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A Report of the
CSIS Defense Budget Analysis Program

Assessing Trends *in* Military Personnel Costs

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CSIS | CENTER FOR STRATEGIC & INTERNATIONAL STUDIES

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Bottom Line

While today's U.S. military is near its smallest size since the end of World War II in terms of active duty end strength, personnel costs are at a historic high—surpassed only by the height of operations in Iraq and Afghanistan. Left unaddressed, high personnel costs may limit resources for Department of Defense (DoD) modernization initiatives and could threaten the long-term sustainability of the force.

This report examines trends in military personnel costs and the drivers of growth observed over the past several decades. Key findings from this analysis include:

Personnel Cost Trends

As the size of the active duty military fell by 64 percent from its post-World War II high in fiscal year (FY) 1952 to its trough in FY 2016, total personnel costs grew 110 percent in real terms, peaking in FY 2010.

Between FY 2000 and FY 2012, the average cost per service member increased 64 percent, adjusted for inflation, or a compound annual growth rate of 4.2 percent. In comparison, the compound annual growth rate between FY 1985 and FY 2000 was 2.2 percent. Drivers of this cost growth include:

Compensation and Force Composition

- The ratio of officers to enlisted personnel increased, with the officer corps making up almost 18 percent of active duty personnel today compared to approximately 13 percent in the post-war period after Vietnam.
- Military pay raises above the Employment Cost Index (ECI), which measures private sector labor costs, in 10 of the 13 years between FY 2000 and FY 2012 not only increased basic pay but also led to higher payments for service members' retirement and Social Security benefits.
- The housing cost per service member grew over 74 percent in real terms between FY 2000 and FY 2012 as funding for the Basic Allowance for Housing (BAH) increased dramatically—despite falling Family Housing spending.

Military Healthcare and Retirement

- Combined funding for the Defense Health Program (DHP) and Medicare-Eligible Retiree Health Care Fund (MERHCF) accounts increased by over 170 percent between FY 2000 and FY 2012 when adjusted for inflation.
- This growth was driven in part by the creation of MERHCF (or Tricare for Life) in the FY 2001 National Defense Authorization Act (NDAA), and it ultimately led Congress and DoD to pursue cost-saving reforms in later years.

- Military retirement accrual payments grew almost 50 percent in real terms between FY 2000 and FY 2012, due in large part to changes to the retirement system, consistent pay raises above the ECI and, to a lesser extent, changes to the size and makeup of the force.

Policy Considerations

DoD must take a holistic, department-wide approach to address high personnel costs that not only addresses military compensation and benefits directly but also the force management decisions that affect overall costs and the data that informs those policies. Policy options for further study could include:

- Improve the collection and reporting of personnel-related costs;
- Capture the cost of current personnel policy actions on future expenditures;
- Conduct surveys of service member compensation preferences;
- Shift the makeup of compensation;
- Explore cost-sharing opportunities in compensation and benefits;
- Gradually increase the years of service required for military retirement;
- Rethink personnel requirements for platforms, missions, and operations;
- Improve service member career flexibility; and
- Revisit the allocation of roles and missions among the military services.

1 | Overall Trends in Personnel Funding

Introduction

The U.S. Department of Defense (DoD) employs over 2.2 million people, including almost 1.4 million active duty personnel and 800,000 civilians as of fiscal year (FY) 2020. In addition to its full-time service members and civilian employees, DoD maintains a reserve component that exceeded 800,000 personnel at the end of FY 2020. Taken together, DoD relies on a total workforce of close to 3 million people. In comparison, the two largest private-sector employers in the United States, Walmart and Amazon, employ 2.2 million and 1.1 million people, respectively, as of November 2020.[1]

Like any large enterprise, personnel costs make up a significant portion of DoD's budget. Since the end of the Cold War, the total cost of military personnel as a share of the budget has fluctuated between one-third and one-fourth of the Department's total annual spending. That includes regular expenditures for pay, healthcare, and retirement benefits, as well as housing and subsistence allowances, special pays, and other in-kind benefits afforded to service members.

Maintaining a modern and competitive compensation system is critical for DoD's ability to recruit and retain the appropriate workforce for military service. The Department and military services must fill the ranks of enlisted personnel (that make up over 80 percent of the active duty force) and attract candidates for the officer corps. The military competes with the private sector to not only recruit qualified and capable employees but also to retain the skilled operators, technicians, and leaders in whose careers they have invested. Retention is especially important for the military because it has few programs that allow it to hire mid-career professionals into the ranks—what is known as lateral entry. In addition to guaranteeing that troops are adequately compensated for the demands of military service, DoD must also ensure that the size and composition of the force are sufficient to implement the National Defense Strategy.

Yet growth in costs associated with personnel could hinder DoD as it tries to operationalize its strategy and prioritize the modernization of key military capabilities. The 2018 National Defense Strategy (NDS) called for the modernization of the force to restore its eroding advantage in the face of strategic competition with China and Russia.[2] The military faces a backlog of modernization requirements as it continues to operate platforms and equipment that were developed or procured

[1] "Top 30 US Employers Worldwide 2020," Disfold, last updated July 9, 2021, https://disfold.com/top-us-employers/.
[2] U.S. Department of Defense, *Summary of the 2018 National Defense Strategy of the United States of America* (Washington, DC: Department of Defense, 2016), https://dod.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf.

during the Cold War buildup of the 1980s under the Reagan administration.[3] In addition to replacing deteriorating and increasingly outdated capabilities—including all three legs of the nuclear triad—DoD must simultaneously look to harness emerging technologies, from artificial intelligence and 5G to hypersonic weapons and autonomous systems, to counter the threats posed by increasingly sophisticated adversary weapon systems. As the Biden administration conducts its own strategic review over the course of this year, it will likely continue to prioritize modernization and the development of new operational concepts.[4]

Rising personnel expenses, coupled with the growing cost to operate and maintain equipment, pose a fundamental challenge to the modernization and sustainability of the force over the long term. While DoD's total budget today is over 15 percent larger in real terms than it was at the peak of the Reagan buildup, the size of the military has fallen significantly by almost all measures.[5] As Figure 1 illustrates, the Army's current active end strength is only 62 percent of its FY 1985 end strength, while the Navy's current fleet size and Air Force's total aircraft inventory are just over half their FY 1985 levels. The U.S. defense enterprise is paying more today for a much smaller military, recently characterized as the "ever-shrinking fighting force" by former Senate Armed Services Committee staff director and retired Marine Major General Arnold Punaro.[6] Historical trends suggest that maintaining the military at its current size will require annual growth above inflation in the defense budget. While this trend may be a "fact of life," it should not be accepted as immutable.[7]

Political pressure and concerns among lawmakers over the growing deficit may preclude real growth in the budget for the foreseeable future. If the administration and Congress are serious about realizing modernization goals in the short term, they will be forced to make difficult trade-offs in force structure and readiness to invest in new capabilities. But policymakers must also address the sustainability of the force over the long term by enacting policies that curb the growth of personnel costs.

This report explores the trends in personnel costs that have contributed to a smaller, yet more expensive force. It first provides a breakdown of the costs associated with military personnel and

[3] For more on this subject, see Todd Harrison, *Defense Modernization Plans through the 2020s: Addressing the Bow Wave* (Washington, DC: CSIS, 2016), https://csis-website-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/publication/160126_Harrison_DefenseModernization_Web.pdf; and Todd Harrison, "Future Defense Spending," Testimony before the House Appropriations Subcommittee on Defense, February 24, 2021, https://csis-website-prod.s3.amazonaws.com/s3fs-public/congressional_testimony/ts210224_Harrison_HAC-D.pdf?uLK0uFVpZTI2mpoS8YXUgK3zckwZ5TIL.

[4] In its *Interim National Security Strategic Guidance*, the Biden administration stated that it would "shift our emphasis from unneeded legacy platforms and weapons systems to free up resources for investments in the cutting-edge technologies and capabilities that will determine our military and national security advantage in the future." For more, see President Joseph R. Biden, Jr., *Interim National Security Guidance* (Washington, DC: The White House, 2021), 14, https://www.whitehouse.gov/wp-content/uploads/2021/03/NSC-1v2.pdf.

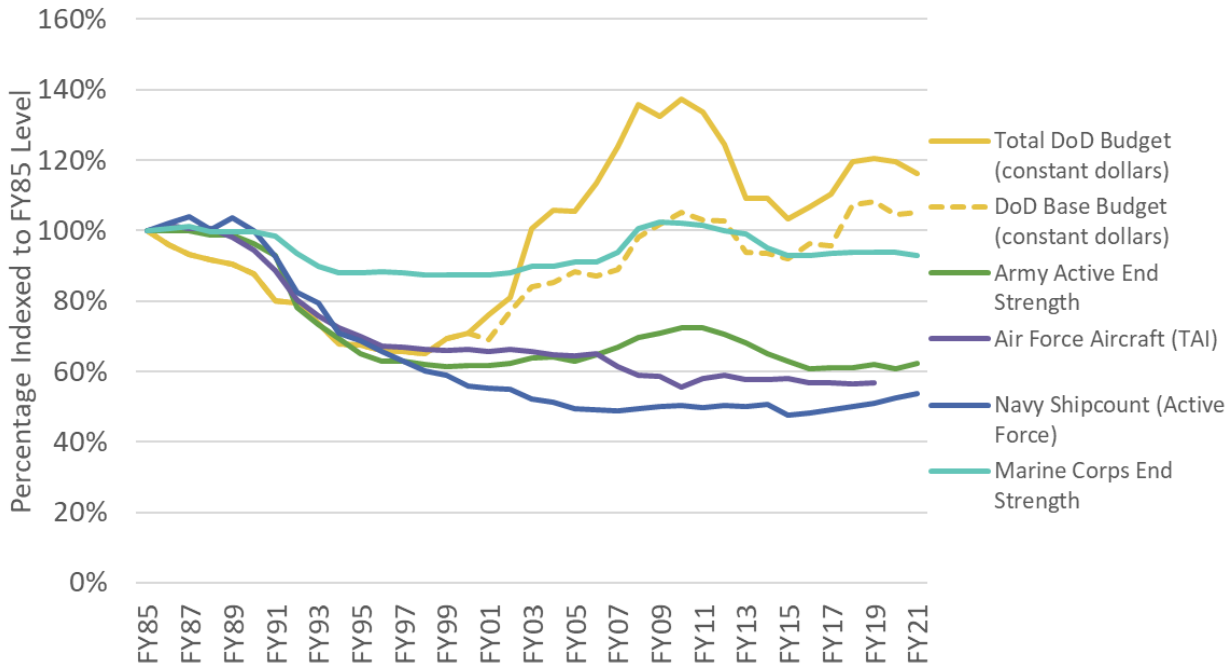
[5] All adjustments for inflation in this report are made using the GDP Chained Price Index published by the Office of Management and Budget in Historical Table 10.1 rather than the deflators used by DoD. The defense deflators count some of the growth in labor costs for military and civilian employees as inflation and therefore understate the growth in these accounts over time.

[6] Arnold Punaro, *The Ever-Shrinking Fighting Force* (Washington, DC: Punaro Press, 2021).

[7] Harrison, "Future Defense Spending."

where these costs are in the DoD budget. In addition to assessing trends in the overall costs of personnel, this report evaluates the drivers and policies underlying those trends. Understanding the causes behind the growth in personnel costs is critical if DoD wants to reorient itself toward modernization and long-term strategic competition with its adversaries.

Figure 1: DoD Budget vs. Force Structure Trends Relative to FY 1985 Baseline



Source: Based on data from the FY 2021 DoD Green Book, Congressional Research Service, Mitchell Institute for Aerospace Studies, Air Force Magazine Almanac, and Naval Vessel Register.

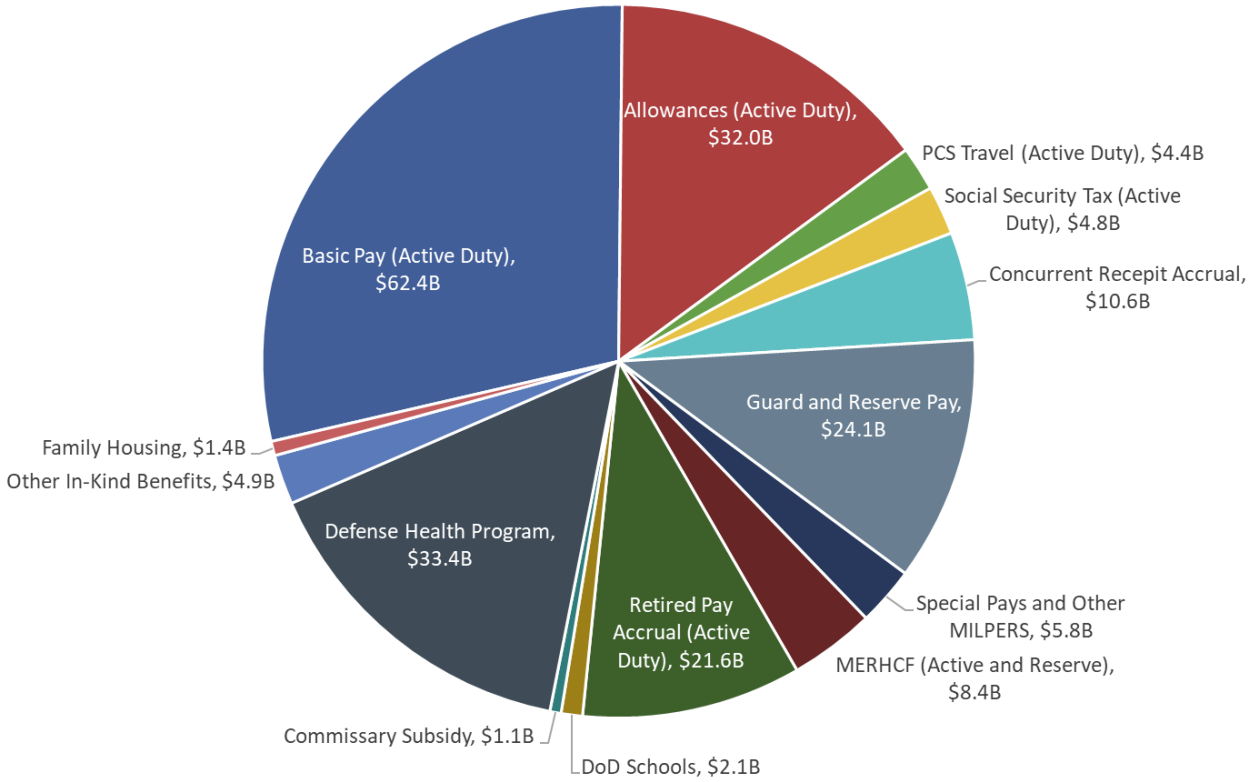
Defining Personnel-Related Funding

The costs associated with military personnel extend past the typical pay, healthcare, and retirement benefits offered by many private-sector employers. The defense budget includes other forms of compensation and benefits for current and retired service members. Figure 2 provides a breakdown of the $217.1 billion in personnel-related funding (including both discretionary and mandatory costs) requested by DoD for FY 2021.[8] Basic pay for active duty service members makes up the greatest share of total personnel funding at 29 percent. In addition to pay, service members receive allowances (15 percent of the personnel budget) in the form of cash compensation, predominantly for housing and subsistence costs. Together, basic pay, allowances for housing and subsistence, and the tax benefit

[8] This report assesses personnel costs up to the FY 2021 budget request rather than the FY 2022 request as all materials pertaining to the latter had not yet been published at the time of writing. While Congress passed appropriations for DoD for FY 2021, the appropriations language and associated funding tables do not provide the same level of granularity as the justification documents.

accrued from those allowances (which are exempt from federal income tax) make up a service member's Regular Military Compensation (RMC), which DoD considers roughly analogous to an equivalent civilian salary.[9] On top of RMC, active duty service members may also qualify for permanent change of station (PCS) travel funding (2 percent of the personnel budget), and other special pays, such as retention bonuses for high-demand career fields, supplemental pay for certain careers, and hazardous duty pay (3 percent of the personnel budget). Pay for guard and reserve component personnel accounts for 11 percent of the total personnel budget.

Figure 2: Military Personnel-Related Costs in the FY 2021 DoD Budget Request by Program/Activity



Source: Based on DoD FY 2021 budget materials.

In addition to cash compensation, service members qualify for in-kind benefits. Instead of receiving a housing allowance, some military personnel and their families may choose to live in government-owned family housing. DoD requested $1.5 billion for the construction, operation, and maintenance of family housing in FY 2021 as well as for oversight of privatized housing facilities. The Department also includes funding for dependents' pre-K-12 education under the DoD Education Activity (DoDEA) and other in-kind benefits for family services, child care, and Morale, Welfare, and Recreation (MWR)

[9] "Regular Military Compensation (RMC) Calculator," U.S. Department of Defense, Military Compensation, https://militarypay.defense.gov/Calculators/RMC-Calculator/.

programs.[10] Service members and their families can shop at commissaries subsidized by DoD at a cost of $1.1 billion annually.

Healthcare for military personnel and their dependents is largely administered under the Defense Health Program (DHP), which accounts for the second-largest share of personnel funds in the budget at 15 percent. In addition to regular healthcare, the DoD budget includes accrual payments for the Medicare-Eligible Retiree Health Care Fund (MERHCF), which funds healthcare coverage for Medicare-eligible (generally 65 and older) retired service members and their dependents.[11] MERHCF makes up roughly 4 percent of total personnel costs.

Approximately 10 percent of the personnel budget is set aside in a trust fund to pay the expected future retirement benefits of current service members. DoD also pays $4.8 billion, or approximately 2 percent of the personnel budget, for future Social Security benefits as the service members' employer. Finally, DoD's budget includes mandatory funding (not passed by Congress in annual appropriations bills) for the concurrent receipt of military retirement pay for retired service members also receiving veterans' disability benefits. These accrual payments account for most of the mandatory funding in DoD's annual budget request.

