,000—potential cost savings would vary essentially in direct proportion, depending on the number of positions considered. Fewer positions could be identified by altering the criteria used to obtain the 80,000 positions, as this report discusses later. However, transferring significantly more than 80,000 positions, CBO estimates, would increase the risk associated with achieving some of DoD's personnel management objectives, such as reserving enough commercial positions for active-duty service members rotating from combat assignments.

23. Examples of occupations with at least 500 military and civilian workers include contract and administration operations, in which people perform such functions as issuing solicitations and awarding, modifying, overseeing, and terminating contracts for the purchase of equipment, weapon systems, and services; and computing services and/or database management, in which people provide computer end-user support, such as troubleshooting and administration of network systems.

24. By service, that estimate represents 22 percent of active-duty commercial positions in the Army, 32 percent in the Navy, 16 percent in the Air Force, and 38 percent in the Marine Corps.

Table 4.

Share of Military Personnel in Selected Occupations That DoD Classified as Commercial, 2012

Percent

Occupational Group and Specialty[a]	Army	Navy	Air Force	Marine Corps
Communications, Computing, and Other Information Services				
Computing services and/or database management	10	32	37	42
Force Management and General Support				
Finance and accounting services	17	6	2	62
Health Services				
Ambulatory care services	43	71	82	n.a. [b]
Logistics				
Motor vehicle transportation services	28	4	74	19
Retail supply operations	46	49	70	37
Traffic/transportation management services	19	8	47	49

Source: Congressional Budget Office based on data from Department of Defense, Inventory of Commercial and Inherently Governmental Activities, 2012 submission, prepared by the Under Secretary of Defense for Acquisition, Technology, and Logistics.

Note: DoD = Department of Defense; n.a. = not applicable.

a. DoD categorizes each occupational specialty shown as commercial, including those subject to divestiture and those not open to contractors. Each specialty here maintains a combined military and civilian workforce of at least 500 people.

b. The Marine Corps does not have health care occupations, relying primarily on the Navy for that function.

supplemental material lists the 80,000 active-duty positions by occupational specialty.)[25]

Factors That Affect Savings From Replacing Military Personnel With Civilians

Suppose that DoD reduced active-duty military end strength by the number of military positions in commercial functions it shed and then filled those positions with civilians. The net effect on personnel costs would depend on two factors:

- The per-person costs of military and civilian personnel, and
- The ratio at which civilians could replace military personnel.

CBO finds that, on average, a civilian in DoD's commercial positions costs the federal government as a whole (including estimated effects on tax revenues) about 30 percent less, on an annualized basis, than a military service member in similar occupations. Looking just at DoD, however, that civilian costs the department slightly more than a military service member. One reason is that basic pay in the equivalent civilian occupations is greater than the basic pay of a service member. In addition, a smaller proportion of service members' income is taxable than is the case for civilians. Moreover, federal agencies other than DoD, such as the Department of Veterans Affairs, bear a significant share of the costs of future benefits that service members receive.

Those findings (calculated as all current and future costs to the government of hiring either a civilian or military service member) suggest that total costs to the federal government would decline if DoD transferred commercial positions to civilians and cut military end strength by that same number. If DoD did not reduce end strength and simply reassigned military personnel to other duties, costs would increase from hiring civilian replacements. However, providing those commercial functions would cost the federal government less. Earlier studies and DoD's experience also suggest that the services could replace a given number of military personnel with fewer

25. See Congressional Budget Office, "Active-Duty Positions Transferable to Civilians, by Occupation" (supplemental material for *Replacing Military Personnel in Support Positions With Civilian Employees,* December 2015), www.cbo.gov/publication/51012.

civilian employees, especially if streamlined business practices accompanied the conversions.

Like civilian employees, private contractors are an important part of DoD's workforce. Although contractors could fill positions in support functions that are currently allocated to active-duty military personnel, DoD does not make available enough data for CBO to assess the costs of using them. Estimating the costs of contractors compared with those of military personnel or civilians is difficult, for several reasons. First, DoD does not comprehensively track how many people contractors hire for outsourced functions.[26] Private companies often use different approaches (which use different numbers of employees with different levels of experience) to assemble workforces to perform tasks, and they explicitly bill for materials and supplies that they provide. Those varied approaches make it difficult to determine what contractor workforce would replace a government workforce. Second, wage and salary data for contractor personnel—even if available—probably omit the contracting firm's overhead and profit, which are often considered proprietary information that is generally not released outside DoD.[27]

Per-Person Costs of Military and Civilian Personnel

To compare the full per-person costs of military and civilian employees, CBO estimated the federal government's liabilities, including current and expected future costs of employing each type of worker for a year. Under that approach, CBO counts as costs all amounts that the government allocates in its budget each year to account for future obligations to current workers (accrual payments). However, the government does not allocate funds in its annual budget for several types of future benefits for current employees, such as health care for retired civil servants or for military retirees not yet eligible for Medicare. For such cases, CBO calculates how much the government would need to allocate in its annual budget for current employees (implicit accrual charges) to account for those future benefits. (CBO's approach in this study differs from the approach it would use to estimate the costs of legislation, which focuses on the budgetary effects of such a change over a specific period.) The appendixdescribes the elements of per-person costs and sources of data used in CBO's analysis.

Costs of Military Personnel. The costs and liabilities that DoD incurs by employing military personnel include current and deferred cash compensation (such as basic and retirement pay) and current and deferred noncash compensation (in-kind benefits such as education for service members' children and health care for current and retired military personnel); see Table 5.[28] In-kind benefits also include moving employees' households during job transfers, training, family assistance in the form of support and counseling, and discounted prices for groceries at commissaries. DoD also incurs costs for recruiting and advertising to obtain new service members. CBO's analysis incorporates the assumption that, even though certain expenses in a given year might be fixed, DoD would ultimately spend less on cash and in-kind benefits if military end strength was lower.

When DoD employs military personnel, the Department of Veterans Affairs, the Department of the Treasury, OPM, and the Department of Education also incur current and future costs (see Table 5). VA pays for veterans' benefits that many of today's active-duty service members will eventually be eligible for when they leave the military. Those benefits include disability compensation and pensions, health care, vocational rehabilitation, home loans, education (the Post-9/11 Veterans Educational Assistance Act of 2008, also known as the Post-9/11 GI Bill), and burial benefits. The Treasury makes payments to account for the military retirement benefits that

26. Congressional Budget Office, *Federal Contracts and the Contracted Workforce* (March 2015), www.cbo.gov/publication/49931.