The collection and organization of cost data associated with military personnel present a challenge for conducting a comprehensive analysis of the subject, as it is disaggregated and spread across the DoD budget. As Table 1 shows, military personnel costs fall under almost every title of the budget. The military personnel (MILPERS) title covers the majority (approximately 80 percent) of total personnel-related costs in the FY 2021 budget request, including pay, allowances, PCS travel, and guard and reserve personnel pay. Both the MERHCF and concurrent receipt accounts also fall under MILPERS.

Most healthcare costs fall under the operation and maintenance (O&M) title of the budget.[12] However, the direct costs of the military personnel that support the military healthcare system fall under MILPERS. In addition to healthcare, O&M also includes funding for in-kind benefits such as dependents' education, family support, and MWR programs. The cost of family housing for service members and their families is a separate title of the defense budget (and in Congress, the family housing title of the budget is controlled by a different appropriations subcommittee than the rest of defense).

The budget includes a small amount of funding for military construction (MILCON) projects for schools and healthcare facilities as well as some procurement funding for DoDEA. DoD also provides $1.1

[10] Estimates for other in-kind benefits are assumed to fall under O&M and are derived from Figure 2.2 "Military Family Support Programs," excluding the cost of DoDEA schools and commissary, in Office of the Under Secretary of Defense (Comptroller), *Defense Budget Overview: Fiscal Year 2021 Budget Request* (Washington, DC: Department of Defense, 2020), 2–7, https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2021/fy2021_Budget_Request_Overview_Book.pdf.
[11] Bryce H.P. Mendez, "FY 2021 Budget Request for the Military Health System," Congressional Research Service, IF11442, March 2, 2020, https://fas.org/sgp/crs/natsec/IF11442.pdf.
[12] While DoD organizes Defense Health Program (DHP) funding under the O&M title of the budget, it includes research, development, test, and evaluation (RDT&E) and procurement funding as well.

billion in revolving and management funds to subsidize the Defense Commissary Agency for the operation of 236 commissaries on U.S. military installations worldwide.[13] In total, military personnel costs account for $217.1 billion, or 30 percent, of the total DoD FY 2021 budget request and 33 percent of the base budget request.

Table 1: Military Personnel-Related Costs in the FY 2021 DoD Budget Request by Title

ACCOUNT	DISCRETIONARY	TOTAL
MILPERS	**$163.5B**	**$174.1B**
Pay, Allowances, PCS Travel, Retired Pay, Social Security	$155.1B	$155.1B
MERHCF	$8.4B	$8.4B
Concurrent Receipt of Military Retirement Pay	-	$10.6B
O&M	**$35.8B**	**$35.8B**
Defense Health Program (incl. RDT&E and procurement)	$32.9B	$32.9B
DoDEA	$2.0B	$2.0B
Other In-Kind Benefits (Family Support and MWR programs)	$4.9B	$4.9B
Family Housing	**$1.5B**	**$1.5B**
MILCON	**$0.6B**	**$0.6B**
Defense Health Agency	$0.5B	$0.5B
DoDEA	$0.1B	$0.1B
Revolving and Management Funds (Defense Commissaries)	**$1.1B**	**$1.1B**
Procurement (DoDEA)	**$0.0B**[14]	**$0.0B**
TOTAL[15]	**$206.5B**	**$217.1B**

Source: DoD FY 2021 budget materials and OMB FY 2021 budget authority database.

In addition to difficulties caused by the disaggregated structure of personnel costs across the budget, the reporting of cost data poses challenges for trend analysis of overall personnel funding. For some of the accounts outlined above, a snapshot of only one year may be provided due to the format of the budget justification documents. For example, trends in actual MILCON spending for programs cannot be readily assessed. Other data may be available from FY 2000 onwards but not in preceding years. The long-term analysis of the trends in personnel costs in the following section excludes several of the accounts mentioned above to allow for consistent comparisons over time. The relatively low dollar amounts of these excluded accounts compared to other accounts is unlikely to alter the findings of this analysis.[16]

[13] Under Secretary of Defense (Comptroller), *Defense Budget Overview FY 2021*, 2–7.
[14] The procurement request for DoDEA in FY 2021 was $1.3 million.
[15] Total may not add up due to rounding.
[16] Excluded personnel-related costs include DoDEA funds, other in-kind benefits, and MILCON, which in the FY 2021 request totaled $7 billion of the total military personnel-related budget.

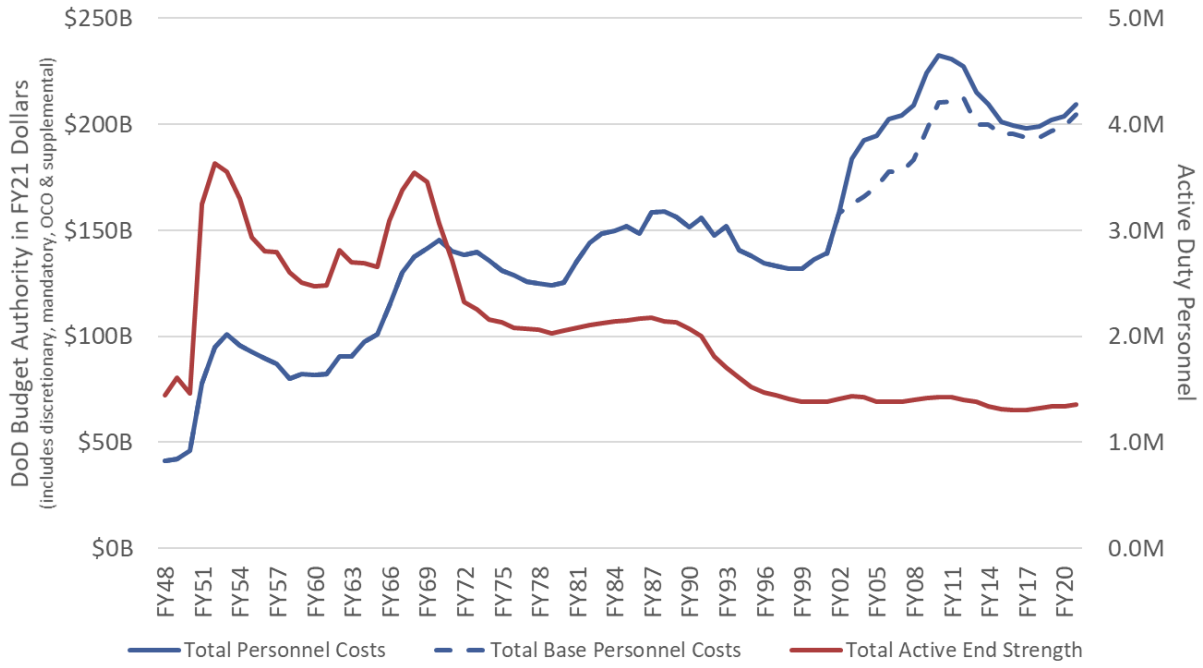
Trends in Total Military Personnel Costs

Adjusted for inflation, the total cost of military personnel in the DoD budget is relatively high compared to historical norms. Yet as Figure 3 shows, the force itself (measured in active end strength) is close to the smallest it has been since the end of World War II. As the size of the active duty military fell by over 64 percent from its post-World War II high in FY 1952 to its trough in FY 2016, total personnel costs grew 110 percent, adjusting for inflation. The personnel budget peaked in FY 2010 at the height of operations in Afghanistan and Iraq and before several reforms were instituted to reign in personnel costs.

As Figure 3 illustrates, personnel funding and end strength rose and fell together from FY 1948 through the Vietnam War. However, the transition to the all-volunteer force in 1973 disrupted that alignment as the cost to attract and pay new service members grew with the end of conscription. While the number of active duty personnel fell almost 43 percent from FY 1968 to FY 1979, personnel costs only decreased by 15 percent from its FY 1970 high. During the 1980s buildup, end strength only grew 7 percent to its peak in FY 1987 as the Reagan administration prioritized procurement investments, but personnel costs still increased by 27 percent.

In the drawdown at the end of the Cold War, end strength fell by over one-third from FY 1987 to FY 1999 and personnel costs decreased 17 percent in real terms. The trend lines for the size of the force and personnel costs diverged even more after 9/11, with personnel-related costs (including Overseas Contingency Operations [OCO] funding) growing by an astounding 76 percent from its FY 1999 trough to its peak in FY 2010, yet the size of the force only grew by 3 percent. The number of active duty personnel in the U.S. military in FY 2010 was 34 percent lower than in FY 1987 during the Reagan buildup, but total personnel-related costs in FY 2010 were 47 percent greater in real terms than in FY 1987. Paying and supporting U.S. service members has grown significantly more expensive over time.

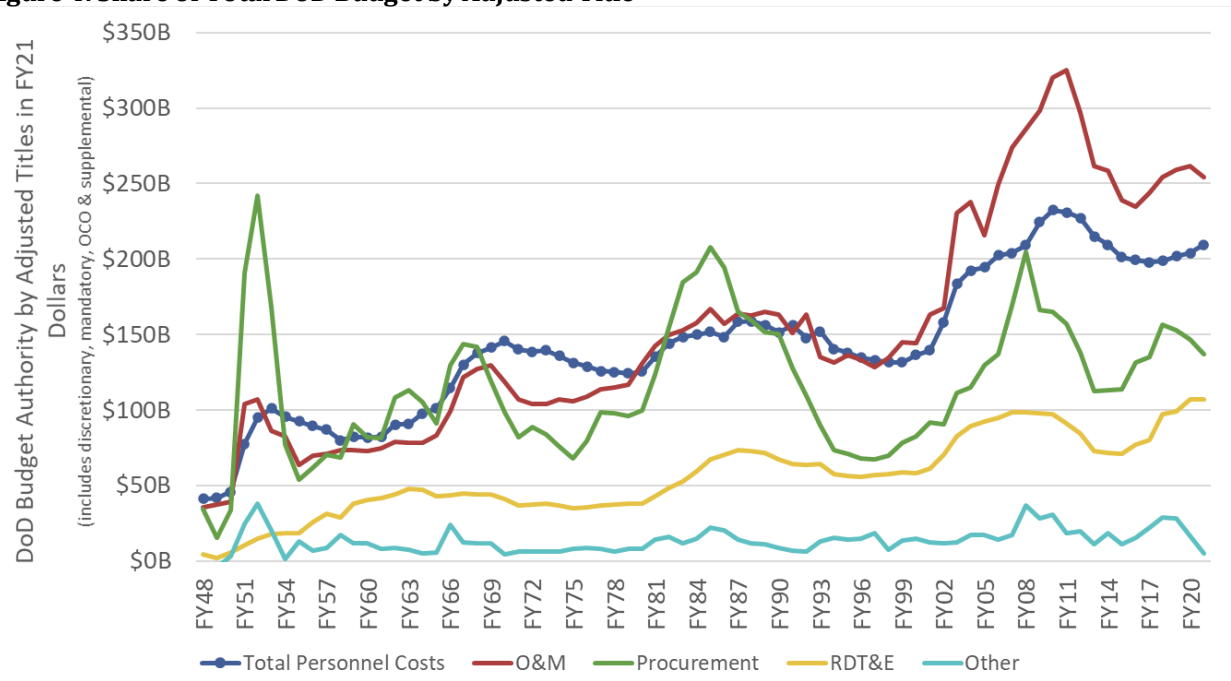
Figure 3: Military Personnel Costs vs. Active Duty End Strength



Source: Personnel costs based on author's analysis of DoD and OMB data sources; end strength based on data from DoD Green Book.

As growth in total personnel-related costs accelerated from their post-Cold War low in FY 1999 to FY 2010, their share of the DoD budget did not grow as one might expect. In fact, as shown in Figure 4, personnel costs as a percentage of the total defense budget fell from 30 percent to 27 percent as O&M and procurement funding for war-related operations and equipment increased. If OCO funds are excluded, personnel costs as a share of the DoD base budget remained largely constant around 32 percent between FY 2001 and FY 2010, despite the base budget growing 52 percent in real terms and active duty end strength only increasing 3 percent.

Figure 4: Share of Total DoD Budget by Adjusted Title



Source: Total personnel costs based on author's analysis of DoD and OMB data sources; other budget titles do not include the personnel accounts that fall within them, with the exception of those excluded from long-term analysis in this study.

The steady growth in the cost of U.S. military personnel is best evidenced by normalizing total personnel costs for the size of the overall force, as shown in Figure 5. The estimated cost per active duty service member grew by just over 2 percent annually between FY 1985 and FY 2000.[17] Growth in the cost per service member accelerated after FY 2000 and into the era of the Afghanistan and Iraq Wars. Between FY 2000 and FY 2012, the cost per service member increased at a real compound annual rate of 4.2 percent (or 3.5 percent if the additional personnel costs and special pays for operations in Afghanistan and Iraq are excluded).[18] The cost per service member has since flattened, though it remains at a high level relative to historical norms. Some growth above inflation is expected as benefits have expanded, and the quality of life has improved for the overall workforce in the United States. Yet the high rate of growth between FY 2000 and FY 2012 saw the annual average cost of an individual service member increase by 64 percent in real terms.

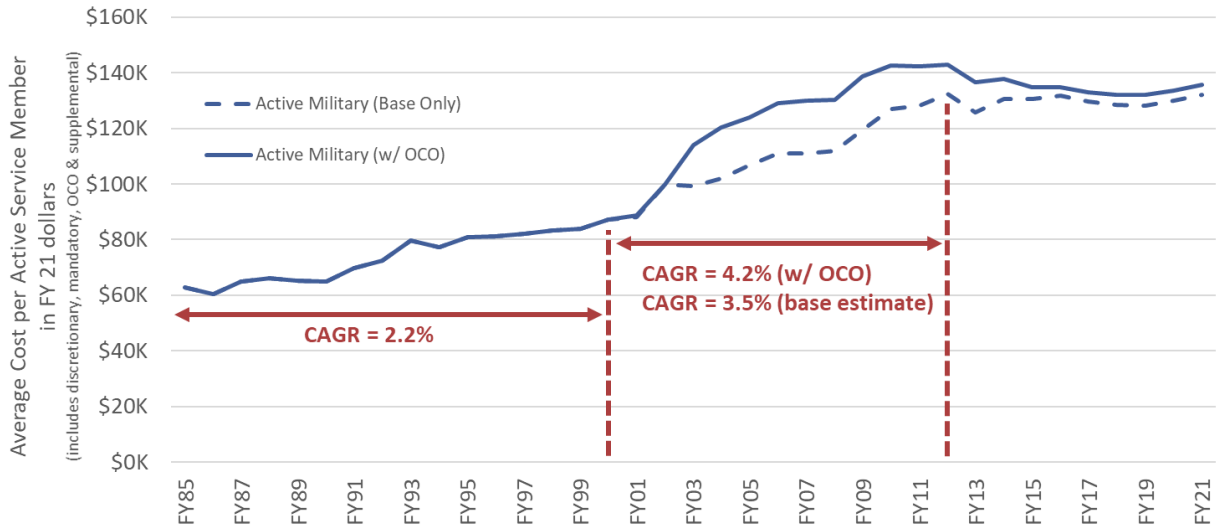
Evidence of the drivers behind this cost growth can be found by comparing the total average price per service member with the average price per troop paid by the military departments. While the average

[17] Annual growth in the cost per active duty service member is calculated as the real compound annual growth rate (CAGR) over the specified period. The costs in this calculation include active duty MILPERS, family housing, DHP, and commissary funding.

[18] The real CAGR of 3.5 percent for base personnel costs excludes OCO and supplemental MILPERS, family housing, and DHP funding. The estimated base cost per active duty service member from FY 2001 to FY 2021 may be slightly lower as the calculation subtracts the cost of guard and reserve component MILPERS as well as OCO and supplemental MILPERS. OCO and supplemental MILPERS includes incremental funding for reserve component personnel in wartime operations.

cost per service member shown in Figure 5 includes defense-wide expenditures for the Defense Health Program, commissaries, and concurrent receipt accrual payments, the primary personnel costs incurred by the military departments only include their respective MILPERS, MERHCF, and family housing accounts. Figure 6 compares the average cost per active duty service member by department, excluding any personnel costs that fall under the defense-wide portion of DoD's budget (i.e., DHP, commissaries, and concurrent receipt accrual payments).

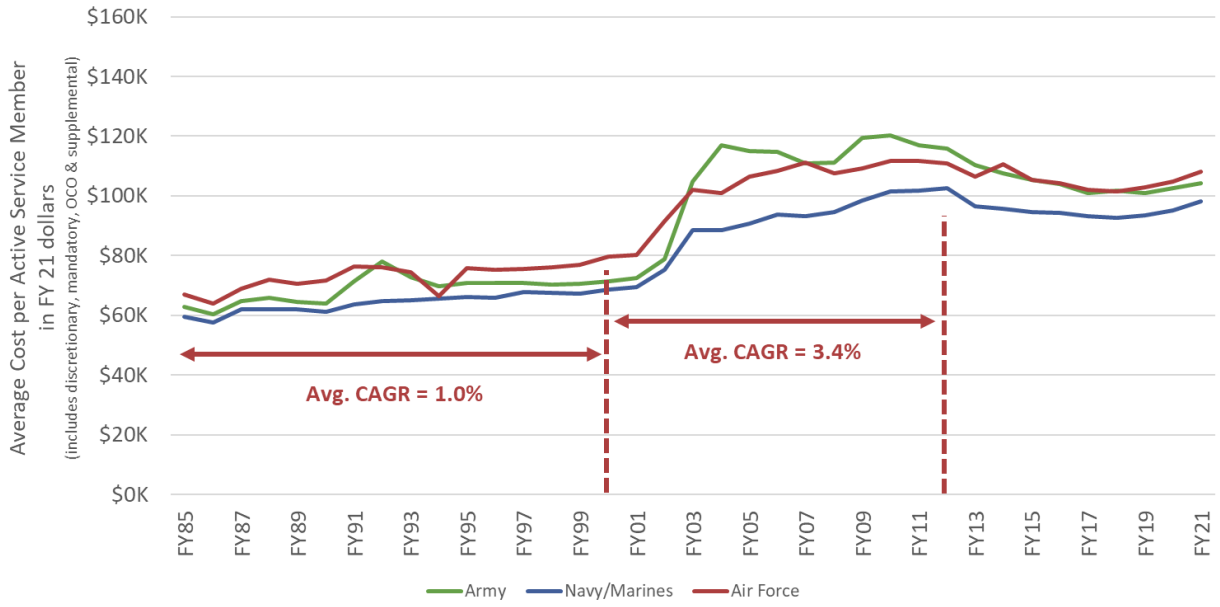
Figure 5: Average Cost per Active Duty Service Member (DoD-Wide)



Source: Based on author's analysis of DoD and OMB data sources.

While the total cost per service member to DoD grew at a rate of 4.2 percent annually above inflation between FY 2000 and FY 2012, the average cost per service member to the services increased by a lesser amount—just 3.4 percent annually overall. This is because major drivers of growth were in the components of personnel costs that fall in defense-wide accounts rather than service accounts, such as the Defense Health Program. The Army experienced the largest increase in its portion of personnel costs, with the cost per soldier growing by 4.1 percent per annum compared to the Navy's 3.4 percent growth and Air Force's 2.8 percent growth. In comparison, the compound annual growth rate from FY 2000 to FY 2012 vastly exceeded the services' compound annual growth rate of approximately 1 percent between FY 1985 and FY 2000.

Figure 6: Cost per Active Duty Service Member by Military Department



Source: Based on author's analysis of DoD and OMB data sources.

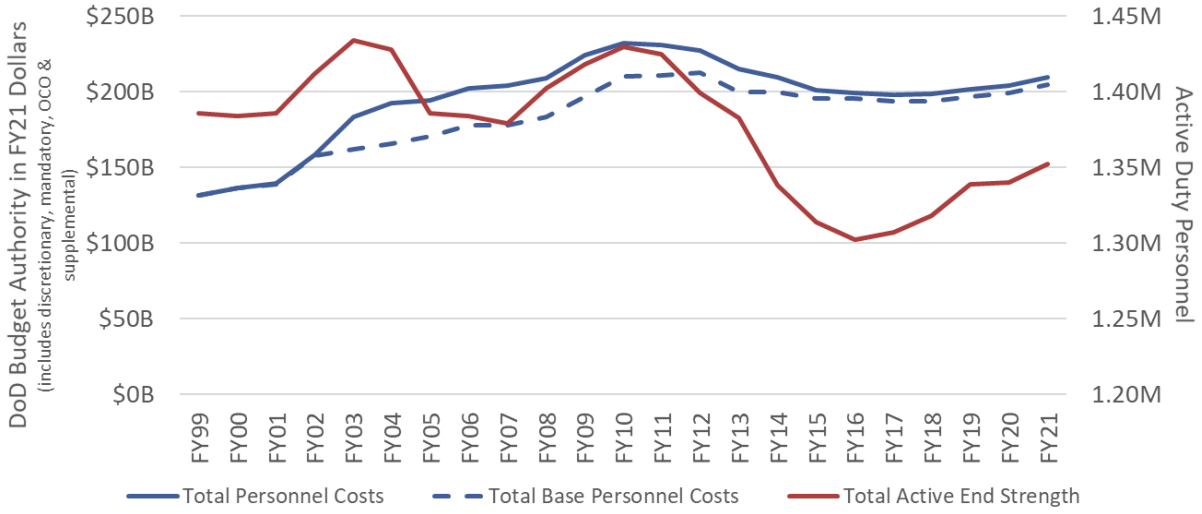
The following sections of this report examine the drivers and policies behind higher personnel costs. They explore trends in military compensation, healthcare, and retirement costs and the factors underlying those trends. While the report focuses predominantly on the costs associated with military personnel, it also includes a section on civilian personnel costs. The report concludes by offering potential policy options for further study to curb growth and improve requirements and practices for employing personnel.

2 | Military Compensation Costs

Force Size and Composition

While the size of the U.S. military is not a reliable indicator of total personnel costs over the long term, as discussed in the preceding section, the overall size of the force is a contributing factor. As active duty end strength grew 4 percent from FY 2000 to FY 2003 with the beginning of operations in Afghanistan and Iraq (shown in Figure 7), total personnel funding increased 35 percent in real terms. Part of that cost growth was in OCO funding for the additional personnel costs of ongoing military operations, such as combat pay. However, as end strength fell 3.8 percent from FY 2003 to FY 2007, costs continued to grow through FY 2010.

Figure 7: Military Personnel Costs vs. Active End Strength, FY 1999–FY 2021

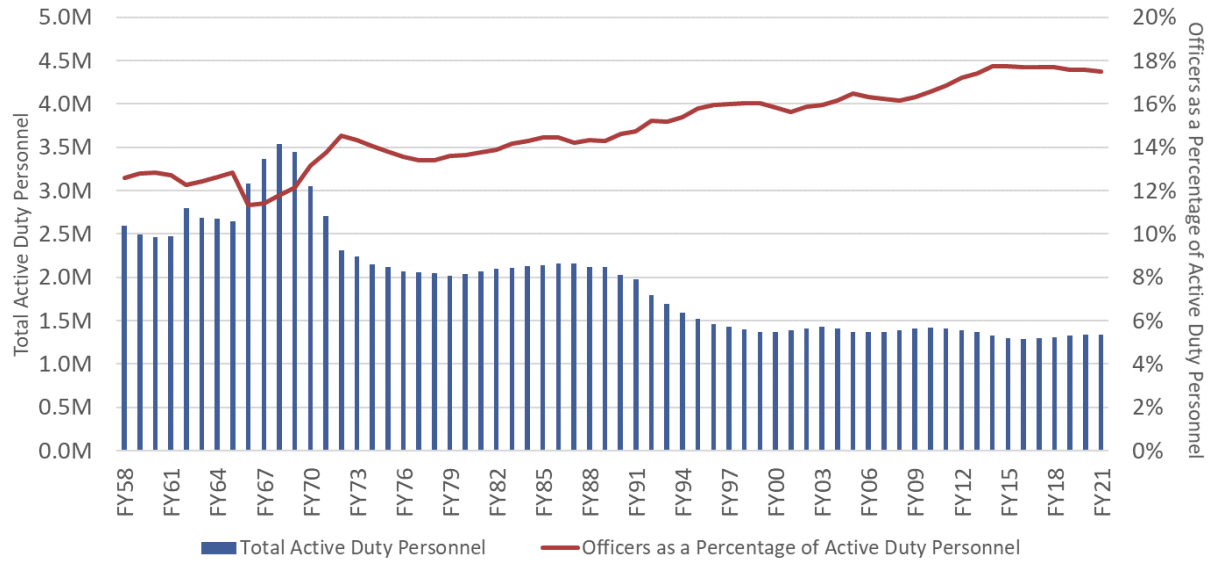


Source: Personnel costs based on author's analysis of DoD and OMB data sources; end strength based on data from DoD Green Book.

The makeup of the force in terms of officer-to-enlisted ratio, rank, and years of service also impacts overall costs. Over time, the ratio of officers to enlisted personnel has increased. Figure 8 shows officers as a percentage of the total active duty force compared to active duty end strength over time.[19] While officers made up just over 13 percent of the force in FY 1978, they account for almost 18 percent of active duty personnel today. This is due in large part to the overall decline in active end strength; the size of the officer corps (including warrant officers) fell by approximately 15 percent from FY 1978 to FY 2021, but the size of the enlisted force decreased by 38 percent.

[19] Data includes both commissioned and warrant officers but excludes cadets and midshipmen.

Figure 8: Officers as a Percentage of Total Active Duty Personnel



Source: Based on Defense Manpower Data Center (DMDC) data.

The period of heightened operations in Afghanistan and Iraq saw officers as a percentage of the military grow as well. Officers made up under 16 percent of the force in FY 2001, and by FY 2014, officers accounted for almost 18 percent of the active duty force. The total number of officers in the Afghanistan/Iraq era peaked in FY 2012 at nearly 239,000, a 10 percent increase in the number of officers compared to FY 2001.

Figure 9–12 show officers as a percentage of each service's active duty force relative to the total end strength. The increase in the percentage of officers in the total force was driven in large part by the Army, as depicted in Figure 9. Officers accounted for 16 percent of the active duty Army in FY 2009, but as the officer corps grew and the enlisted force shrank, officers became 19 percent of the Army by FY 2013. Officers as a share of the Navy's active end strength grew from 14 percent to 17 percent before leveling off at 16 percent in FY 2019. Historically, the Air Force has the highest ratio of officers to enlisted personnel (holding steady around 19 to 20 percent), while the Marine Corps has the lowest (increasing from 10 to 12 percent).

The increase in officers as a percentage of the active duty force may reflect a growing need for certain skills that are traditionally found in the officer corps. The requisite number of officers at each rank is a force management decision based on the requirements developed by the services for how they plan to carry out specific missions. For example, the Air Force initially chose to require all remotely crewed aircraft pilots to be officers, whereas the Army chose to use enlisted service members to fly similar aircraft.[20] The officer-to-enlisted ratio has important implications for overall personnel costs because

[20] Todd Harrison, "Rethinking the Role of Remotely Crewed Systems in the Future Force," CSIS, *CSIS Briefs*, March 3, 2021, 8, https://www.csis.org/analysis/rethinking-role-remotely-crewed-systems-future-force.

the rate of basic pay for officers is significantly higher than that of enlisted personnel, as discussed in the following section.

Figure 9: Army Officers as a Percentage of Active End Strength

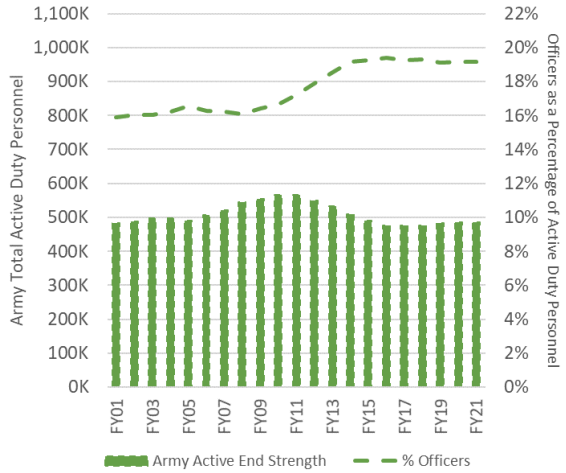


Figure 10: Marine Corps Officers as a Percentage of Active End Strength

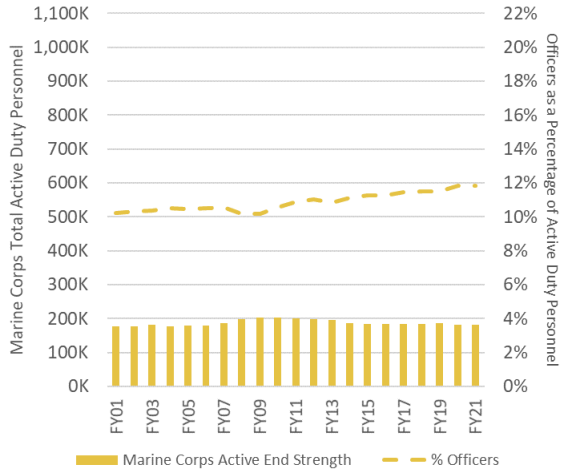


Figure 11: Navy Officers as a Percentage of Active End Strength

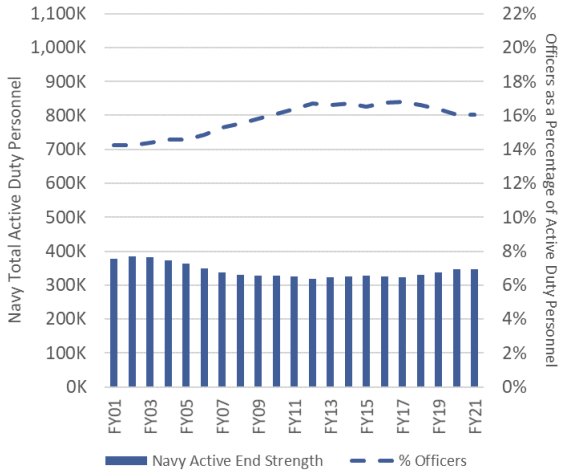


Figure 12: Air Force Officers as a Percentage of Active End Strength

Source: Based on DMDC data.

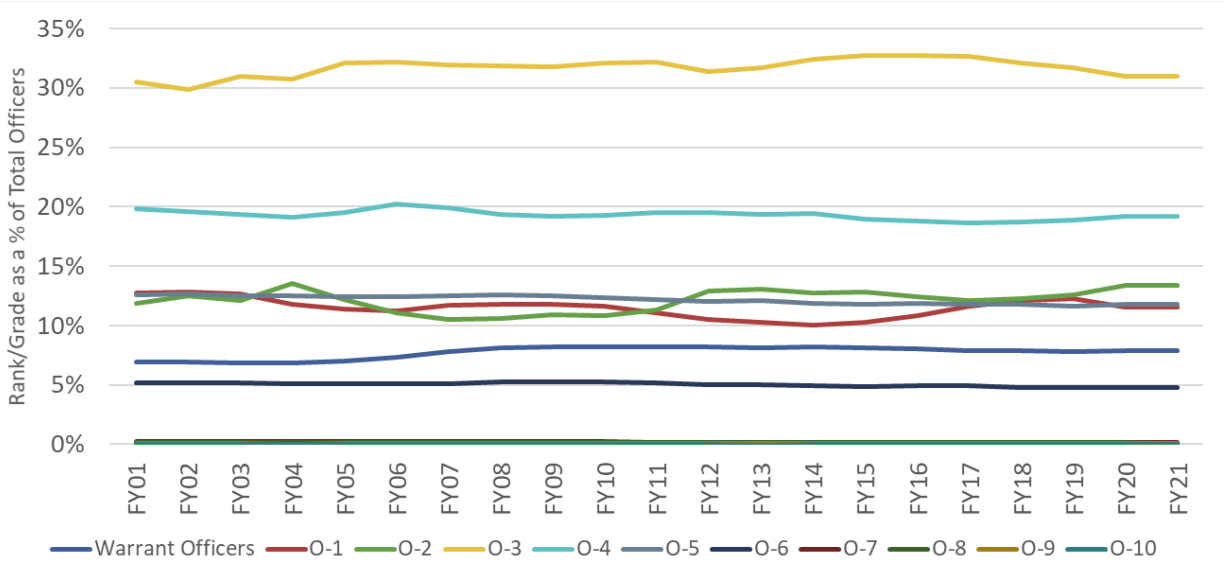
Within the officer corps, the number of general officers and flag officers (GOFOs) in the force also increased, growing 11 percent from FY 2001 to FY 2010 to peak at 976 total GOFOs.[21] In the context of the overall active force, the ratio of active duty troops to GOFOs fell from 1,570:1 in FY 2001 to 1,451:1 in FY 2010.

[21] Analysis based on data from the Defense Manpower Data Center. "DoD Personnel, Workforce Reports & Publications," Defense Manpower Data Center, https://dwp.dmdc.osd.mil/dwp/app/dod-data-reports/workforce-reports.

In March 2011, Secretary of Defense Robert Gates called for over 100 active duty GOFO positions to be eliminated in a cost-savings effort.[22] Congress followed Gates' lead by reducing the authorized number of GOFO billets by 2 percent, or 21 positions, in the FY 2012 National Defense Authorization Act (NDAA). The FY 2017 NDAA mandated that GOFO billets decrease from 963 to 852 by December 31, 2022. Overall, from FY 2010 to FY 2021, the number of GOFOs fell by 9 percent to 889 officers, a ratio of 1 GOFO for roughly every 1,502 troops.

In terms of other ranks, there have been few notable shifts among the makeup of the officer corps. Figure 13 shows the breakdown of officers by rank from FY 2001 through FY 2021. O-3s make up the greatest percentage of the officer corps at 31 percent in FY 2021, followed by O-4s (19 percent) and O-2s (13 percent). GOFOs (O-7 through O-10) account for under 1 percent of total officers. Since FY 2001, O-2s have grown the most as a percentage of officer corps, from under 12 percent to over 13 percent, while O-1s fell from almost 13 percent to under 12 percent. Warrant officers as a share of the total officer corps grew from 7 percent in FY 2001 to nearly 8 percent in FY 2021.

Figure 13: Rank as a Share of Total Officers



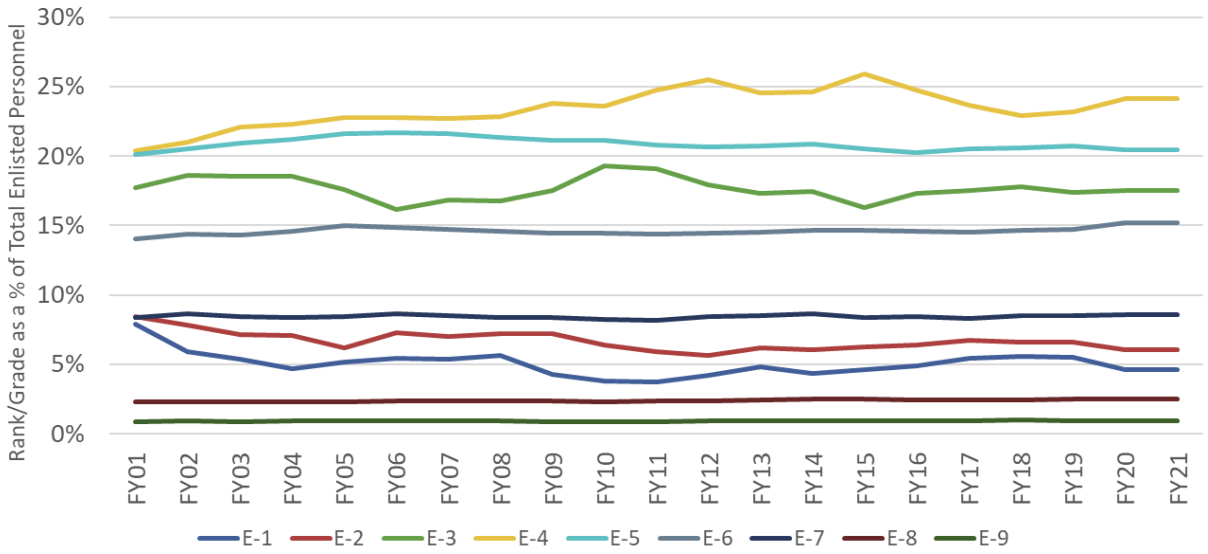
Source: Based on DMDC data.