27. Although the data are not widely available, some researchers have gained access to detailed contract data with which they conducted case studies of outsourcing functions to contractors during the 1990s. One such study is Carla E. Tighe and others, *Outsourcing and Competition: Lessons Learned From DoD Commercial Activities Programs*, Occasional Paper (Center for Naval Analyses, October 1996).

28. Health care for military retirees consists of a program for Medicare-eligible retirees age 65 or older and a program for retirees younger than 65. (Most people who retire from the military do so in their early 40s and are therefore covered by the latter program for 20 to 25 years, possibly longer than the duration of their military service.) DoD pays for the former program by using an accrual system that sets aside an amount for each active and reserve service member (in the Medicare-Eligible Retiree Health Care Fund). DoD pays for the latter program from current appropriations for operation and maintenance and appropriations for military personnel (to the extent that uniformed personnel at military facilities provide that care). For a discussion of the health care benefit for Medicare-eligible retirees, see Congressional Budget Office, *Costs of Military Pay and Benefits in the Defense Budget* (November 2012), www.cbo.gov/publication/43574.

Table 5.

Average Annualized Cost, by Department, of Employing a Service Member and a Federal Civilian in Occupations That CBO Considered

2014 Dollars

Department and Cost Category	Military	Civilian	Military–Civilian Difference
Department of Defense			
Basic pay[a]	37,000	79,000	-42,000
Allowances	19,000	n.a.	19,000
Special, incentive, and other pay[b]	5,000	0	5,000
Employer's portion of Social Security taxes and unemployment and disability compensation	3,200	6,600	-3,400
Retirement pay[c]	12,000	13,700	-1,700
Health care while employed	9,000	6,000	3,000
Health care for military retirees age 65 or older (MERHCF)	4,000	n.a.	4,000
Health care for military retirees younger than age 65	5,000	n.a.	5,000
Permanent change of station (job transfers that require moving household goods)	3,000	0	3,000
Training (includes accession, basic skills, and specialized skill training for military personnel)	4,000	800	3,200
Education assistance	400	0	400
Advertising and recruiting	800	0	800
Family assistance	800	0	800
Commissary benefits (discount groceries)	200	0	200
Subtotal	103,400	106,100	-2,700
Department of Veterans Affairs			
Disability compensation and pension payments	16,000	n.a.	16,000
Health care	15,000	n.a.	15,000
Vocational rehabilitation, home loan spending, education (GI Bill), and burial benefits	3,000	n.a.	3,000
Subtotal	34,000	n.a.	34,000
Department of the Treasury			
Contribution to accrual payments for concurrent receipt of military retirement and disability pay	5,000	n.a.	5,000
Subtotal	5,000	n.a.	5,000
Office of Personnel Management			
Health insurance for civilian retirees	n.a.	4,000	-4,000
Subtotal	n.a.	4,000	-4,000
Department of Education			
Payments to local school districts for the education of dependents of military and civilian personnel (Impact Aid)	300	0 [d]	300
Subtotal for VA, the Treasury, OPM, and Department of Education	39,300	4,000	35,300
Total Federal Government Spending	**142,700**	**110,100**	**32,600**
Tax Revenues From Basic Pay and Special, Incentive, and Other Pay[e]	-7,500	-14,100	6,600
Net Cost to the Federal Government	**135,200**	**96,000**	**39,200**

Source: Congressional Budget Office.

Notes: Costs reflect current and future liabilities to the federal government from employing each type of worker.

DoD = Department of Defense; MERHCF = Medicare-Eligible Retiree Health Care Fund; OPM = Office of Personnel Management; VA = Department of Veterans Affairs; n.a. = not applicable.

a. Basic pay for civilians is a weighted average of basic pay of the specific occupational specialties included in CBO's analysis. For DoD's civilian occupational specialties and average salaries, see Congressional Budget Office, "Civilian Occupational Specialties Matching Selected DoD Occupations of Active-Duty Positions Suitable for Transfer to Civilians" (supplemental material for *Replacing Military Personnel in Support Positions With Civilian Employees*, December 2015), www.cbo.gov/publication/51012.

b. Special and incentive pays include bonuses and compensation for designated special-duty assignments, such as recruiting, and location assignments, such as certain overseas locations. Other pay includes separation pay and the cost of certain in-kind food benefits.

c. The amount for military personnel refers to accrual payments DoD makes to the Military Retirement Fund. The amount for civilians represents the department's contribution to civilian employees' defined contribution plan (the Thrift Savings Plan) and the defined benefit plan under the Federal Employees Retirement System.

d. CBO's estimate of Impact Aid paid by the Department of Education for the education of dependents of civilians is less than $100 per civilian employee.

e. Tax revenues for military and civilian personnel are calculated by multiplying basic pay and special, incentive, and other pay by the sum of a 15 percent income tax rate and a 2.9 percent employer and employee Medicare tax rate.

some military retirees receive concurrently with veterans' disability compensation payments.[29] OPM pays for the federal government's contribution to civilian retirees' health insurance premiums. And the Department of Education pays school districts to educate children of service members and civilians who live in localities where they do not pay local taxes. CBO's analysis includes all those costs.

For active-duty military personnel, CBO calculated the per-person cost as a servicewide average (weighted by the relative frequency of all pay grades) rather than as an average specific to the grades of the commercial positions to be transferred to civilians—for two reasons. First, those positions are not exclusively in the senior grades reserved for service members potentially rotating from combat assignments; many are filled by junior personnel who have not yet deployed overseas. Second, the services would probably not adjust their grade structure (the so-called pyramid) in any event, if they reduced end strength commensurately with a policy that transferred military positions to civilians. Because changes to the grade structure would result from a separate set of decisions, CBO assumed that the services would implement any end-strength cut in equal proportion across all grades and years of service. Therefore, a servicewide average cost weighted by the relative frequency of grades in the entire structure, as opposed to an average cost of the particular group of positions involved, would best represent the per-person cost of active-duty service members.[30]

Costs of Civilian Personnel. To calculate the costs of employing civilians, CBO first selected the civilian occupations that correspond to the occupational designations of the commercial military positions that it identified as candidates for transfer to civilians or contractors.[31] Then the agency calculated a weighted-average salary for civilians, with weights representing the number of positions and salary in each such commercial occupation.[32]

Next, to obtain the total cost of pay and benefits for civilians, CBO added to that average salary factors reflecting the cost of current and future benefits (retirement, health care, and the employer's portion of Social Security taxes).[33] DoD bears some of those costs, such as payroll taxes, the employer's contributions for retirement pay, part of the cost of health care for personnel while they are employed, and training. OPM incurs the future cost of the government's share of providing health insurance for civilian retirees. However, many benefits available to current and former military personnel, such as veterans' benefits and many DoD-provided in-kind benefits, are not available to civilians.