In contrast to the officer corps, enlisted personnel have grown slightly more senior in rank since FY 2001, as Figure 14 shows. E-1s, E-2s, and E-3s as a share of the enlisted force all decreased while higher ranks (E-4 through E-9) grew, albeit minimally in several cases. E-1s and E-2s fell most significantly, accounting for over 16 percent of enlisted personnel combined in FY 2001 but only 11 percent in FY 2021. Meanwhile, E-4s, the most populous rank, grew from 20 percent of enlisted

[22] Office of the Secretary of Defense, "Memo: Track Four Efficiency Initiatives Decisions," Department of Defense, 2011, 23, https://www.acq.osd.mil/dpap/pdi/pc/docs/3-14-2011_Track_Four_Efficiency_Initiatives_Decisions.pdf.

personnel in FY 2001 to over 24 percent in FY 2021. While these shifts in rank among officers and enlisted personnel are by no means dramatic, they nonetheless impact the total compensation and benefits allocated by DoD.

Figure 14: Rank as a Share of Total Enlisted Personnel



Source: Based on DMDC data.

In addition to rank, years of service also impact overall personnel costs, as the pay rates for personnel are based on both rank and time in service. Figure 15–17 on the following page provide an estimated breakdown of the active duty military, officers, and enlisted personnel by years of service over time.[23] Service members earn higher pay the longer they serve and, with an up-or-out promotion system, progress to higher ranks. Based on the data in Figure 17, the majority of enlisted personnel serve between 0 and 5 years, indicating a high turnover rate. A majority of officers, in contrast, serve between 6 and 19 years, as shown in Figure 16. A significantly higher percentage of officers on average serve 20 or more years of service (roughly 20 percent) relative to enlisted personnel (just 5 percent), but there are almost five times as many enlisted personnel as officers.

[23] Charts based on projected data in "Military Personnel by Pay Cell" tables in DoD's Compensation Greenbook, *Selected Military Compensation Tables*, from FY 2003 to FY 2021. Actual data is not publicly available.

Figure 15: Estimated Total Active Duty Personnel by Years of Service

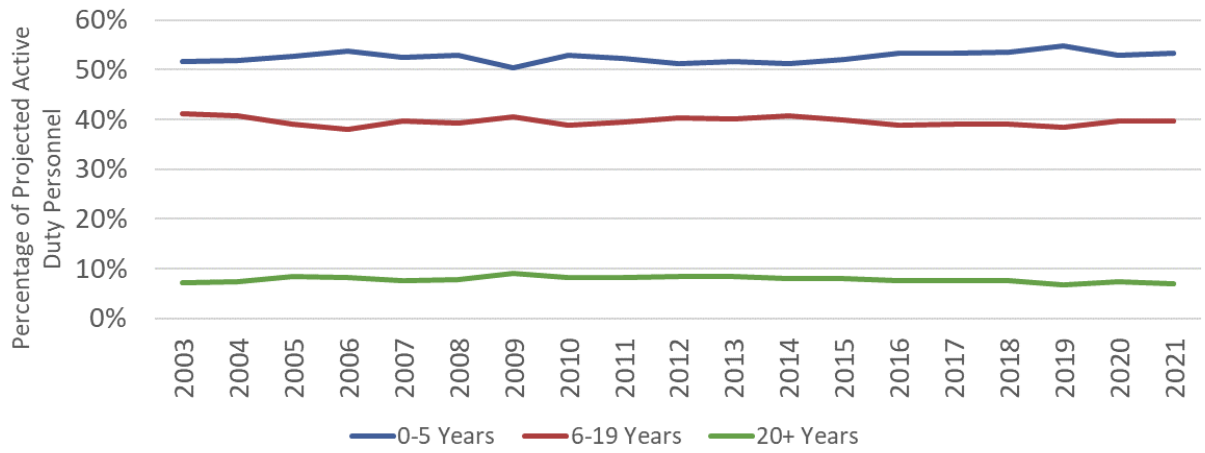


Figure 16: Estimated Officers by Years of Service

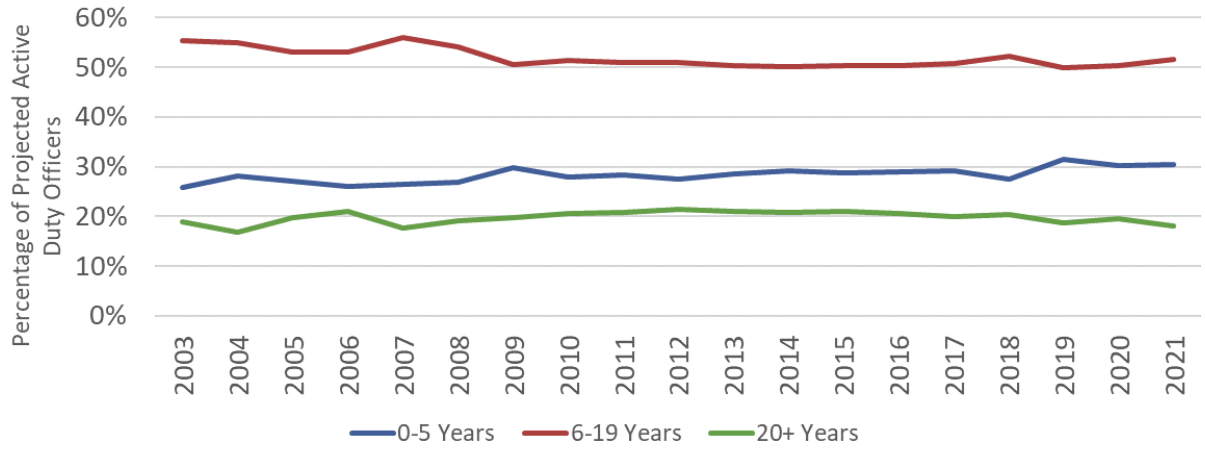
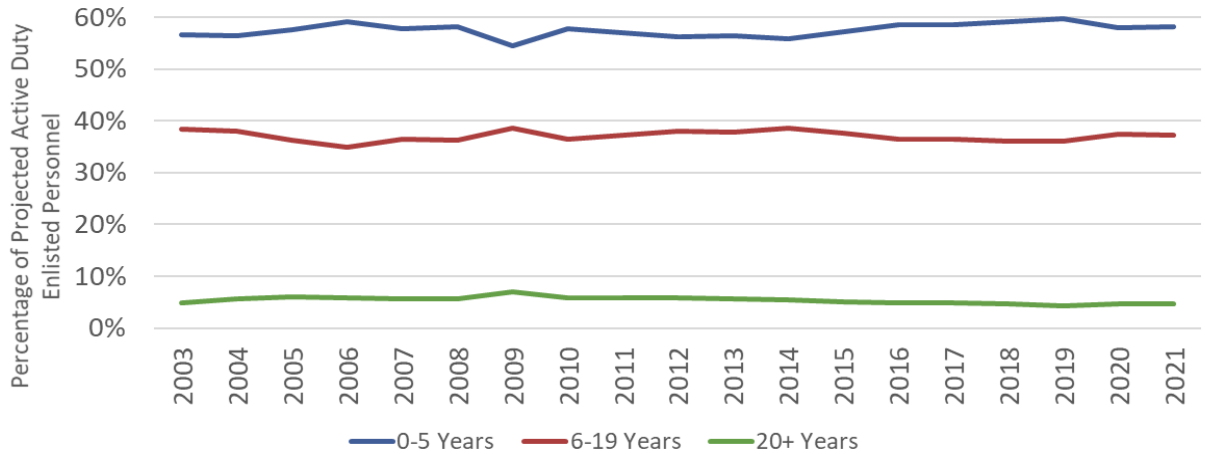


Figure 17: Estimated Enlisted Personnel by Years of Service



Source: Figures 15–17 based on data in "Military Personnel by Pay Cell" tables in DoD's Compensation Greenbook, Selected Military Compensation Tables, from FY 2003 to FY 2021.

As Figure 15 shows, the share of active duty personnel that had served 0 to 5 years increased from FY 2003 to FY 2006, due in part to the influx of new enlisted personnel as end strength grew with the onset of operations in Afghanistan and Iraq. The percentage of troops that had served 20 or more years also increased. Yet as the percentage of early-career personnel in the force fell over roughly the next decade, the share of late-career personnel peaked in FY 2009 and remained relatively constant until declining from FY 2012 onward. As the force grows more senior in terms of years of service, it also becomes more expensive. The relative increase and then decrease in the percentage of late-career service members is consistent with total personnel cost trends and suggests the relative age and time in service of the force could play a role, albeit limited, in cost growth.

While costs related to basic pay rates and compensation may increase as personnel serve longer, other costs, such as those related to recruitment, retention, and training efforts, may decrease. Because the retention rate of officers is generally higher than that of enlisted personnel, the services need to spend less funding and time on replacing and training them, though those costs are more difficult to track. However, certain occupations within the military and within the officer corps face personnel shortages. The Air Force's pilot shortage, for example, has been widely reported on.[24] Ultimately, many of the military's personnel-related costs result from force management policies and staffing decisions.

Military Compensation and Pay Raises

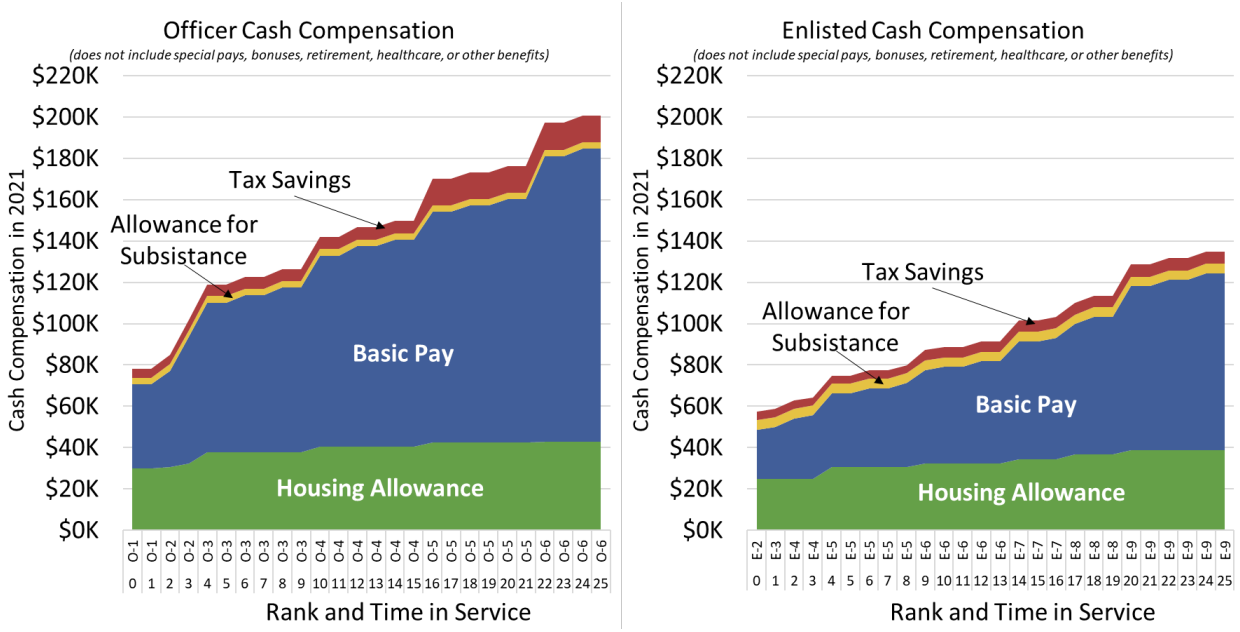
As the force grows more senior in rank and in years of service, it grows more expensive on a per-service member basis. Figure 18 compares the cash compensation, or RMC, of officers and enlisted service members by rank and years of service.[25] It includes basic pay, housing and subsistence allowances, and the savings from the allowances' tax-exempt status. The rate of basic pay for officers is notably higher than that of enlisted personnel, thus total personnel costs increase as officers make up a greater percentage of the overall active duty force. Similarly, basic pay increases the longer personnel in the force have served. In addition to paying service members more due to rank and tenure, DoD must increase its annual payments to the military retirement fund and for Social Security taxes as troops earn more.[26]

[24] Rachel Cohen, "Air Force Grapples with Enduring Pilot Shortage as Airlines Begin to Rehire," *Air Force Times*, June 22, 2021, https://www.airforcetimes.com/news/your-air-force/2021/06/22/air-force-grapples-with-enduring-pilot-shortage-as-airlines-begin-to-rehire/.

[25] Regular military compensation for officers and enlisted personnel is based on service in zip code 20301, the location of the DOD, as well as hypothetical family size and was calculated using the Regular Military Compensation (RMC) Calculator. The housing and subsistence allowances may be higher in this zip code relative to other locations due to a higher cost of living. "RMC Calculator," U.S. Department of Defense, https://militarypay.defense.gov/Calculators/RMC-Calculator/.

[26] Maren Leed, *Keeping Faith: Charting a Sustainable Path for Military Compensation* (Washington, DC: CSIS, 2011), 22, https://csis-website-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/publication/111118_Leed_KeepingFaith_WebS.pdf.

Figure 18: Estimated Officer and Enlisted Cash Compensation in FY 2021

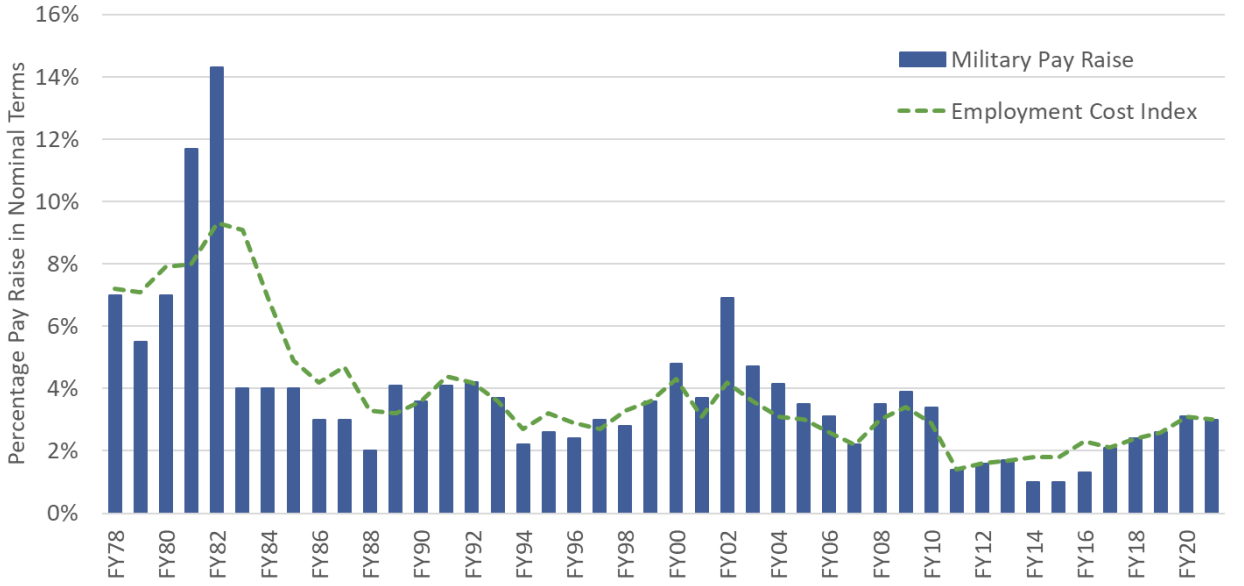


Source: Based on author's analysis using DoD's RMC calculator.

Pay raises for military personnel had a significant and direct impact on cost growth between FY 2000 and FY 2012. Figure 19 shows the military pay raise from FY 1978 relative to the Employment Cost Index (ECI) for private industry workers, which measures the change in the cost of labor across private sector industries. In the FY 2000 NDAA, Congress reformed the pay raise system for military personnel. In addition to increasing basic pay for FY 2000 by 4.8 percent, it pegged the military pay raise to the ECI plus 0.5 percent for FY 2001 through FY 2006. The FY 2004 NDAA maintained the ECI plus 0.5 percent raise for FY 2004 through FY 2006 but pegged all future pay increases to the ECI. Importantly, it also enabled the president to propose an alternative pay raise in the event of a national emergency or change in economic conditions, though Congress still maintains the authority to set the pay raise via legislation should it choose.[27] As Figure 19 illustrates, the pay raise exceeded the ECI each year from FY 2000 to FY 2010 (with the exception of FY 2007).

[27] *National Defense Authorization Act for Fiscal Year 2004*, Public Law 108–136, 1498-1500, https://www.govinfo.gov/content/pkg/PLAW-108publ136/pdf/PLAW-108publ136.pdf#page=108.

Figure 19: Comparison of Military Pay Raises and the ECI



Source: Military pay raise data based on FY 2021 DoD Green Book; ECI based on Bureau of Labor Statistics April 2021 Employment Cost Index Historical Listing – Volume V.