Revenue Implications of Military and Civilian Personnel. The final element for comparing the costs of military and civilian personnel is the effect on federal tax revenues. The Treasury receives revenues from both types of employees through payroll and income taxes. CBO finds that, on average, a significantly larger share of the compensation for federal civilians (and private-sector

29. Under the military retirement system, DoD makes monthly accrual payments to the military retirement fund to cover the expected future retirement costs of current active and reserve service members. Until 2003, military retirees could not receive both a full retirement annuity and VA disability compensation. Instead, they could choose either to receive a full retirement annuity and forgo VA disability benefits or to have the amount of their DoD annuity reduced by the amount of their VA disability benefits. As a result of successive pieces of legislation, starting with the Bob Stump National Defense Authorization Act for 2003 (P.L. 107-314), an additional benefit termed Concurrent Retirement and Disability Pay (commonly called concurrent receipt)—which makes up for part or all of that VA offset for certain groups of disabled retirees—was created and then expanded. The Treasury makes accrual payments every fiscal year to account for the concurrent-receipt benefit. For a discussion of concurrent receipt, see Congressional Budget Office, *Costs of Military Pay and Benefits in the Defense Budget* (November 2012), www.cbo.gov/publication/43574.

30. CBO also assumed that the services would reduce end strength without resorting to layoffs, an outcome possible because the active force loses more service members each year (more than 200,000) than the number of positions that would be phased out over five years in this analysis.

31. CBO identified the civilian occupations from the Office of Personnel Management's *Handbook of Occupational Groups and Families* (May 2009), http://go.usa.gov/3WGgk (PDF, 1.4 MB).

32. For a list of each DoD civilian occupational specialty and associated average salary, see Congressional Budget Office, "Civilian Occupations Matching Selected DoD Occupations of Active-Duty Positions Suitable for Transfer to Civilians" (supplemental material for *Replacing Military Personnel in Support Positions With Civilian Employees,* December 2015), www.cbo.gov/publication/51012. CBO used occupation-specific salaries because, unlike the military, the grade structure of the federal civilian workforce is not kept constant. Information on civilian salaries comes from Office of Personnel Management data for the civil service, available at www.fedscope.opm.gov. If the mix of experience in each occupation differs significantly from the experience of military personnel in the equivalent military occupation, the resulting savings CBO calculates could be smaller or greater.

33. For more on those factors (which sum to 40 percent of salary), see Congressional Budget Office, *Comparing the Compensation of Federal and Private-Sector Employees* (January 2012), www.cbo.gov/publication/42921.

Box 2.

Differences in Federal Taxes Paid by Military and Civilian Personnel

Replacing military service members with civilian employees would affect federal tax revenues in addition to federal spending. The Congressional Budget Office does not have enough information on the characteristics of the relevant households to calculate the precise tax effect. However, the agency estimates that replacing one service member with one comparable civilian employee would, on average, increase taxes owed immediately by about $6,600 per year because a greater share of the compensation of civilians and private-sector workers tends to be taxable than that for comparable military personnel (see Table 5).[1] For example, less than one-third of the average cost of a service member is immediately subject to payroll and income taxes, compared with more than two-thirds of the average cost of a federal civilian in a comparable occupation.

That difference occurs because certain tax exclusions are available only to military personnel and veterans. For example, military personnel receive substantial tax-free cash allowances for housing and food, accounting for one-third of total military pay and other immediate cash benefits. Also untaxed is the value of in-kind benefits, such as vocational rehabilitation, that the Department of Veterans Affairs offers to veterans of all ages.

If military personnel were replaced with civilian personnel having similar occupations, many of the affected workers would be in the 15 percent federal income tax bracket, CBO estimates, and the federal government would receive an additional 2.9 percent of their earnings for the Medicare payroll tax.[2] The total marginal tax rate (percentage of an additional dollar of income paid in taxes) for such workers would therefore be roughly 18 percent.[3] CBO estimates that a civilian worker receives, on average, about $37,000 more in immediately taxable compensation than a comparable member of the military (see the lines for "Basic pay" and "Special, incentive, and other pay" in Table 5). If all the affected workers were subject to the 18 percent marginal tax rate, their extra $37,000 in taxable compensation would yield additional payroll and income taxes of about $6,600 per worker. (A more precise estimate would require information on the family characteristics of affected workers, which was not available. In particular, income taxes are affected by a family's total income, not just the wages of one worker; by marital status and number of children; and by other factors, such as the value of deductions a family could claim.)

1. Although contributions for military and civilian pensions are tax-exempt when made, benefits paid later are taxable. This estimate does not account for any differences in the value of deferred taxes, focusing instead on taxes owed when wages are paid.

2. The government would also receive Social Security payroll taxes on the extra taxable wages for civilian workers. However, those extra wages would result in higher future outlays for Social Security benefits of similar value. The result would be a small net budgetary effect; therefore, this calculation of additional budgetary savings excludes those taxes.

3. Some measures of marginal tax rates also include the effect of changes in federal transfers (cash payments and in-kind benefits) received. This calculation excludes those effects. For more on marginal tax rates for workers, see Congressional Budget Office, *Effective Marginal Tax Rates for Low- and Moderate-Income Workers in 2016* (November 2015), www.cbo.gov/publication/50923.

workers) is taxable than for comparable military personnel (see Box 2). Although CBO did not have enough information about the characteristics of the relevant households to calculate the effects on tax revenues precisely, the agency estimates that replacing one service member with one comparable civilian employee would, on average, increase annual tax revenues by roughly $6,600 each year (see Table 5).

Relative Costs of Military and Civilian Personnel. CBO finds that, on average, a civilian employee in DoD's commercial positions costs the federal government 29 percent less than an active-duty service member: about $96,000 per year compared with $135,200. Those totals include the costs to DoD, VA, the Treasury, OPM, and the Department of Education, as well as any revenue effects.

The comparison looks different if it focuses on only one part of the government's cost: the cost to DoD. A civilian employee costs DoD about 3 percent more than an active-duty service member in the occupations included in this analysis: about $106,100 per year compared with $103,400. Active-duty service members cost less to DoD than to the federal government as a whole in large part because a significant portion of their costs is borne by agencies other than DoD. In contrast, civilian employees cost more to DoD than to the government as a whole because very few of their costs are borne by other agencies and because their higher taxable incomes generate larger tax payments to the Treasury.

CBO's estimates are specific to the occupations studied here; they do not universally compare the costs of civilians and active-duty military personnel. That adjustment for occupation yielded a cost for civilian employees slightly higher than the cost to DoD of the average federal worker.[34]

Ratio at Which Civilians Could Replace Military Personnel

Differences in employment practices strongly influence the ratio at which civilian employees could replace military personnel. Unlike civilians, who must possess most of the skills needed for their jobs before being hired, military personnel typically join the service without those skills and spend their early careers in training. To advance their careers, military personnel must then fulfill various training requirements that the services prescribe. Service members typically take time off from their currently assigned positions and when they are between positions for schooling, skill training, and physical training. The military personnel in the positions CBO analyzed are likely to have higher turnover rates than the civilian workforce because of the job rotation inherent in military careers and the short average career length (about eight years for enlisted personnel). In a constant flow, personnel thus undergo basic training, specialty training, and on-the-job training before becoming fully productive. Those factors suggest that military personnel, on average over their careers, are available for less time during a work year than their civilian counterparts.[35] Furthermore, a civilian workforce typically has fewer layers of supervision than a military workforce, which has a prescribed hierarchy of ranks—again tending to make a civilian workforce less costly.

Data from previous DoD initiatives help indicate the extent to which fewer civilians could replace military personnel. The services' 2004–2010 initiatives to transfer about 48,000 military positions to civilian employees and contractors offer insights that are more relevant to CBO's analysis than the services' earlier outsourcing efforts. During those recent initiatives, fewer civilian employees replaced a given number of military personnel: The ratio ranged from 1:1.1 in the Army to roughly 1:2.6 in the Marine Corps (see Table 1 on page 6). The department-wide average was 1:1.5—that is, on average about two civilian employees replaced three military personnel. According to the services, the greater time availability of civilian employees and the streamlining of work processes in the affected organizations both helped in achieving those replacement ratios.

Savings From Replacing Military Personnel in Commercial Positions With Civilian Personnel

Savings from replacing military personnel in commercial positions with civilian employees and correspondingly reducing end strength would depend in large part on the replacement ratio. To show potential savings from converting 80,000 military positions, using the relative per-person annualized costs of military and civilian personnel and the replacement ratios discussed above, CBO examined three options (see Table 6):

- Option 1. One civilian replacing one service member (a 1:1 replacement ratio).
- Option 2. Four civilians replacing every five service members (a 1:1.25 replacement ratio).
- Option 3. Two civilians replacing every three service members (a 1:1.5 replacement ratio).

DoD achieved an average replacement ratio of 1:1.5 in the mid-2000s in part because of the inherent advantages

34. For a more general comparison of costs, see Congressional Budget Office, *Analysis of Federal Civilian and Military Compensation* (January 2011), www.cbo.gov/publication/25135.

35. For example, the Navy cited lower availability for military personnel than for civilians as a reason it could replace some military personnel with fewer civilians in 2010. For more details, see Office of the Secretary of Defense (Comptroller), *Operation and Maintenance Overview: Fiscal Year 2010 Budget Estimates* (May 2009, rev. June 2009), p. 173, http://go.usa.gov/3WGw5 (PDF, 8.1 MB).

Table 6.

Estimated Number of Civilians Who Could Replace 80,000 Military Personnel in Commercial Positions

Thousands of Positions

	Replacement Ratio (Civilian:Military)[a]			Existing Military Positions Designated as Commercial That Would Be Transferred to Civilians
Service	1:1	1:1.25	1:1.5	
Army	14.0	11.2	9.3	14.0
Navy	36.0	28.8	24.0	36.0
Air Force	24.0	19.2	16.0	24.0
Marine Corps	6.0	4.8	4.0	6.0
Total	**80.0**	**64.0**	**53.3**	**80.0**

Source: Congressional Budget Office.

a. Replacement ratios of 1:1, 1:1.25, and 1:1.5 indicate one civilian replacing one service member, four civilians replacing five service members, and two civilians replacing three service members, respectively.

of having civilians in commercial occupations (civilians typically require less on-the-job training, for example). Streamlined work processes also contributed to that result. Achieving that ratio without reducing the quality of support services might again require the services to make business processes more efficient, which would reduce costs even without converting military positions. However, the efficiency reviews that DoD has conducted in recent years may have already absorbed some of the potential to realize further gains.[36] The replacement ratios in Options 1 and 2 illustrate the possible savings if DoD cannot replicate the 1:1.5 ratio—particularly without a departmentwide focus on reforming business practices.

CBO's Approach to Estimating Savings: Current and Future Liabilities

CBO's estimates of savings in this report reflect all current and future government liabilities from employing a military service member or a civilian today. In CBO's estimation, that approach is the best way to compare the government's costs for the two types of labor. However, that approach differs from one that CBO would use to estimate the budgetary effects of legislation; those cost estimates are intended to help the Congress enforce budget rules and would result in a different estimate of savings over the 5-year or 10-year periods used in the consideration of legislation (see Box 3 for a comparison of those two approaches). In this particular case, a CBO cost estimate would show smaller savings than the approach used in this report. Although the estimates of annualized savings and budgetary effects cannot be directly compared, CBO notes the budgetary effects of each option over 10 years to give readers a sense of the short-term budgetary effects of legislation that implemented the options.

This study focuses on the long term, in which enough years have passed so that the reduction in military end strength and the corresponding increase in civilian personnel have been completed and DoD has adjusted its operations to reflect those changes. In this study, CBO assumes that it would take at least five years for the services to determine which positions to convert and to hire civilians to fill them. That phase-in period would probably also be long enough to avoid laying off military personnel, because more than 200,000 service members typically leave the active-duty force each year. CBO's estimates of annualized savings would still be applicable if it took DoD longer to convert the positions; they apply in any year after which the conversions are complete.

CBO's estimates of savings from converting active-duty positions incorporate the assumption that, on average in the long term, each service fills all authorized active-duty positions. In some situations, however, authorized active-duty positions in a unit may be unfilled. The existence of chronically unfilled authorized positions would reduce potential savings because DoD could simply eliminate the positions—and not hire civilian replacements because the positions were nonproductive—without generating any net savings. But those unfilled positions, especially for a service as a whole, are typically temporary. Data from the past 15 years show that the services typically recruit and retain enough personnel to fill essentially all authorized positions. Thus, although some units may

36. For example, see Department of Defense, "Sec. Gates Announces Efficiency Initiatives" (press release 706-10, August 9, 2010), http://go.usa.gov/cDrjR.

Box 3.

Why the Short-Term Budgetary Effects of CBO's Options Would Differ Under Standard Cost Estimates and Under the Approach Used to Estimate Costs in This Report

The annualized costs that the Congressional Budget Office used in this report, which focus on current and future government liabilities from employing a military service member or a civilian today, reflect a broader approach than the one CBO uses to estimate the costs of legislation. The agency's cost estimates for legislation assist the Congress in enforcing budget rules and limitations, as well as inform the appropriation process. For example, defense authorization bills set guidelines for defense appropriation bills, which supply almost all of the Department of Defense's (DoD) annual funding. Thus, estimates of a defense authorization bill's effects on the discretionary budget (effects subject to future appropriations) are used primarily to inform the Congress about the appropriation amounts necessary to implement the bill.