Continual pay raises over the ECI have a compounding effect that accelerates basic pay cost growth. Each year's pay raise comes on top of a higher pay rate in the preceding year. To arrest this growth in personnel costs as defense spending became limited under the caps established by the 2011 Budget Control Act (BCA), the Obama administration proposed that pay raises fall below the ECI between FY 2014 and FY 2016. DoD argued that a lower pay raise for service members would allow it to avoid reducing end strength further beyond the planned drawdown.[28] In its FY 2016 request, DoD projected limited pay raises below the ECI through FY 2020, but Congress has approved pay raises at the ECI level since FY 2017.[29]

However, pay raises impact more than the present-day compensation for service members; they also affect retirement and Social Security benefits, and the amount of funding DoD must set aside each year to cover those future costs. The following sections of this report will address the impact of pay raises on personnel costs outside of direct compensation.

While changes in the size and makeup of the force may have contributed to growth in the cost per service member, pay raises had a greater effect in increasing service members' compensation at an

[28] Office of the Under Secretary of Defense (Comptroller), *Defense Budget Overview: Fiscal Year 2014 Budget Request* (Washington, DC: Department of Defense, 2013), 5-2, https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2014/FY2014_Budget_Request_Overview_Book.pdf.
[29] Office of the Under Secretary of Defense (Comptroller), *Defense Budget Overview: Fiscal Year 2016 Budget Request* (Washington, DC: Department of Defense, 2015), 6-6, https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2016/FY2016_Budget_Request_Overview_Book.pdf.

unsustainable rate between FY 2000 and FY 2010. Returning the pay raise to the ECI rate or lower helped to level off that cost growth in FY 2011 and later.

Military Housing Costs

As part of their cash compensation, service members are entitled to a basic allowance for housing (BAH) to defray the cost of living in civilian or privatized housing. They may also choose to forgo the BAH to live in government-owned housing (if available) as an in-kind benefit funded under the family housing title of the budget. According to the Government Accountability Office (GAO), approximately two-thirds of the active duty force live in civilian housing while the remainder relies on government-owned or privatized housing.[30] About 99 percent of military housing—including its construction, renovation, maintenance, and repair—has been privatized since Congress authorized DoD to do so in the FY 1996 NDAA.[31]

The BAH was established in the FY 1998 NDAA by merging two predecessor allowances—the basic allowance for quarters and the variable allowance for housing—into a single sum for each service member based on their grade, dependency status, and location.[32] The BAH was designed to more reliably account for variations in local housing markets and reduce out-of-pocket housing expenses for service members in high-cost areas.[33] Figure 20 on the following page shows the funding for the total basic housing allowance and family housing costs since FY 1999. With the shift to privatized military housing, family housing costs flattened with inflation and ultimately fell by over 70 percent in real terms between FY 1999 and FY 2020. Meanwhile, funding for the BAH increased approximately 170 percent between FY 1999 and FY 2010 before falling by 10 percent from FY 2010 to FY 2020.

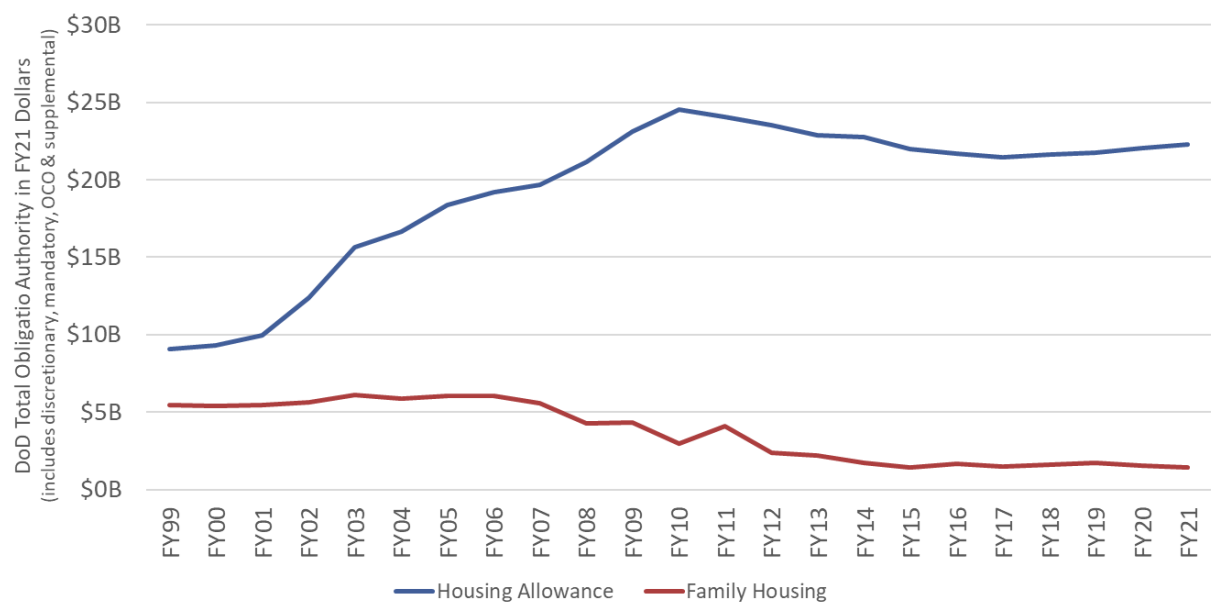
[30] U.S. Government Accountability Office (GAO), *Military Housing: Actions Needed to Improve the Process for Setting Allowances for Servicemembers and Calculating Payments for Privatized Housing Projects*, GAO-21-137 (Washington, DC: GAO, 2021), 2, https://www.gao.gov/assets/gao-21-137.pdf.

[31] The Military Housing Privatization Initiative authorized under the FY 1996 NDAA was intended to address a major maintenance backlog of on-base housing that would have taken $20 billion and decades to complete if directly government funded. Elizabeth A. Field, "Military Housing: DoD Has Taken Key Steps to Strengthen Oversight but More Action Is Needed in Some Areas," Testimony before the Subcommittee on Military Construction, Veterans Affairs, and Related Agencies, House Committee on Appropriations, Washington, DC, February 16, 2021, https://www.gao.gov/assets/gao-21-389t.pdf; and Office of the Under Secretary of Defense (Comptroller), *Defense Budget Overview: Fiscal Year 2022 Budget Request* (Washington, DC: Department of Defense, 2021), 5–8, https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2022/FY2022_Budget_Request_Overview_Book.pdf.

[32] Under Secretary of Defense for Personnel and Readiness, *Military Compensation Background Papers*, Eighth Edition (Washington, DC: Department of Defense, 2018), 136, https://militarypay.defense.gov/Portals/3/Documents/Reports/Mil-Comp_8thEdition.pdf?ver=2018-09-01-181142-307.

[33] Ibid., 136–37.

Figure 20: Total Basic Housing Allowance vs. Family Housing



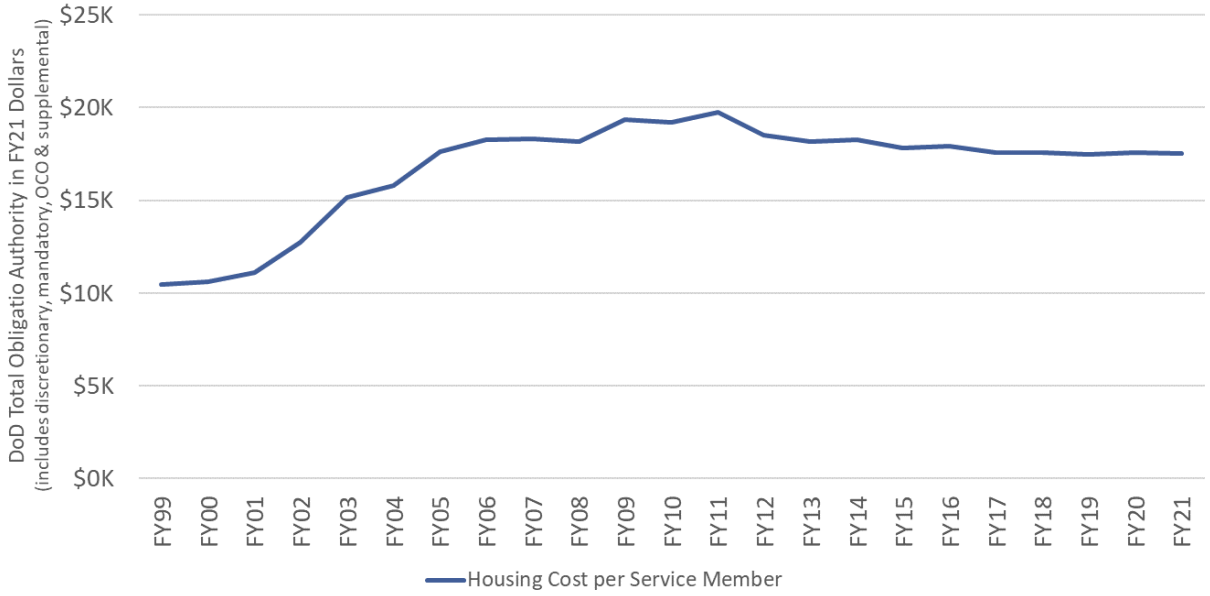
Source: Housing allowance data based on DoD MILPERS justification books; family housing data based on FY 2021 DoD Green Book.

While the privatization of military housing contributed to lower family housing funding and higher housing allowance costs, policy decisions played a significant role in BAH funding trends. The formula for the BAH as originally conceived in FY 1998 still required service members to cover substantial out-of-pocket expenses.[34] The BAH was calculated as the "estimated monthly cost for the given [military housing area] by grade and dependency status, minus 15 percent of the national average monthly housing cost for those categories.[35] Both the Clinton administration and Congress sought to eliminate all out-of-pocket expenses by adjusting the formula for the BAH and significantly increasing the allowance.[36] This led to the growth in total housing allowance costs shown in Figure 20 and the ultimate elimination of service member out-of-pocket costs by January 1, 2005.[37]

Normalized for the size of the force, the cost of housing per service member (including BAH and family housing costs) grew by over 88 percent in real terms between FY 1999 and its peak in FY 2011, as shown in Figure 21. From FY 2011 to FY 2020, the cost per service member has fallen by 11 percent when adjusted for inflation.

[34] Ibid., 137.
[35] Ibid., 138.
[36] Ibid., 137.
[37] Ibid., 137.

Figure 21: Housing Cost per Service Member



Source: Based on author's analysis of DoD housing allowance and family housing data.

Falling BAH and family housing costs led to the lower cost per service member. The decrease in BAH funding after FY 2010 was due in part to a shift in the prevailing sentiment on out-of-pocket housing expenses from Congress and the Obama administration.[38] The FY 2015 and FY 2016 NDAAs authorized DoD to implement cost-sharing measures by gradually reducing the monthly BAH amount so service members would "absorb five percent of the national average housing cost by pay grade" by 2019.[39] While service members would be forced to cover 5 percent of housing expenses out-of-pocket, it remains more generous than the nearly 12 percent out-of-pocket costs in 2002 and approximately 20 percent in the 1990s.[40]

The privatization of military housing and increase in BAH funding has had a structural impact on the personnel budget in addition to near-term shifts in cost. As Dr. Maren Leed notes in her 2011 analysis of military compensation costs, the transition to privatized housing limited DoD's control of housing funds and restrained its flexibility to make trade-offs within those accounts.[41] When managing its own housing, DoD could choose the extent to which it invested in or deferred maintenance, which led to

[38] Office of the Under Secretary of Defense (Comptroller), *Defense Budget Overview: Fiscal Year 2015 Budget Request* (Washington, DC: 2014), 5–6, https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2015/fy2015_Budget_Request_Overview_Book.pdf.
[39] DoD, *Military Compensation Background Papers*, 139; and "DoD Releases 2019 Basic Allowance for Housing Rates," U.S. Department of Defense, Press Release, December 14, 2018, https://www.defense.gov/Newsroom/Releases/Release/Article/1714524/dod-releases-2019-basic-allowance-for-housing-rates/#:~:text=For%202019%2C%20a%20typical%20member,from%20%2466%20to%20%24149%20monthly.
[40] U.S. Department of Defense, *Military Compensation Background Papers*, 138; and Under Secretary of Defense (Comptroller), *Defense Budget Overview FY 2015*, 5–6.
[41] Leed, *Keeping Faith*, 11.

the $20 billion maintenance backlog that prompted the privatization initiative.[42] The shift to privatized housing and the BAH restricts DoD's ability to shift funds from housing accounts beyond requested adjustments to the BAH formula (pending congressional approval) and its own family housing funding.

The following section explores factors outside of regular military compensation that contributed to the personnel cost trends since the turn of the century.

[42] Ibid., 11.

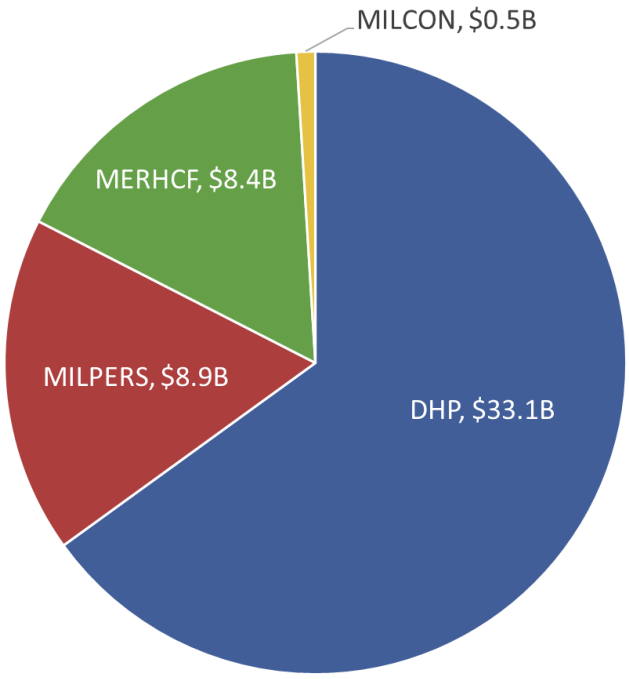
3 | Military Healthcare and Retirement

Military Healthcare

DoD administers healthcare for service members, retirees, and their dependents through the Military Health System (MHS) and its component organizations: the Defense Health Agency (DHA), the Office of the Assistant Secretary of Defense (ASD) for Health Affairs, and the surgeons general of the military departments. The MHS and its TRICARE health plan serves 9.6 million beneficiaries and is funded by the Unified Medical Budget (UMB), which totaled $50.8 billion in the FY 2021 budget request.[43] MHS is separate and distinct from the veterans' healthcare system, which is funded through the Department of Veterans Affairs.

As Figure 22 shows, the Defense Health Program (DHP) constitutes almost two-thirds of the UMB. The UMB also includes nearly $9 billion in MILPERS funding for the military personnel who work in the MHS, which is part of the total MILPERS request of $174.1; DoD simply tracks the personnel costs associated with the MHS in the UMB.

Figure 22: Unified Medical Budget in the FY 2021 Budget Request



Source: Based on data from DoD's FY 2021 Defense Budget Overview.

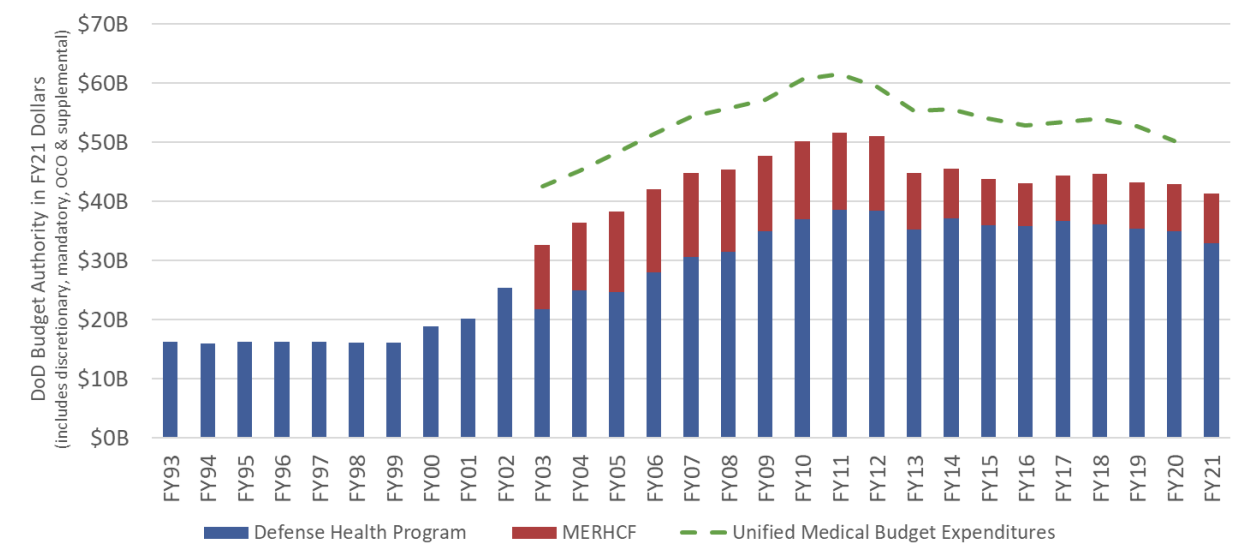
In addition to a small amount of MILCON funding for DHA medical facilities, the accrual payments for the MERHCF also fall under the UMB. Other minor health-related funding lines exist outside of the UMB, such as medical research conducted by the Defense Advanced Research Projects Agency and other organizations.[44]

The UMB accounts for approximately 7 percent of DoD's total FY 2021 budget request. However, the cost of medical care has grown significantly since the end of the Cold War. While the cost data for

[43] Bryce H.P. Mendez, "Defense Primer: Military Health System," Congressional Research Service, IF10530, December 14, 2020, https://fas.org/sgp/crs/natsec/IF10530.pdf.
[44] Ibid.

medical MILPERS and DHA MILCON is not publicly available for years prior to FY 2003, Figure 23 tracks the total budget authority of DHP and MERHCF since FY 1993 as well as outlays for the UMB from FY 2003 through the FY 2020 request.[45] Between FY 1998 and FY 2011, the combined funding for the two accounts increased by over 200 percent in real terms. From their FY 2011 peak, DHP and MERHCF costs fell approximately 17 percent through FY 2020. That trend is consistent with changes in total UMB outlays as well, which increased 44 percent from FY 2003 to FY 2011 and decreased 14 percent by FY 2019.