Consider a hypothetical authorization bill that would require DoD to substitute civilians for service members in certain positions and to reduce military end strength accordingly. In an ordinary cost estimate, CBO would project how that bill would affect spending and revenues over a limited period. Specifically, cost estimates for legislation address changes in spending that would be subject to appropriation for five years after the legislation is enacted; changes in mandatory spending and revenues are estimated for the 10-year period after enactment. Therefore, such estimates would not encompass all the changes in the government's future long-term liabilities that could result from such proposals.[1] To allow the options in this report to be seen from the perspective of their short-term budgetary effects, CBO includes cost estimates for such legislation over a 10-year period, labeling them "budgetary costs." For those estimates, CBO assumed that changes in personnel would be phased in over five years. However, the budgetary effects of the options would not be fully realized for a few decades, when new employees began to retire and collect benefits.

The budgetary effects shown in CBO's estimates would include DoD's commitments, such as salaries and required accrual payments, for each fiscal year covered by the estimate. Accrual payments account for some deferred benefits for civilian and military retirees and are paid from DoD's annual appropriations. (Those accrual payments are charged to DoD's budget but do not affect total federal outlays or the deficit when they are made. They are transferred from DoD to the Treasury or to the Office of Personnel Management and are paid in future years to cover those benefits when current employees become eligible to receive them.)[2]

1. As the Congressional Budget and Impoundment Control Act of 1974 requires, CBO regularly estimates changes in spending subject to appropriation over a five-year period. CBO sometimes provides such information about the potential effects on discretionary spending over a 10-year period, consistent with estimates of effects on mandatory spending or revenues.

2. DoD makes accrual payments for regular military retirement compensation, health care for Medicare-eligible military retirees, and the defined benefit paid to DoD's civilian retirees through the Federal Employees Retirement System.

Continued

sometimes have unfilled positions, other units may have more personnel than authorized positions.

CBO's estimates of liabilities do not include each service member's share of DoD's overhead costs and costs for materials, supplies, and equipment. Such fully burdened costs, as they are known, would include the per-person share of costs for recruit-processing centers, schools, and training bases and would produce larger savings than the approach to estimating current and future liabilities that CBO used here. CBO did not include those additional types of costs because changes to DoD's overhead structure would reflect a set of policy decisions that may or may not occur.

Option 1: Civilians Replace Military Personnel in Equal Numbers

Under Option 1, one civilian employee would fill each of the 80,000 converted military positions. In that scenario, the federal government (including DoD, VA, the

Box 3. Continued

Why the Short-Term Budgetary Effects of CBO's Options Would Differ Under Standard Cost Estimates and Under the Approach Used to Estimate Costs in This Report

DoD does not make accrual payments for certain other deferred benefits. Unlike the mandatory retirement benefits, some deferred benefits, such as health care that DoD provides to military retirees under age 65 and that VA offers to veterans of all ages, are discretionary and would be funded by future appropriations for DoD and VA. CBO's cost estimates for legislation include the effects on some of those benefits when they would appear in the budget within five years (or sometimes 10 years) after the bill is enacted. However, for the options discussed in this report for current military and civilian employees, most of those effects would occur beyond that 5-year or 10-year budget window. Thus, cost estimates for legislation to implement those options would exclude most of those effects.

In accordance with Congressional procedures governing the enforcement of budget rules, CBO's cost estimates for legislation exclude certain potential effects on the federal budget.[3] For example, a CBO cost estimate for a defense authorization bill would not include secondary effects on mandatory spending that would result from changes in discretionary spending. Such effects include changes in the costs of health care for civilian retirees and certain benefits that VA offers veterans, such as disability compensation, that would result from a change in the number of military or civilian personnel. Congressional procedures also preclude such a cost estimate from accounting for the extent to which replacing military personnel with civilians would affect federal tax revenues.

3. In the conference report for the Balanced Budget Act of 1997, the Congress established scorekeeping guidelines to ensure that spending authority, appropriations, and outlays among programs are treated consistently over time. The guidelines and the classification of budget accounts (as mandatory or discretionary) are updated occasionally upon agreement among the House and Senate Budget Committees, CBO, and the Office of Management and Budget. Scorekeeping rules 3 and 10 pertain to mandatory spending and contingent legislation, respectively. Collectively, those rules have been interpreted to mean that estimates for a defense authorization bill with provisions that are contingent on later appropriations must exclude potential effects of those provisions on mandatory spending. See House Committee on the Budget, *Compilation of Laws and Rules Relating to the Congressional Budget Process,* CP-3 (August 2015), pp. 603–610, http://go.usa.gov/8c3C (PDF, 974 KB).

Treasury, OPM, and the Department of Education, and incorporating effects on revenues) would, after a phase-in period of at least five years, save about $3.1 billion on an annualized basis, CBO estimates (see Table 7).[37] Those savings incorporate the assumption that DoD would then reduce the size of the military by the number of military positions that were transferred to civilians.

But for DoD alone, under this option annualized costs would *increase* by about $0.2 billion a year after the phase-in period, CBO estimates, because a service member, on average, costs DoD less than a civilian in the selected occupations (see Table 5 on page 15).

37. By comparison, Option 1 would increase the government's budgetary costs by an average of $0.5 billion per year, in real terms, between 2016 and 2025. Because those costs would increase as the option took effect, the budgetary cost of Option 1 would rise to about $0.6 billion by 2025 and continue to increase in subsequent years.

Options 2 and 3: Fewer Civilians Replace Military Personnel

Replacing military personnel with fewer civilians would save significantly more than Option 1's equal swap. By hiring 64,000 civilians to replace 80,000 active-duty positions in a 1:1.25 replacement ratio (Option 2):

- The federal government would save $4.7 billion on an annualized basis after the phase-in period.[38]
- DoD would see a smaller effect, with annualized costs lowered by about $1.5 billion (see Table 7).

38. By comparison, Option 2 would reduce the government's budgetary costs by an average of $1.2 billion per year, in real terms, between 2016 and 2025. Because those savings would grow as the option took effect, Option 2 would reduce annual budgetary costs by $1.8 billion in 2025 and by larger amounts in subsequent years.

Table 7.