Figure 23: UMB Expenditures and Total DHP and MERHCF Budget Authority



Source: Based on OMB data and DHA's "Annual Evaluation of the TRICARE Program" report.

The creation of the MERHCF contributed to the rapid growth of healthcare expenses beginning in FY 2003. Mandated by the FY 2001 NDAA, the account funds the TRICARE for Life benefit, which pays for healthcare expenses for Medicare-eligible military retirees that are not covered by the Medicare program as well as pharmacy benefits and treatment at military treatment facilities.[46] The MERHCF is funded by accrual payments from the DoD budget to cover the future costs of current service members and from the Treasury Department to cover the unfunded liability for beneficiaries that were grandfathered into the system.[47] The creation of this new benefit increased the military personnel budget and the overall defense budget.

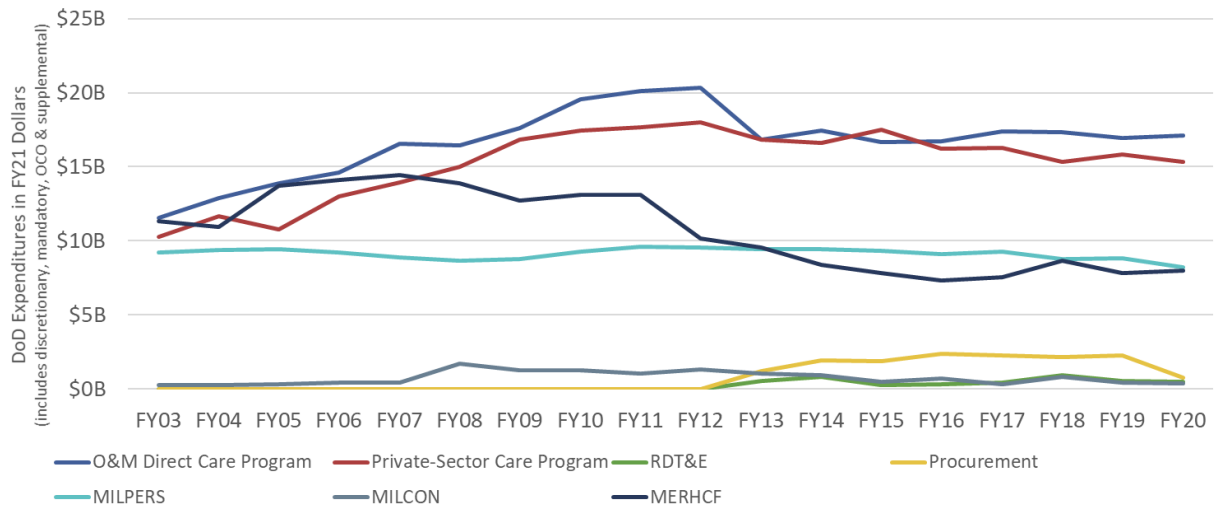
While DHP budget authority fell 14 percent from FY 2002 to FY 2003, the account grew 76 percent between FY 2003 and FY 2011. This growth, combined with the creation of Tricare for Life, drove the

[45] UMB outlay data compiled from the Defense Health Agency's annual report to Congress evaluating the TRICARE program. "Annual Evaluation of the TRICARE Program," Health.mil, https://health.mil/Military-Health-Topics/Access-Cost-Quality-and-Safety/Health-Care-Program-Evaluation/Annual-Evaluation-of-the-TRICARE-Program.
[46] Congressional Budget Office (CBO), *A Review of CBO's Estimate of Spending From the Department of Defense's Medicare-Eligible Retiree Health Care Fund* (Washington, DC: CBO, 2020), 1, https://www.cbo.gov/system/files/2020-10/56653-MERHCF.pdf.
[47] Ibid., 4.

topline increase in the UMB. Figure 24 provides a breakdown of UMB expenditures roughly organized by title. The DoD direct care program; private-sector care program; research, development, testing, and evaluation (RDT&E); and procurement spending lines together make up the complete DHP budget.[48] From FY 2003 to FY 2012, outlays for both DoD direct care (the cost of services provided predominantly at military treatment facilities and hospitals) and private-sector care accounts grew by over 75 percent when adjusted for inflation.[49] While the average number of eligible beneficiaries only grew by 7 percent from FY 2003 to FY 2012, the average number of users receiving care increased by 20 percent, or 1.4 million people.

The growth in healthcare costs in the 2000s prompted DoD and Congress to pursue program efficiencies and adjust some TRICARE enrollment fees and co-pays.[50] These reforms were estimated to save the Department approximately $5.4 billion annually.[51] Decreases in the direct care program and private sector care spending as well as a decline in the MERHCF accrual payments drove an overall drop in UMB outlays in the 2010s.

Figure 24: Unified Medical Budget Expenditures by Title



Source: Based on data from DHA's "Annual Evaluation of the TRICARE Budget" report.

However, in its FY 2017 request, DoD noted that while the efficiency initiatives and fee increases were beneficial, they were "not enough to curb the projected increase in healthcare costs for the

[48] Defense Health Agency, *Evaluation of the TRICARE Program: Fiscal Year 2020 Report to Congress* (Washington, DC: Department of Defense, 2020), 33, https://www.health.mil/Reference-Center/Reports/2020/06/29/Evaluation-of-the-TRICARE-Program-Fiscal-Year-2020-Report-to-Congress.
[49] Ibid., 15.
[50] For more information on changes to military healthcare prior to the FY 2017 budget request, see Office of the Under Secretary of Defense (Comptroller), *Defense Budget Overview: Fiscal Year 2017 Budget Request* (Washington, DC: Department of Defense, 2016), 6–10, https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2017/FY2017_Budget_Request_Overview_Book.pdf.
[51] Todd Harrison, *Analysis of the FY 2017 Defense Budget* (Washington, DC: CSIS, 2016), 16, https://defense360.csis.org/wp-content/uploads/2016/08/Analysis-of-the-FY-2017-Budget.pdf.

Department."[52] In response, Congress passed more substantial MHS and TRICARE reform in the FY 2017 NDAA. The law gave the ASD for Health Affairs primary decisionmaking and oversight authority in the MHS and realigned the control and administration of military and dental treatment facilities from the services to DHA.[53] As of October 25, 2019, DHA assumed management and administrative responsibilities for all military hospitals and clinics in the United States and Puerto Rico.[54] All military treatment facilities, including those overseas, will be transferred to DHA by October 2022.[55] The services in turn were directed to focus on providing medical support for military operations and strengthening medical readiness.[56]

The FY 2017 NDAA also created TRICARE Select, a new preferred provider option (PPO) to replace the previous TRICARE Standard PPO option and mandated that military retirees who joined the military prior to January 1, 2018, would be required to pay an annual enrollment fee and those who joined after that date would pay a slightly higher fee.[57] Additionally, DHA increased other beneficiary cost-sharing amounts for certain TRICARE plans in 2021.[58]

In its FY 2021 budget request for DHP, DoD called for cuts to medical personnel end strength as part of its "continued efforts to re-scope the military medical end strength portfolio."[59] It requested that DHP cut 7,422 active duty personnel in FY 2021 and 3,644 civilian full-time equivalents (FTEs) in FY 2021.[60] The Department described the reduction in military medical end strength as a "phased conversion" to greater civilian or contractor care at military treatment facilities or local network provider care.[61] While DoD is seeking to reduce personnel costs in the MHS, medical MILPERS outlays have remained largely constant over time, as shown in Figure 24.

The Department tried to reduce military medical end strength even further in FY 2020 (by 17,991 active duty personnel), but Congress had already passed provisions limiting DoD's ability to reduce medical

[52] Under Secretary of Defense (Comptroller), *Defense Budget Overview: FY 2017*, 6–10.
[53] Bryce H.P. Mendez, "Military Health System Reform," Congressional Research Service, IF I 1273, https://fas.org/sgp/crs/natsec/IF11273.pdf.
[54] Military Health System Communications Office, "Defense Health Agency celebrates seven years of service," Defense Health Agency, October 1, 2020, https://health.mil/News/Articles/2020/10/01/Defense-Health-Agency-celebrates-seven-years-of-service.
[55] Under Secretary of Defense (Comptroller), *Defense Budget Overview: FY 2021*, 2–5.
[56] Ibid.
[57] Bryce H.P. Mendez, "TRICARE Cost-Sharing Changes in 2021," Congressional Research Service, IN11532, November 16, 2020, https://crsreports.congress.gov/product/pdf/IN/IN11532.
[58] Ibid.
[59] Under Secretary of Defense (Comptroller), *Defense Budget Overview: FY 2021*, 2–5.
[60] "Defense Health Program Fiscal Year 2021 President's Budget Operation and Maintenance Personnel Summary," Office of the Under Secretary of Defense (Comptroller), February 2020, https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2021/budget_justification/pdfs/09_Defense_Health_Program/Vol_I_Sec_4_PB-31R_Personnel_Summary_DHP_PB21.pdf.
[61] Under Secretary of Defense (Comptroller), *Defense Budget Overview: FY 2021*, 2–5.

military personnel in the FY 2017 NDAA.[62] Several reports have identified shortages of doctors in the MHS as well as a lack of capacity to provide basic healthcare services.[63]

Retirement Benefits

Active duty service members generally become eligible for retirement benefits upon reaching 20 years of service. The pension component of the military retirement system is a government-funded and noncontributory system in which retirees receive a percentage of their basic pay based on their years of service, the date they entered active duty, and the basic pay rate they received.[64] Congress has enacted changes to military retirement over the years, creating four different systems: Final Basic Pay; High Three; Redux; and, most recently, the Blended Retirement System (BRS). Service members may qualify for different programs depending on when they began their service.

Since FY 1985, the military retirement system has been funded under an accrual accounting system. Under this system, DoD contributes a portion of its budget each year to the Military Retirement Fund (MRF) to pay for the estimated future retirement benefits of current service members. Previously, Congress appropriated the actual total retired pay due to current retirees in a given fiscal year.[65] Under the accrual accounting system, DoD makes contributions to the MRF each year for future retirement pay based on a model derived by the DoD Board of Actuaries.[66]

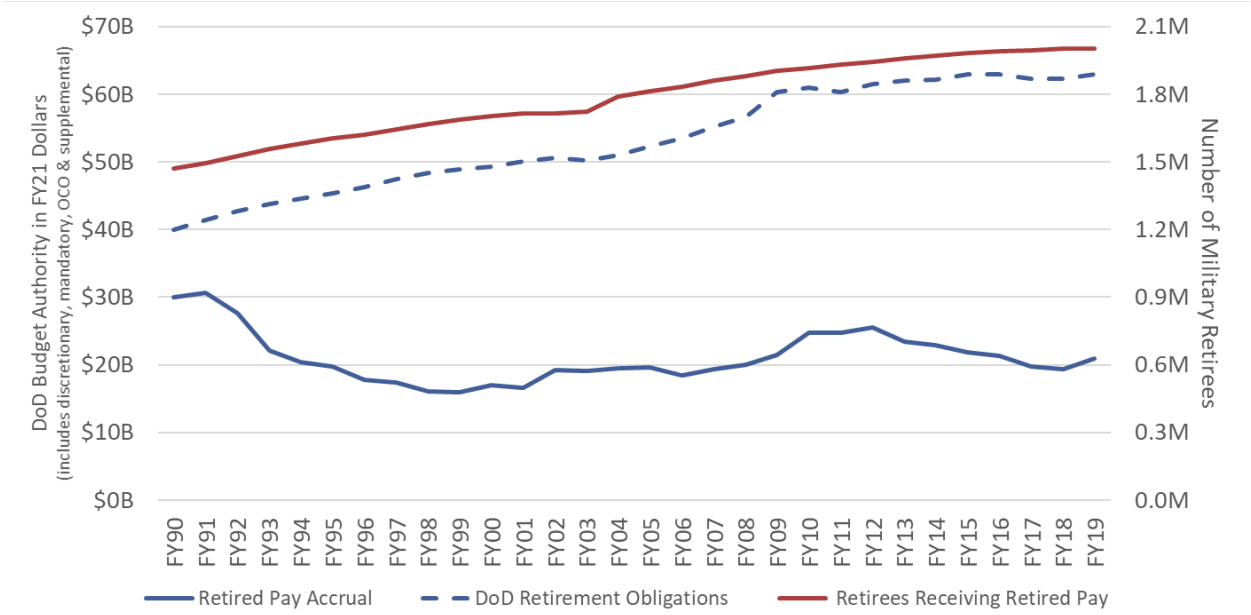
The retirement accrual contribution made by DoD each year fluctuates based on changes in end strength, basic pay, and actuarial assumptions about how many people will stay to retirement, how long they will live, and other economic factors.[67] Figure 25 compares the contribution to the MRF since FY 1990 with total retirement payments and the number of military retirees receiving pay.[68] Between FY 2001 and FY 2012, the accrual payments grew 54 percent in real terms, due in large part to the consistent pay raises above the ECI and, to a lesser extent, changes to the size and makeup of the force. In her 2011 analysis, Dr. Maren Leed attributed the growth in accrual payments to (1) increases

[62] "Defense Health Program Fiscal Year 2020 President's Budget Operation and Maintenance Personnel Summary," Office of the Under Secretary of Defense (Comptroller), March 2019, https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2020/budget_justification/pdfs/09_Defense_Health_Program/Vol_I_Sec_4_PB-31R_Personnel_Summary_DHP_PB20.pdf; and Mendez, "FY 2021 Budget Request for the Military Health System."
[63] Dan Grazier, "Ignored Warnings Left the Military Health System Unprepared," Project on Government Oversight, May 11, 2020, https://www.pogo.org/analysis/2020/05/ignored-warnings-left-the-military-health-system-unprepared/.
[64] Kristy N. Kamarck, *Military Retirement: Background and Recent Developments*, CRS Report No. RL34751 (Washington, DC: Congressional Research Service), Summary, 1, https://fas.org/sgp/crs/misc/RL34751.pdf.
[65] Ibid., 17.
[66] Ibid., 17.
[67] Ibid., 17.
[68] Data for the number of retirees receiving military pay and annual obligations for military retired pay taken from DoD's *Statistical Report on the Military Retirement System* for the end of FY 2019. Office of the Actuary, *Statistical Report On The Military Retirement System: Fiscal Year Ended September 30, 2019* (Washington, DC: Department of Defense, 2020), https://media.defense.gov/2020/Aug/12/2002475697/-1/-1/0/MRS_STATRPT_2019_FINAL.PDF.

in basic pay which drove higher retirement payments; (2) more personnel reaching 20 years of service and fewer personnel with less than 10 years of service separating, leading to increases in DoD's future retirement liability; (3) longer life expectancy for military retirees; and (4) changing assumptions on the interest rates for the MRF.[69] Between FY 2012 and FY 2019, accrual payments fell by 18 percent as pay raises matched or fell below the ECI, among other factors.

Unsurprisingly, the growth in total retirement payments to former service members has been more predictable. Under the accrual accounting system, changes to compensation and the force have an outsized effect on the annual accrual payments DoD makes rather than on the direct payments to retirees. DoD obligations for retirement pay have increased 58 percent between FY 1990 and FY 2019 at an annual growth rate of approximately 1.5 percent. This growth stems in part from the increasing number of retirees receiving retired pay, as well as basic pay raises and cost of living adjustments.

Figure 25: Retired Pay Accrual, Retirement Obligations, and Number of Retirees Receiving Benefits



Source: Retired pay accrual based on FY 2021 DoD Green Book data; retirement obligations and number of retirees based on DoD's Statistical Report on the Military Retirement System for the end of FY 2019.

The retirement system is considered by some an important factor in military recruitment and retention, thus potential changes to that system are weighed against the impact of attracting and keeping service members. The latest major reform in military retirement was the creation of the BRS in the FY 2016 NDAA. Developed on the findings of the Military Compensation and Retirement Modernization Commission, the BRS cuts the percentage of basic pay that retirees receive compared to previous retirement calculations but creates a government contribution into service members' Thrift Savings Plan. The BRS also provides options for partial lump-sum payments at retirement and

[69] Leed, *Keeping Faith*, 15–16.

incentive pay for service members who have served between 8 and 12 years and who are willing to commit to 3 more years. Given that service members under the BRS plan receive a smaller pension upon retirement relative to the other plans, DoD contributes a lower percentage of basic pay (known as the normal cost percentage, or NCP) to cover future retirement costs for those personnel.[70] As a larger share of personnel fall under BRS, the total contribution for future retirement costs DoD makes would be expected to fall. However, concerns over the impact of the BRS on recruitment and retention persist given its changes to the basic multiplier.[71]

[70] Office of the Actuary, *Statistical Report On The Military Retirement System*, 18–19.
[71] Kamarck, *Military Retirement*, 15.

4 | Civilian Personnel Costs

DoD's Civilian Workforce

The Defense Department employs a civilian workforce of over 760,000 people, which has been measured in FTEs since FY 1996.[72] Estimates for the total number of civilians employed by DoD can vary based on the particular types of hires counted and the point in the fiscal year at which they are reported. For example, in FY 2020, DoD estimates ranged from 765,000 at the narrowest categorization to 805,000 at the broadest.[73]

The civilian force of DoD is approximately 60 percent of the size of the active duty military compared at the FY 2020 enacted level, meaning there are roughly 1.7 service members for every civilian. Figure 26 shows the total number of civilian FTEs over time relative to active duty end strength since FY 1948.

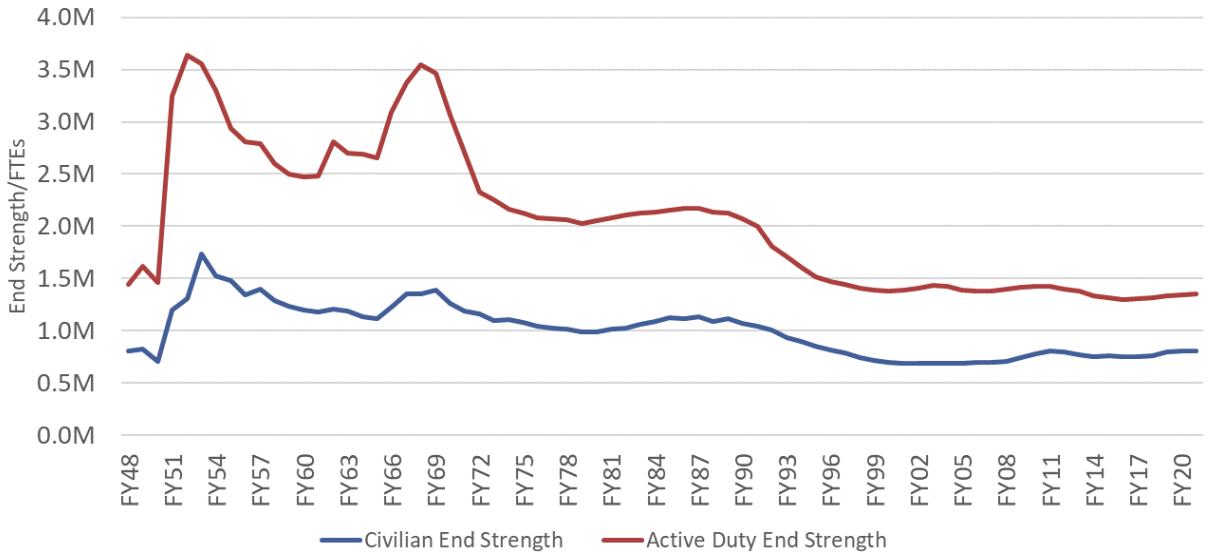
Civilian end strength today is relatively low compared to historical norms. The size of the workforce post-World War II peaked in FY 1953 at 1.7 million before falling by almost 36 percent by FY 1965. It grew by a quarter to 1.4 million through FY 1969 before falling by nearly 29 percent through FY 1979. While the number of civilian employees increased slightly during the Reagan administration, the workforce shrunk by almost 40 percent between FY 1987 and its trough in FY 2001. From FY 2001 to FY 2019, civilian end strength grew by 16 percent.

While the current ratio of active duty personnel to civilian FTEs is relatively low, as shown in Figure 26, civilian end strength tends to follow a similar trend line to active duty end strength. Increases and decreases in the number of civilian personnel are not as severe as those in the number of military personnel.

[72] Office of the Under Secretary of Defense (Comptroller), *National Defense Budget Estimates for FY 2021* (Washington, DC: Department of Defense, 2020), 288, https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2021/FY21_Green_Book.pdf.

[73] Different DoD sources may use distinct accounting methods to track civilian employees. Table 7-5 in the DoD Green Book, which reported 805,000 employees for the FY 2020 enacted level, includes direct hires, "foreign national indirect hire employees that support U.S. forces overseas," and personnel funded from a non-DoD Foreign Military Sales trust fund. Table 7-6 from the same source reported an enacted level of 775,000 that included only direct U.S. and foreign national direct hires. The Defense Manpower Data Center tracks the number of DoD appropriated fund (AFP) civilian personnel permanently assigned at 765,000. For more, see Under Secretary of Defense (Comptroller), *National Defense Budget Estimates FY 2021*, 286–291; Defense Manpower Data Center, *Number of Military and DoD Appropriated Fund (APF) Civilian Personnel Permanently Assigned* (Washington, DC: Defense Manpower Data Center, 2020), https://dwp.dmdc.osd.mil/dwp/app/dod-data-reports/workforce-reports; and Kathryn A. Francis and Ramona J. Diaz, "Defense Primer: DOD Appropriated Fund Civilians," Congressional Research Service, IF11131, March 12, 2019, https://fas.org/sgp/crs/natsec/IF11131.pdf.

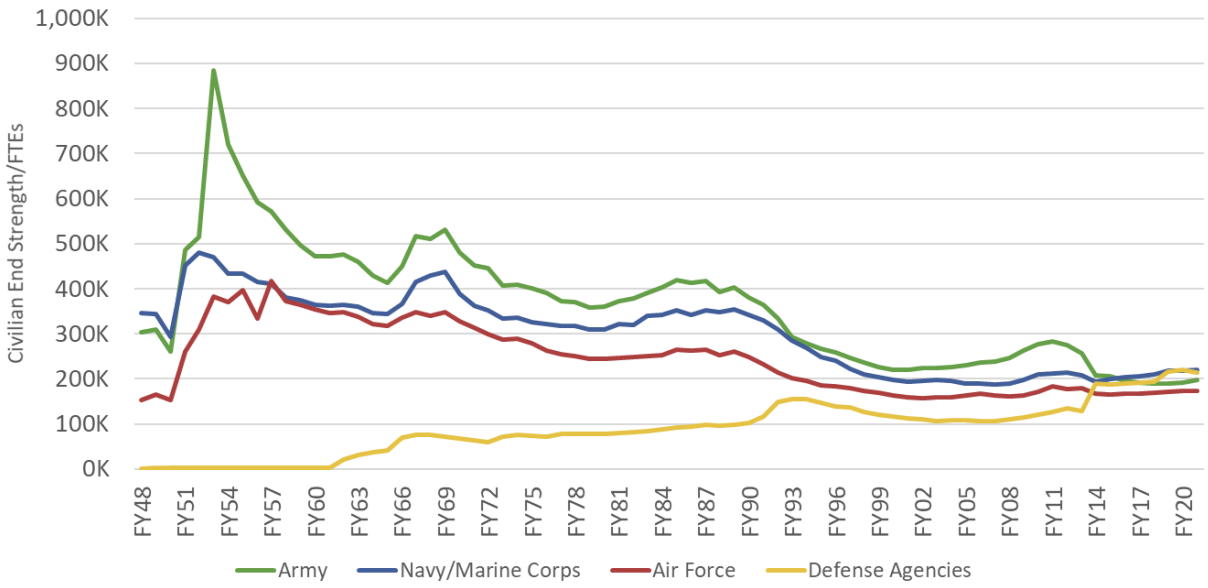
Figure 26: DoD Civilian and Active Duty End Strength



Source: Based on FY 2021 DoD Green Book data.

The civilian workforce in DoD is distributed across the three military departments and defense agencies, as displayed in Figure 27. While the departments together account for the majority of civilian employees in DoD, the defense-wide share has steadily grown from 5 percent in FY 1969 to 27 percent in FY 2020. In fact, defense-wide agencies accounted for fewer FTEs than all three military departments until a 47 percent increase from FY 2013 to FY 2014. The Army had the most civilian employees from FY 1951 until FY 2016 when it was surpassed by the Navy.

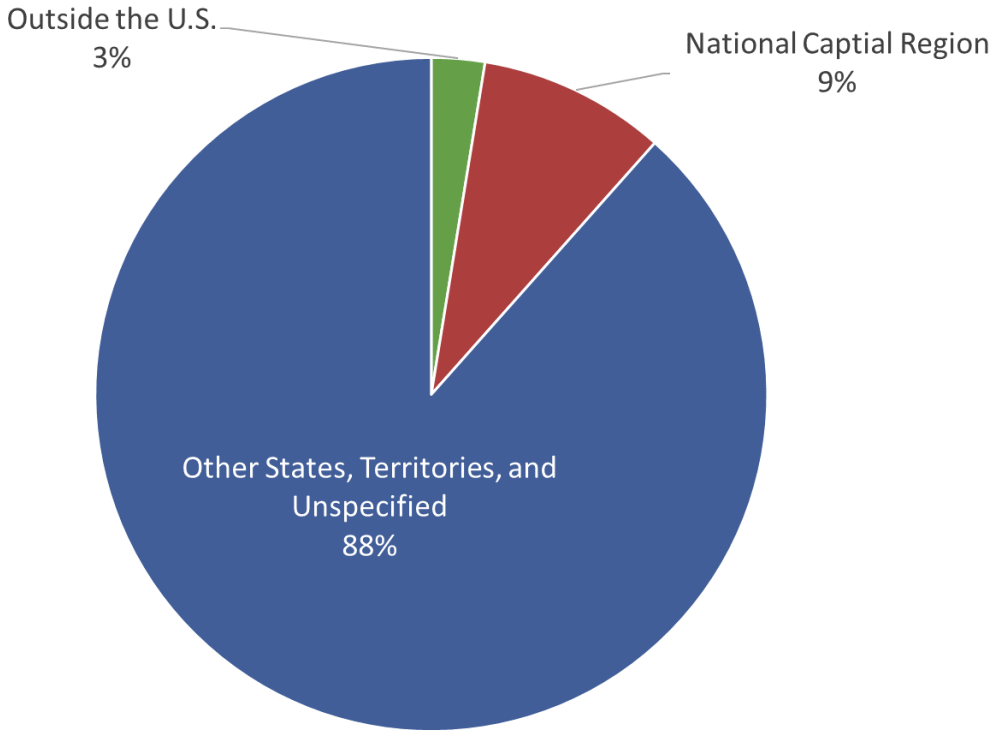
Figure 27: Civilian End Strength by Military Department



Source: Based on FY 2021 DoD Green Book data.

Perhaps contrary to the prevailing belief, the vast majority of DoD's civilian employees do not work at the Pentagon headquarters in Arlington, Virginia. As Figure 28 shows, only 9 percent of the civilian workforce was in the National Capital Region at the end of FY 2017.[74] Approximately 88 percent worked on military bases, installations, facilities, and public shipyards in different states across the country and U.S. territories, while 3 percent of civilians worked outside of the United States.

Figure 28: DoD Civilian Workforce by Geographic Location



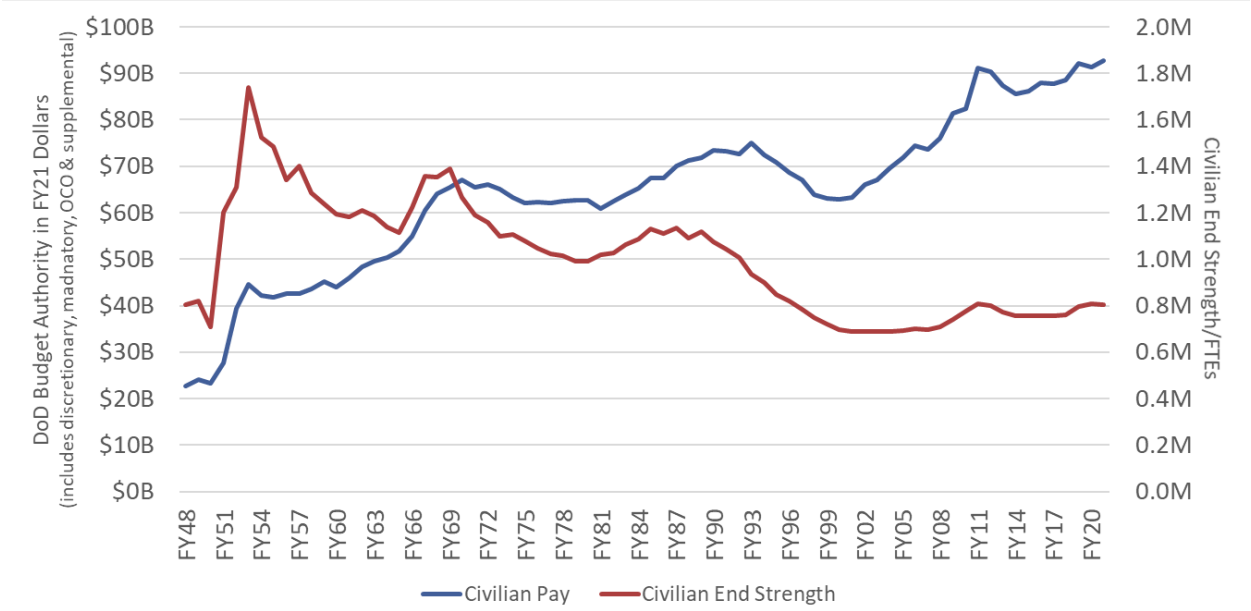
Source: Based on September 2017 Office of Personnel Management Federal Civilian Employment data.

[74] For the purposes of this report, the National Capital Region refers to the Washington, DC-Maryland-Virginia-West Virginia core-based statistical area (CBSA). "Federal Civilian Employment," Office of Personnel Management, https://www.opm.gov/policy-data-oversight/data-analysis-documentation/federal-employment-reports/reports-publications/federal-civilian-employment/.

Civilian Compensation and Pay Raises

DoD civilian personnel costs follow a similar trend to military personnel costs, albeit on a significantly smaller scale. Figure 29 compares the total number of DoD civilians with total civilian pay adjusted for inflation since FY 1948. While civilian end strength fell over 50 percent from its FY 1951 peak of 1.7 million to just under 800,000 in FY 2019, total civilian pay grew over 200 percent in real terms.

Figure 29: Civilian Pay vs. End Strength

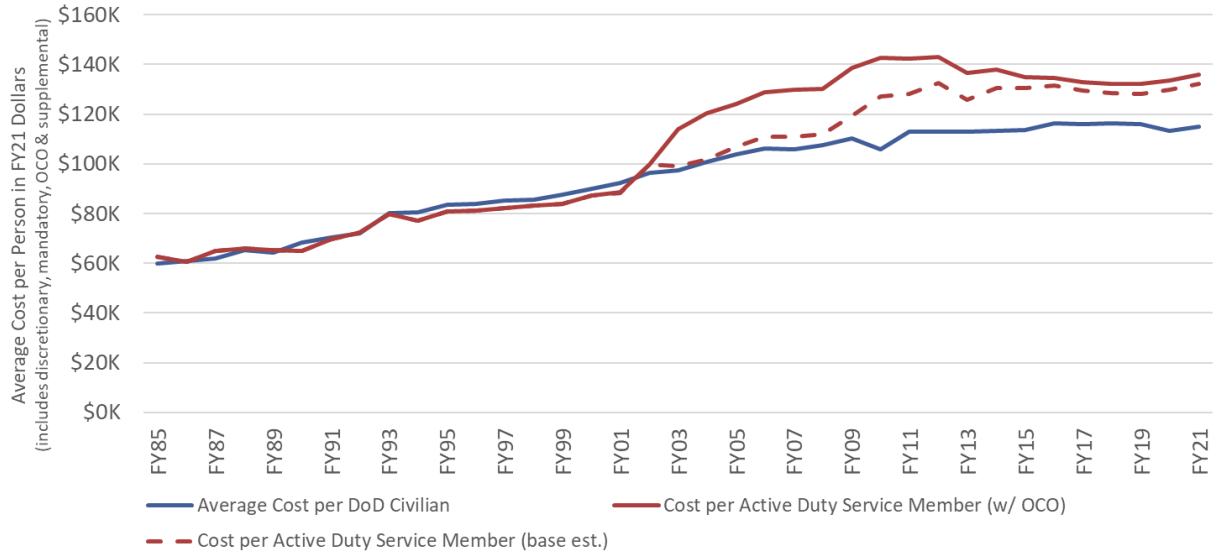


Source: Based on FY 2021 DoD Green Book data.

Between FY 2000 and FY 2012, civilian personnel costs increased by almost 44 percent when adjusted for inflation, which is not as much as the growth observed in military personnel costs. The average cost per civilian, as shown in Figure 30, grew by over 25 percent over the same period, while the cost per service member (including OCO and supplemental funding) grew by 64 percent.

The rate of growth for civilian pay normalized for the size of the civilian workforce was slightly higher than that of active duty personnel costs per service member from FY 1985 through FY 2000. However, as the average cost per service member accelerated from FY 2000 to FY 2012 at a compound annual growth rate of 4.2 percent (including OCO and supplemental funding), growth in civilian pay accounts only grew at a rate of 1.9 percent annually. The growth rate flattened to essentially zero from FY 2012 to FY 2019.

Figure 30: Average Cost per DoD Civilian vs. Active Duty Service Members

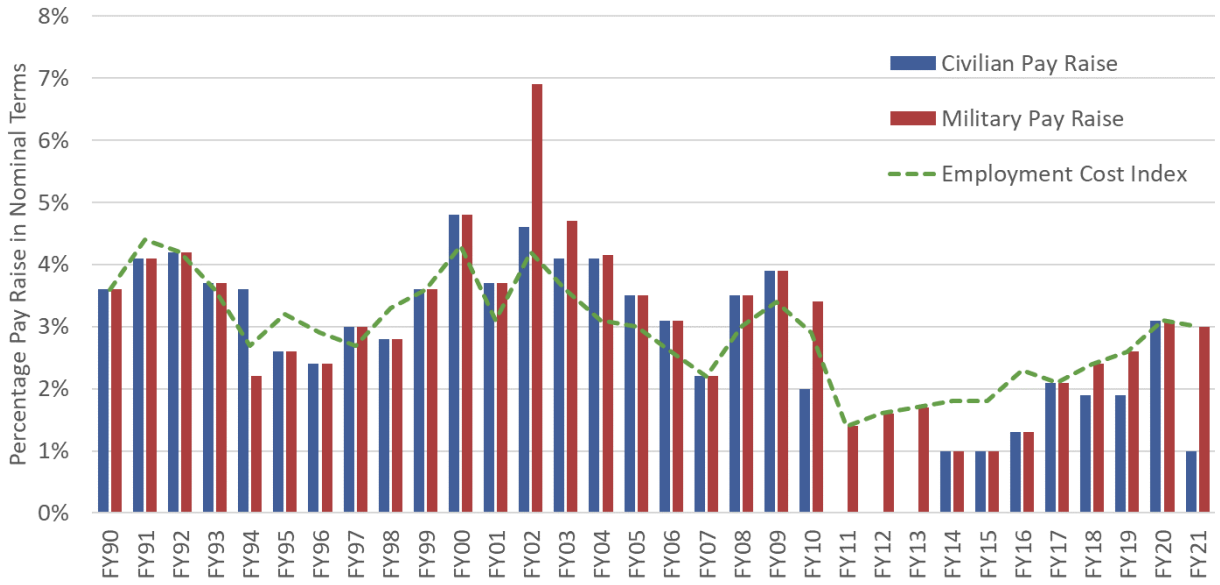


Source: Based on author's analysis of civilian personnel costs in the FY 2021 DoD Green Book and military personnel costs in DoD and OMB budget materials.