Long-Run Annualized Savings From Transferring Military Support Positions to Civilians

Billions of 2014 Dollars

Replacement Ratio (Civilian:Military)[a]	Positions Transferred					
	DoD			Federal Government		
	20,000	40,000	80,000	20,000	40,000	80,000
1:1	*	-0.1	-0.2	0.8	1.6	3.1
1:1.25	0.4	0.7	1.5	1.2	2.3	4.7
1:1.5	0.7	1.3	2.6	1.4	2.8	5.7

Source: Congressional Budget Office.

Notes: A negative amount indicates additional costs. Savings would result from transferring active-duty military positions performing commercial functions to civilian Department of Defense (DoD) employees. Annualized costs represent liabilities to the government from employing a military service member or civilian, including the cost of future benefits that are not accounted for by accrual charges today, such as health care for civilian retirees and for military retirees under 65 years of age. CBO's estimates incorporate the assumption that achieving the full amount of annualized savings shown here would take five years or more. The federal government's costs include those for the Departments of Veterans Affairs, the Treasury, and Education; the Office of Personnel Management; and DoD. The costs or savings that would appear in the federal budget in the first 10 years would differ from those amounts.

* = between -$50 million and zero.

a. Replacement ratios of 1:1, 1:1.25, and 1:1.5 indicate one civilian replacing one service member, four civilians replacing five service members, and two civilians replacing three service members, respectively.

By hiring about 53,000 civilians to replace 80,000 active-duty positions in a 1:1.5 ratio (Option 3), as DoD did in the mid-2000s:

- The federal government would save about $5.7 billion on an annualized basis.[39]
- DoD's annualized costs would be reduced by less than that, about $2.6 billion.

Savings If the Services Convert Fewer Military Positions

CBO considered two scenarios in which the services convert fewer military positions: 40,000 positions and 20,000 positions.[40] The following example again considers occupations with at least 500 military and civilian employees in each service.

If each of the other services adopted the percentage of civilian personnel midway between its current percentage and the percentage in the service with the largest proportion of civilian personnel, 40,000 active-duty positions could be available for conversion. By transferring 40,000 positions to civilian employees:

- The federal government would save $1.6 billion to $2.8 billion on an annualized basis after the phase-in period, depending on the replacement ratio (see Table 7).[41]
- DoD's annualized costs would increase by about $0.1 billion at a 1:1 replacement ratio but would decrease by about $1.3 billion at a 1:1.5 replacement ratio.

Those savings incorporate the assumption that DoD would achieve the same average replacement ratio with

39. By comparison, Option 3 would reduce the government's budgetary costs by an average of $2.3 billion per year, in real terms, between 2016 and 2025. Because those savings would grow as the option took effect, Option 3 would reduce annual budgetary costs by $3.4 billion in 2025 and by larger amounts in subsequent years. CBO previously reported that Option 3 would reduce DoD's annual budgetary costs by an average of about $2 billion (in nominal dollars) over the next 10 years. See Congressional Budget Office, *Options for Reducing the Deficit: 2015 to 2024* (November 2014), Discretionary Spending—Option 23, www.cbo.gov/budget-options/2014/49535. The estimate in this report reflects updated analysis.

40. CBO estimates that converting more positions than would be done in Options 1 through 3 would increase the likelihood of adverse effects on DoD's ability to attain some of its personnel management objectives, such as reserving enough commercial positions for active-duty service members rotating from combat assignments.

41. By comparison, if DoD converted 40,000 positions, the government's average annual budgetary cost over the 2016–2025 period would increase by $0.2 billion, in real terms, at a 1:1 replacement ratio but would decline by about $1.2 billion, in real terms, at a 1:1.5 replacement ratio.

fewer converted positions as it would with 80,000 converted positions. In short, DoD would reduce costs in direct proportion to the number of military positions it converted. However, if the 40,000 positions converted in this example were among the original 80,000 positions most likely to yield larger replacement ratios (and therefore bigger savings), potential savings would be greater than half the savings from converting 80,000 positions.[42]

CBO also analyzed an option that would convert 20,000 positions. In 2012, DoD identified about 14,000 active-duty commercial positions as candidates for transfer to contractors (see Table 2 on page 8). Using a special exemption, high-level DoD officials currently exclude contractors from another 6,000 active-duty positions (from among the 330,000 commercial positions shown in Table 2; see Box 1 on page 11). If DoD converted those 20,000 positions to civilian personnel:

- The government would save $0.8 billion to $1.4 billion on an annualized basis after the phase-in period, again depending on the replacement ratio (see Table 7).[43]
- DoD's annualized costs would increase by about $50 million at a 1:1 replacement ratio but decrease by $650 million at a 1:1.5 replacement ratio.[44]

CBO was not able to estimate whether those savings would be larger or smaller if DoD hired contractors to fill those positions rather than civilian employees, because it has no reliable data about the cost of contractors.

Other Considerations

CBO's analysis indicates that DoD and the government could cut costs by transferring positions currently held by military personnel to civilians. For the positions CBO's analysis considered—noncombat positions in units that do not deploy to conflict zones—conversion would have advantages beyond reduced personnel costs. Many civilians have expertise, such as high-technology skills, for which military personnel would require additional training.[45] Civilians also bring greater job stability because they are not subject to frequent transfers.

Nevertheless, there are some potential concerns with conversion of military positions that policymakers should consider. Achieving the savings from the conversions as discussed in this report would require DoD to reduce end strength by the number of positions transferred. Doing so, however, could reduce DoD's ability to rapidly increase the number of troops when it is engaging in combat operations that last for several years.

Also, the services would need to consider how reserving fewer commercial positions in nondeploying units for military personnel would affect their readiness, workforce management, and other objectives. For example, the Navy might use military personnel to fill more commercial occupations ashore than other services. That approach provides onshore jobs for sailors rotating from sea duty to shore duty as they progress through their careers, even if civilians might fill some of those positions more cost-effectively. Reducing the number of those jobs could lower the Navy's retention of sailors.[46]

The services might not want to transfer military positions to civilians for other reasons. One is that the services' different mixes of military and civilian personnel could stem from needs or missions unique to a particular service. Having each service adopt the personnel mix of the service with the largest percentage of civilian personnel in commercial occupations (or even moving midway toward that mix) could have unintended consequences. Another concern is that defining, evaluating, and then redesignating positions would be cumbersome, especially if done for many positions. However, the costs of such a transition would probably be small and would therefore offset only a fraction of the estimated savings in personnel costs over the longer term.

42. For example, converting 40,000 active-duty military positions to 20,000 civilian positions—a 1:2 replacement ratio (not shown in Table 7)—would save the federal government $3.5 billion and DoD $2.0 billion on an annualized basis, after the conversions were phased in.

43. By comparison, if DoD converted 20,000 positions, the government's average annual budgetary cost over the 2016–2025 period would increase by $0.1 billion in real terms at a 1:1 replacement ratio but would decline by about $0.6 billion, in real terms, at a 1:1.5 replacement ratio.

44. Alternatively, replacing 20,000 active-duty service members with 10,000 civilians—a 1:2 replacement ratio (not shown in Table 7)—would save the federal government $1.7 billion and DoD $1.0 billion on an annualized basis, after the conversions were phased in.

45. However, some civilians acquired their job skills while previously serving in the military.

46. See General Accounting Office (now the Government Accountability Office), *DOD Force Mix Issues: Greater Reliance on Civilians in Support Roles Could Provide Significant Benefits*, GAO/NSIAD-95-5 (October 1994), www.gao.gov/assets/160/154677.pdf (430 KB).

Appendix: Sources of Data on Per-Person Costs of Military and Civilian Personnel in the Department of Defense

This appendix discusses the sources of data used to calculate the per-person costs to the federal government of employing a service member and a federal civilian in the Department of Defense (DoD), as listed in Table 5 on page 15. The Congressional Budget Office grouped those costs according to whether they are borne by DoD, the Department of Veterans Affairs (VA), the Department of the Treasury, the Office of Personnel Management (OPM), or the Department of Education.

Costs to DoD

DoD's costs include 12 elements:

- *Basic Pay, Allowances, and Special and Incentive Pay.* Basic pay compensates employees for usual work. For military personnel, basic pay varies by rank and years of service. For civilians, it varies by occupation and experience. Military personnel also receive allowances for housing and food. Special pay and incentive pay include bonuses and compensation for designated special-duty assignments—for example, pay for recruiters or for assignments in certain locations, such as those overseas. Other pay includes separation pay and the cost of certain in-kind food benefits. The Congressional Budget Office estimated the average cost per service member for each service by using budget data that DoD supplied on military personnel programs through the Office of the Under Secretary of Defense (Comptroller) and weighting the average by each service's share of the 80,000 positions to be converted.[1] Accounting for those distributions is important because the force structures of the four services differ with respect to average grade and years of service (features that affect average pay, among other things). For civilian employees, CBO obtained salary data from OPM for each civilian occupation that corresponds to a military position to be transferred to civilians.[2] Then CBO calculated a weighted-average salary, with weights representing the share of positions in each occupation.

- *Employer's Portion of Social Security Taxes and Unemployment and Disability Compensation.* CBO multiplied the current rates of Social Security taxes required by the Federal Insurance Contribution Act by the average basic salary of military personnel and civilian employees to obtain the government's cost for each type of worker. In the case of unemployment compensation, the federal government as the employing agency reimburses states for unemployment benefits they pay to federal employees, whether military or civilian. CBO estimated the average cost of unemployment compensation per service member from budget data that DoD supplied on military personnel programs, applying weights to account for each service's share of positions to be transferred to civilians. Because civilian replacements would fill the same positions formerly held by military personnel, CBO used the same estimate of the cost of unemployment compensation for civilians. In the case of disability compensation, the Federal Employees' Compensation Act program provides monetary and medical benefits to federal civilian employees who sustain work-related injuries or illnesses. Employing federal agencies reimburse the Employees' Compensation Fund for benefits that are paid to their workers from the fund. A 2012

1. DoD's budget documents are available at http://comptroller.defense.gov.

2. Those salary data are available at www.fedscope.opm.gov.

CBO study developed factors that express the cost of benefits—including legally mandated taxes—as a percentage of pay for federal civilian employees.[3] In this analysis, CBO multiplied the factor for disability compensation from that study by average salary to obtain the cost of those benefits for civilians.

- *Employer's Contributions for Retirement Pay.* DoD makes monthly accrual payments to account for expected future retirement costs of current service members. For civilian employees, this cost element represents DoD's contributions to those employees' defined benefit plan under the Federal Employees Retirement System (FERS) and to their defined contribution plan (also known as the Thrift Savings Plan, or TSP). Service members also have access to the TSP, but without employer matching of individual contributions. CBO estimated the average retirement accrual payment per service member from information DoD supplied, applying weights to account for each service's share of positions to be transferred to civilians. To estimate the average cost of DoD's contributions to FERS and TSP accounts for civilian employees, CBO used the results of the 2012 study mentioned above, which express that cost as a percentage of average salary.

- *Health Care for Employees and Their Families.* This element reflects the cost to DoD of medical care for service members and their families and of health insurance for civilian employees and their families. (Health care costs during retirement are accounted for separately.) CBO estimated the cost of health care per active-duty service member from information DoD supplied. CBO used estimates of similar health care costs for civilian employees from the 2012 study mentioned above, expressed as a percentage of average salary.

- *Health Care for Military Retirees Age 65 or Older.* DoD funds MERHCF (the Medicare-Eligible Retiree Health Care Fund) by using an accrual system that sets aside an annual amount for each service member. CBO obtained the amount accrued per service member from DoD's Office of the Actuary. Civilian employees are not eligible for this benefit.

- *Health Care for Military Retirees Younger Than 65.* Most service members who retire from the military do so in their early 40s. DoD provides health care for those retirees, financed mostly from the department's current appropriations for operation and maintenance; the appropriations for military personnel also fund some of that health care, to the extent that it is provided by military personnel at military facilities. However, DoD's Office of the Actuary calculates a notional accrual amount that, if set aside today, would meet future funding needs for this benefit. CBO obtained that amount from DoD's Office of the Actuary. Civilian employees are not eligible for this benefit.

- *Travel and Transportation of Household Goods During Job Transfers.* Also known as permanent change-of-station moves, job transfers are routine in the military. During such transfers, DoD typically pays for the travel of the service member (and eligible family members) and for the transportation of household goods. CBO estimated the average cost of this benefit for each service member from information DoD supplied, applying weights to account for each service's share of positions that might be transferred to civilians. Some of DoD's civilian employees also relocate at times because of job transfers. However, frequent job transfers requiring relocation are not routine in civilian careers (unlike military careers). Therefore, CBO's analysis does not include those costs for civilians.

- *Training.* DoD trains service members to perform the tasks of their occupational specialty. That training includes physical "boot camp," basic training, and specialized occupational training. Civilians also receive training—for example, to improve productivity—but they are generally expected to already have the necessary job skills before employment. (Some civilians acquire job skills from previous military service.) CBO obtained budget data on training programs for military and civilian personnel and estimated an average cost for each type of worker. The average cost for military personnel excludes the costs of flight training, depot maintenance, FSRM (facility sustainment, restoration, and modernization), and base support related to training because CBO does not expect that those costs would vary significantly with the number of military positions considered in this analysis.