In part, the rate of growth for DoD civilian pay accounts was slower than service member costs because it does not include many of the benefits unique to the military that contributed to higher growth rates in the 2000s. But a comparison of the pay raises received by civilians and service members, as shown in Figure 31, provides some indication of the slower rate of growth.

While civilian pay raises exceeded the ECI in 9 of 10 years between FY 2000 and FY 2009, the military pay raise was higher than the civilian raise for 3 of those years (and 2.3 percent higher in FY 2002). However, in FY 2010, the civilian raise was below the ECI, and civilians did not receive any pay raise between FY 2011 and FY 2013. Between FY 2010 and FY 2021, the civilian pay raise matched the ECI only twice and fell below the ECI in all other years. Higher basic pay for service members as a result of pay raises at or above the ECI—when also factored into benefit and retirement formulas—thus led to a higher rate of growth for military personnel accounts than civilian accounts.

Figure 31: Comparison of Civilian and Military Pay Raises and the ECI



Source: Civilian and military pay raise data based on FY 2021 DoD Green Book; ECI based on Bureau of Labor Statistics April 2021 Employment Cost Index Historical Listing – Volume V.

5 | Final Thoughts

Costs associated with military personnel grew significantly over the first decade of the twenty-first century as changes to basic pay and allowances, healthcare, and the composition of the force drove up the average price per service member. These changes were driven in part by efforts to match and compete with higher standards for compensation and benefits in the private sector as well as force management decisions from the Defense Department and military services. While costs have leveled off, they remain high relative to historical norms at a point when the force is near its smallest in terms of end strength and force structure.

As the cost of compensating and supporting U.S. service members consumes nearly 30 percent of its budget, DoD faces the challenge of trying to realize its strategic ambitions while maintaining the force it already possesses. Higher personnel costs, coupled with rising costs to operate and sustain existing platforms, necessitate continual increases in the defense budget topline to simply keep the force at its current size, absent major shifts in policy or management.

But as Bernard Brodie famously wrote, "strategy wears a dollar sign," and decisions over how much the United States should and can afford to spend on defense are not made in a bubble separate from fiscal, economic, and political considerations. Policymakers and legislators determine the balance of resources allocated for defense and non-defense priorities as well as the overall level of resources available. Concerns over the size of the overall federal deficit led to the enactment of the 2011 Budget Control Act, which limited government discretionary spending and forced DoD to make painful trade-offs to meet arbitrary budget toplines. The government's response to Covid-19 in FY 2020 led to the largest U.S. deficit in history, and further spending packages in FY 2021 may lead to a similarly high deficit this fiscal year. While that is no guarantee of significant cuts to the defense budget, history suggests that record deficits can often lead to a downturn in defense spending.[75]

As DoD continues to shift its focus toward modernization and long-term strategic competition, it will be forced to make difficult trade-offs in what could prove to be a resource-constrained environment. Pursuing efficiencies in the area of personnel costs presents options to generate savings within the budget for reinvestment. However, tackling high personnel costs is not without its challenges that have bedeviled previous attempts at reform.

[75] Robert Levinson, "Abandon Old Assumptions About Defense Spending," War on the Rocks, March 8, 2021, https://warontherocks.com/2021/03/abandon-old-assumptions-about-defense-spending/; and Todd Harrison and Seamus P. Daniels, *Analysis of the FY 2021 Defense Budget* (Washington, DC: CSIS, 2020), 58, http://defense360.csis.org/wp-content/uploads/2020/08/Analysis-of-the-FY-2021-Defense-Budget.pdf.

Military compensation is an integral part of the services' recruitment and retention efforts, and policymakers may be hesitant to make adjustments to pay and benefits that disrupt those activities.[76] They may similarly look to avoid the political ramifications of making difficult decisions and politically unpopular changes to the current system. Adjusting the military compensation system will require careful cooperation between the administration, senior military leaders, DoD civilian leaders, and Congress—and a willingness on all sides to expend political capital.

On a more fundamental level, measuring the impact of force management policies on personnel costs presents another challenge to policymakers. Adjustments to the size and composition of the force and personnel requirements for platforms, missions, and operations impact personnel actions such as recruitment, retention, separation, and retirement. Yet tracking the second-order impact of those force management policies on personnel costs and compensation is difficult given data limitations among other concerns.

Previous initiatives have sought to address the full range of personnel-related costs and benefits but have varied in their effectiveness and the scale of change proposed. As mentioned earlier, the recommendations offered by the Military Compensation and Retirement Modernization Commission in January 2015 led to the development of the Blended Retirement System. Yet the commission did not propose sweeping changes, as it concluded that the core compensation structure of the military should remain in place and any recommended changes from "targeted modernization efforts" should not reduce the "value of benefits" to service members.[77]

Shortly after the release of the commission's report, Secretary of Defense Ash Carter announced the "Force of the Future" initiative to "update and adapt" DoD's military and civilian personnel systems.[78] Tasked with leading the effort, Acting Under Secretary of Defense for Personnel and Readiness (P&R) Brad Carson developed a range of far-reaching proposals to overhaul the personnel system, including a proposal to replace up-or-out promotion in the officer corps.[79] Yet the policies that ultimately emerged from that initiative were largely watered down and uncontroversial following pushback from

[76] Lindsay P. Cohn, "How Much is Enough?," *Strategic Studies Quarterly* 9, no. 3 (Fall 2015): 47–48, https://www.airuniversity.af.edu/Portals/10/SSQ/documents/Volume-09_Issue-3/Cohn.pdf.
[77] Military Compensation and Retirement Modernization Commission, *Final Report* (Washington, DC: Military Compensation and Retirement Modernization Commission, 2015), https://www.hqafsa.org/uploads/3/8/9/1/38911523/jan_2015_final_mil_retirement_report.pdf.
[78] Office of the Secretary of Defense, "Memo: Force of the Future: Maintaining our Competitive Edge in Human Capital," (Washington, DC: Department of Defense, 2015), 1, https://insidedefense.com/sites/insidedefense.com/files/documents/nov2015/11182015_ftf1.pdf; and Ash Carter, "Remarks by Secretary Carter on the Force of the Future," (speech at Abington Senior High School, Abington, Pennsylvania, March 30, 2015), https://www.defense.gov/Newsroom/Speeches/Speech/Article/606658/remarks-by-secretary-carter-on-the-force-of-the-future/.
[79] Department of Defense, *Force of the Future Final Report: Reform Proposals Version 2.0* (Washington, DC: Department of Defense, 2015), http://www.pogoarchives.org/straus/force_of_the_future_v2_20150824.pdf.

senior military leaders.[80] Nevertheless, in the FY 2019 NDAA, Congress provided the services with the flexibility to promote officers based on merit rather than just time in service and cohort, and some of the services have taken further steps to modernize their talent management systems.[81] Still, many of the new authorities given to the services to reform the way they manage and promote personnel are not yet being used by the services.

Policy Considerations

Further steps are required to overcome the current unsustainable trend in personnel costs. Recognizing the political and structural challenges to modifying the personnel system, DoD must take a holistic, department-wide approach to address high costs. Any solutions pursued by DoD and Congress should not only address military compensation directly but also the force management decisions that affect overall personnel costs and the data that informs those policies. This report offers several policy areas for further study and consideration by policymakers. They are not recommendations, as each warrants further analysis of potential benefits and costs. Rather, the following list of proposed steps is intended to help advance the ongoing conversation on personnel system reform.

Personnel Cost Data Reporting

Improve the collection and reporting of personnel-related costs. As discussed earlier, the collection and reporting of personnel cost data presents a challenge to conducting a comprehensive and fully informed analysis of the subject. Data is disaggregated across different titles of the budget, reported sometimes in different formats (e.g., budget authority vs. total obligational authority), and managed by different DoD offices. OSD/P&R should centralize all personnel-related data—including from the services—while Congress should mandate a publicly available report on an annual basis. DoD should also regularly assess its personnel cost data against relevant private-sector employment data to remain competitive in recruitment and retention efforts.

Capture the cost of current personnel policy actions on future expenditures. Force management and personnel policy choices are often made without consideration of the future cost implications. OSD/P&R and the services' respective personnel offices should require cost and value

[80] Andrew Tilghman, "Inside the Pentagon personnel feud that's roiled the military's most senior leaders," *Military Times*, May 15, 2016, https://www.militarytimes.com/2016/05/15/inside-the-pentagon-personnel-feud-that-s-roiled-the-military-s-most-senior-leaders/; and Mark Cancian and Todd Harrison, "The 'Force of the Future'," CSIS, *Critical Questions*, November 19, 2015, https://www.csis.org/analysis/force-future.

[81] Katherine L. Kidder, "Fostering Skills and Creating New Pipelines for Military Service," Testimony before the National Commission on Military, National, and Public Service, May 16, 2019, https://www.rand.org/content/dam/rand/pubs/testimonies/CT500/CT512/RAND_CT512.pdf; and Stephen Losey, "New in 2020: New promotion categories for officers," *Air Force Times*, December 28, 2019, https://www.airforcetimes.com/news/your-air-force/2019/12/28/new-in-2020-new-promotion-categories-for-officers/.

analyses to accompany major personnel action decisions to ensure the long-term sustainability of personnel policy.

Conduct surveys of service member compensation preferences. The services should conduct regular and largely standardized surveys of service members to understand preferences and shifts in prevailing opinion regarding compensation. The results of the surveys should be centralized by OSD/P&R to inform Department-wide personnel policy and reported to Congress. DoD should use these surveys to test proposed changes in the personnel and compensation systems before proposing them.

The Department could also issue regular, voluntary surveys to former service members who have separated as well as military retirees to identify reasons for separation and career opportunities post-service. OSD/P&R could then aggregate this data in a public report for insights to improve personnel policy.

Military Compensation Reforms

Shift the makeup of compensation. DoD should explore shifting the structure of military compensation to drive down the cost per service member and prioritize the recruitment and retention of skilled and high-performing individuals. One means of doing this is by shifting the weighting of compensation from basic pay to more special pays and bonuses. This would provide the Department and services with greater flexibility in compensation structures to ensure they have the workforce necessary to carry out current and future mission sets. Shifting compensation toward special pays and bonuses could help reduce turnover for high-skilled occupations while similarly increasing it for low-skilled occupations, where retention is not as important.

DoD should also consider implementing a time-in-grade pay table in place of the current time-in-service table. The report of the 13th Quadrennial Review of Military Compensation endorsed this as an area for further study because of its potential to incentivize higher performance as well as retention.[82]

Explore cost-sharing opportunities. DoD should identify opportunities for greater cost-sharing measures to reduce high personnel costs. As previously mentioned, the Defense Health Agency increased cost-sharing amounts for certain TRICARE plans in 2021. The DHA should track the impact of these changes on enrollment and determine whether further cost-sharing increases are needed to improve overall affordability. However, increases in cost sharing should also align where possible with service member preferences. While Congress has repeatedly proposed cutting the housing allowance so service members pay more out of pocket, studies have shown that troops value the BAH as a form of cash compensation over non-cash and deferred benefits.[83]

[82] Department of Defense, "Analysis of a Time-in-Grade Pay Table," in *Report of the Thirteenth Quadrennial Review of Military Compensation* (Washington, DC: Department of Defense, 2020), https://militarypay.defense.gov/Portals/3/QRMC-Vol_1_final_web.pdf#page=82.
[83] Todd Harrison, "Bad Idea: Cutting the Military Housing Allowance," CSIS, Defense360, December 1, 2017, https://defense360.csis.org/bad-idea-cutting-military-housing-allowance/.

Gradually increase the years of service required for military retirement. With an increasing number of military retirees receiving retired pay and service members reaching 20 years of service to qualify for retirement benefits, DoD should regularly assess the long-term sustainability of current military retirement practices. Further increases in annual accrual payments to the Military Retirement Fund could constrain spending on other priorities in the defense budget. As such, the Department and Congress should consider increasing the years of service slowly from 20 to 25 years to qualify for retirement benefits and evaluate the potential impact of that policy on recruitment and retention efforts. In its final report, the Military Compensation and Retirement Modernization Commission called on Congress to provide the secretary of defense the authority to modify the years of service requirement.[84]

Force Management and Personnel Actions

Rethink personnel requirements for platforms, missions, and operations. The personnel requirements set by the services drive decisions on the size and makeup of the force and have major implications on overall personnel costs. Rethinking the rank and experience level of personnel required for certain functions could generate savings for reinvestment without incurring unnecessary risk. The services should take advantage of automation and other technologies to reduce the number of personnel required for certain missions, such as remotely piloted aircraft (RPA) operations, and minimize the risk of burnout in certain career fields.[85]

The services should also reconsider the apportionment of responsibilities between officers and enlisted service members. While officers and enlisted personnel are not perfect substitutes to be interchanged as costs allow, certain missions and career fields where advances in technology have fundamentally changed the role of the operator may present opportunities for enlisted service members to take on roles traditionally assigned to officers.[86] Additionally, they could consider whether specific missions could be performed by civilians or contractors. The services should explore alternative staffing scenarios for their respective roles and missions that maximize the effectiveness and efficiency of the force.[87]

Improve service member career flexibility. DoD and the services should explore steps to afford greater flexibility to service members in their career choices. Improving this flexibility offers a non-financial means of improving recruitment and retention efforts, particularly for highly talented individuals. The services can take steps to incorporate service member preference into their assignments. For example, the Army Talent Alignment Process (ATAP) aligns officers' preferences with

[84] Military Compensation and Retirement Modernization Commission, *Final Report*, 39.
[85] Harrison, "Rethinking the Role of Remotely Crewed Systems."
[86] Ibid.
[87] Ibid.

those of units filling vacancies to make assignments.[88] To address its pilot shortage, the Air Force could offer a "flying-only" career option for service members who prefer to avoid the leadership track, among other incentives.[89]

The services could also reduce the frequency of permanent change of station (PCS) moves in service members' careers. The toll of PCS moves on military families—both in terms of morale and the opportunity cost on spouses' employment—has been well documented.[90] In addition to reducing PCS costs, this could improve the welfare of service members and their families and prevent premature separations of more experienced personnel.

Finally, DoD and the services should allow officers the flexibility to pursue educational and professional opportunities outside of the military while simultaneously expanding opportunities for lateral entry into service. Secretary Carter's Force of the Future initiatives recommended increased opportunities for service members out of the military, and the Air Force recently announced that officers could temporarily skip promotion consideration to try other opportunities.[91]

Revisit the allocation of roles and missions among the military services. The distribution of roles and missions among the military services also has implications for overall personnel costs. Since the Key West Agreement originally assigned responsibilities in 1948, the military has arguably reached a new inflection point with the emergence of new technologies and missions over the past seven decades as well as the creation of the Space Force.[92] A new review of roles and missions could reduce redundancies and duplicative lines of effort among the services (with multiple services considered providers of space forces, for example) and subsequently reduce end strength and personnel costs.[93] Additionally, the time and cost of training service members for duplicate missions—and maintaining separate training and career progression pipelines—could be reallocated to the services' primary missions or reinvested elsewhere.

[88] Sean Kimmons, "More than half of officers receive top choice in first ATAP cycle," Army News Service, January 28, 2020, https://www.army.mil/article/232041/more_than_half_of_officers_receive_top_choice_in_first_atap_cycle; and Matthew Cox, "Here Are the Results from the First Round of the Army's New Assignment Process," Military.com, February 6, 2020, https://www.military.com/daily-news/2020/02/06/here-are-results-first-round-armys-new-assignment-process.html.
[89] Cohen, "Air Force grapples with enduring pilot shortage"; and Tobias Switzer, *Three Recommendations for Improving Air Force Pilot Retention* (Washington, DC: CSIS, 2020), https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/201009_Switzer_Three_Recommendations_Air_Force_Pilot_Retention.pdf.
[90] Paul Kearney, "The PCS penalty and the Army family," *Army Times*, February 2, 2021, https://www.armytimes.com/opinion/commentary/2021/02/02/the-pcs-penalty-and-the-army-family/.
[91] "Fact Sheet: Building the First Link to the Force of the Future," Department of Defense, 2015, https://dod.defense.gov/Portals/1/features/2015/0315_force-of-the-future/documents/FotF_Fact_Sheet_-_FINAL_11.18.pdf; and Rachel S. Cohen, "Want to try that cool job or get more education? It won't affect your promotion, Air Force says," *Military Times*, May 17, 2021, https://www.militarytimes.com/news/your-air-force/2021/05/17/want-to-try-that-cool-job-or-get-more-education-it-wont-affect-your-promotion-air-force-says/.
[92] Todd Harrison, "Rethinking Military Roles and Missions in a New Administration," CSIS, Defense360, February 2, 2021, https://defense360.csis.org/rethinking-military-roles-and-missions-in-a-new-administration/.
[93] Ibid.

As the Defense Department seeks to modernize its capabilities for competition with near-peer adversaries, it must modernize its approach to managing personnel. DoD has a sacred responsibility to adequately pay and provide for service members and their families, which are the core of the U.S. military. The current cost of personnel is unsustainable and must not be accepted as an immutable fact. Opportunities exist to address personnel costs across the board, from compensation and healthcare to force management policies. New technologies, while not direct substitutes, may allow for the more efficient use of service members but only if personnel policies can keep pace with technological changes. DoD should not only pursue greater flexibility in its acquisition and budget processes, but also in its talent management and compensation systems. While personnel and sustainment costs may pose challenges to DoD's ability to operationalize its strategy in a resource-constrained environment, the Department must find ways to tackle them head-on and create a more sustainable, ready, and relevant force going forward.

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