- *Education Assistance.* DoD offers an off-duty Voluntary Education (Vol Ed) program that pays for academic and vocational counseling, tuition assistance to help military personnel meet self-development goals, and

3. See Congressional Budget Office, *Comparing the Compensation of Federal and Private-Sector Employees* (January 2012), www.cbo.gov/publication/42921.

basic educational competencies necessary for job proficiency. Under section 4107 of title 5 of the U.S. Code, federal agencies cannot offer training for civilian employees solely to give them an opportunity to obtain a degree (although some agencies may provide job-related education assistance). Thus, although both military personnel and civilian employees have job-related educational requirements, the Vol Ed program for service members has no civilian equivalent. CBO estimated the average cost of this benefit for military personnel by dividing the total spending on the Vol Ed program by the active-duty end strength.

- *Advertising and Recruiting.* DoD conducts an extensive advertising program designed to encourage people to join the military. The services also operate a recruiting program in which military recruiters and other personnel seek out and process entrants to military service. Other than routine administrative and processing systems, the per-person costs of which are probably negligible, no equivalent programs for civilians exist. CBO obtained the cost per service member of the advertising and recruiting programs from DoD's data on those programs. CBO excluded costs for elements of those programs that are not likely to change with the number of military positions considered in this analysis (such as the Military Entrance Processing Command and the Army's parachute and marksmanship teams).

- *Family Assistance.* DoD provides family outreach services for military personnel, such as financial and family life counseling, spouse employment, and youth programs. DoD also offers prevention and intervention programs for issues such as domestic abuse. DoD provides those services through the Defense Dependents Education (DoDDE) programs. CBO obtained the per-person cost of the family assistance programs from DoD's data on total spending for those programs. However, CBO excluded DoDDE programs that provide elementary and secondary education for dependents of service members at DoD's schools, because the costs of operating those schools are unlikely to change significantly with the size of the reductions that CBO examined.

- *Discount Groceries at DoD's Commissaries.* DoD operates commissaries that sell groceries at discounted prices to eligible service members, retirees, and their families. Those commissaries are managed and operated with funds appropriated to the Defense Commissary Agency (DeCA). CBO estimated the per-person cost of discount groceries from DeCA budget data, excluding spending on commissary operations overseas, which CBO estimates are unlikely to change with the reductions considered in this analysis. The estimate of the per-person cost accounts for the patron population, which includes active-duty service members, retirees, and their families.

Costs to VA

VA's costs include three elements:

- *Disability Compensation and Pension Payments to Veterans.* Disability compensation is a tax-free cash payment to veterans with medical conditions resulting from disease or injury incurred or aggravated during active service. Veterans' pensions are tax-free cash payments to eligible low-income wartime veterans. Using data from DoD and VA, CBO estimated a notional accrual amount per current service member that would be necessary to meet future requirements for both types of payments. In developing that estimate, CBO accounted for the fact that many service members leave the military before reaching 20 years of service (when they would become eligible for retirement).

- *Health Care for Veterans.* VA provides outpatient medical services, hospital care, medicines, and medical supplies and equipment to eligible veterans. As with veterans' disability and pension payments, CBO estimated a notional accrual cost, using data obtained from DoD and VA.

- *Other Benefit Programs.* VA also provides benefits such as counseling and training for vocational rehabilitation, home loan guarantees and other housing-related programs, education assistance for tuition and living expenses (for traditional and noncollege degrees), and burial services. As with other VA benefits, CBO estimated a notional accrual cost, using data obtained from DoD and VA.

Costs to the Department of the Treasury

The Treasury's costs include the following element:

- *Accrual Payments for Concurrent Receipt of Military Retirement and Disability Pay.* Service members who retire—either after at least 20 years of military service under the longevity-based retirement program or

earlier because of a disability—are eligible for retirement annuities from DoD. Veterans with medical conditions or injuries incurred or worsened during active-duty military service (except those resulting from willful misconduct) are also eligible for VA's disability compensation. Until 2003, military retirees could not receive both a full retirement annuity and VA's disability compensation. Instead, they could choose to receive a full retirement annuity and forgo VA's disability benefits, or they could choose to have the amount of their annuity reduced by the amount of their disability benefits. Because of several laws, starting with the National Defense Authorization Act for 2003, certain retired military personnel who receive disability compensation (including some who retired before those laws took effect) can now receive payments that make up for part of or the entire VA offset, benefiting from what is referred to as concurrent retirement and disability pay. Those changes resulted in larger benefit payments from the Military Retirement Fund. To account for those larger payments, the Treasury makes annual accrual payments for the concurrent-receipt portion of military retirement. CBO estimated the average cost of concurrent receipt per service member from DoD-supplied information and applied weights to account for each service's share of positions that might be transferred to civilians.

Costs to the Office of Personnel Management

The Office of Personnel Management's costs include the following element:

- *Health Insurance for Civilian Retirees.* OPM pays for the federal government's contribution to civilian retirees' health insurance premiums. To estimate that cost, CBO used the results of the 2012 study mentioned above, which expresses it as a percentage of average salary.

Costs to the Department of Education

The Department of Education's costs include the following element:

- *Payments to Local School Districts.* The presence of certain children living on federal property, such as military bases and installations, across the country can financially burden the local education agencies (LEAs) that educate them. The property on which the children live is exempt from local property taxes, denying LEAs access to the primary source of revenue with which most communities finance education. Those communities must therefore use other revenue sources to educate their federally connected children. The Department of Education pays Impact Aid to LEAs to help replace the lost local revenue that would otherwise be available to them. CBO obtained the cost of Impact Aid per service member from DoD's FCOM (full cost of manpower) model. Some dependents of DoD's civilian employees also live on federal properties covered by the Impact Aid program. CBO estimated the average cost of Impact Aid per civilian by using spending data on civilian dependents obtained from the Department of Education.

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About This Document

This Congressional Budget Office report was prepared at the request of the Ranking Member of the House Budget Committee. In keeping with CBO's mandate to provide objective, impartial analysis, the report makes no recommendations.

Adebayo Adedeji of CBO's National Security Division prepared the report, with guidance from David Mosher and Matthew Goldberg. Dawn Sauter Regan of CBO's Budget Analysis Division and Jason Wheelock (formerly of CBO) produced cost estimates, with guidance from Sarah Jennings. David Weiner and Mark Booth of CBO's Tax Analysis Division also contributed to the analysis. Justin Falk of CBO's Microeconomic Studies Division offered helpful comments on the report, as did Frank Camm of RAND Corporation. The assistance of an external reviewer implies no responsibility for the final product, which rests solely with CBO.

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Director

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