August 23, 2019

At a Glance

S. 1790, National Defense Authorization Act for Fiscal Year 2020

As passed by the Senate on June 27, 2019

By Fiscal Year, Millions of Dollars	2019	2019-2024	2019-2029
Direct Spending (Outlays)	0	*	-1
Revenues	0	*	*
Deficit Effect	0	*	-1
Spending Subject to Appropriation (Outlays)	0	720,411	not estimated

Statutory pay-as-you-go procedures apply?	**Yes**	**Mandate Effects**	
Increases on-budget deficits in any of the four consecutive 10-year periods beginning in 2030?	**No**	Contains intergovernmental mandate?	**Yes, Over Threshold**
		Contains private-sector mandate?	**Yes, Over Threshold**

* = between -$500,000 and $500,000.

The act would

- Authorize appropriations for 2020 totaling an estimated $744.9 billion, mainly for the military functions of the Department of Defense (DoD) and the atomic energy defense activities of the Department of Energy (DOE)
- Prescribe the number of personnel who can serve in the U.S. Armed Forces
- Extend DoD's authority to pay various bonuses and allowances to military personnel
- Authorize the Navy to refuel two aircraft carriers and incrementally fund the construction of two ships
- Require DOE to produce at least 80 plutonium pits annually by 2030
- Modify the process for granting security clearances to federal employees and contractors
- Limit the use of certain firefighting agents
- Restructure certain organizations and personnel of the Air Force into the United States Space Force
- Impose intergovernmental and private-sector mandates by, among other things, preempting state and local laws, exempting land from taxation by state and local governments, prohibiting certain business transactions, and requiring new rules to monitor the prevalence of certain chemicals in the environment

Estimated budgetary effects would primarily stem from

- Authorizing the appropriation of an estimated $744.9 billion for 2020

Areas of significant uncertainty include

- Anticipating the manner in which the Administration would implement changes to the security clearance process, replace certain firefighting agents, and create a Space Force

Detailed estimate begins on the next page.

See also *CBO's Cost Estimates Explained*, www.cbo.gov/publication/54437;
How CBO Prepares Cost Estimates, www.cbo.gov/publication/53519; and *Glossary*, www.cbo.gov/publication/42904.

Summary of Legislation

S. 1790 would authorize appropriations totaling an estimated $747.3 billion over the 2020-2024 period. Nearly all of that amount, $742.9 billion for 2020 and another $1.0 billion over the following four years, would be specifically authorized for defense programs and activities within the Department of Defense (DoD) and the Department of Energy (DOE). An additional $3.4 billion would be authorized for the Maritime Administration and various other nondefense programs over the 2020-2024 period—$3 billion in specified authorizations and $0.4 billion in estimated authorizations. Of those amounts, a total of $2.0 billion would be authorized for 2020. CBO estimates that appropriation of the authorized amounts would increase outlays by $720.4 billion over the 2020-2024 period.

The act also contains provisions that would affect the costs of defense programs that would be funded with discretionary appropriations in 2021 and future years. Those provisions mainly would affect force structure, compensation and benefits, procurement of naval vessels, firefighting agents used by DoD, the process by which the federal government grants security clearances, and DOE's capacity to produce components of nuclear missiles and bombs. CBO has analyzed the costs of some of those defense provisions and estimates that they would, on a net basis, increase the cost of those programs compared to current law by about $25.5 billion over the 2021-2024 period. The net costs of those provisions in 2021 and beyond are not included in the total amount of outlays described above because CBO expects that appropriations for those activities would be specifically authorized in National Defense Authorization Acts in future years.

In addition, enacting S. 1790 would reduce direct spending by an insignificant amount over the 2020-2024 period and by $1 million over the 2020-2029 period. Enacting the act would have an insignificant effect on revenues.

Estimated Federal Cost

The estimated budgetary effects of S. 1790 are shown in Table 1. Of the $744.9 billion authorized for 2020, nearly all—$742.9 billion—would be for activities within budget function 050 (national defense).

Some authorizations, however, would fall within other budget functions**.** For 2020 those authorizations include $1.4 billion for the Maritime Administration in function 400 (transportation), $0.2 billion for the Environmental Protection Agency in function 300 (natural resources and environment), $0.1 billion for manufacturing initiatives in function 370 (commerce and housing credit), $0.1 billion for the Armed Forces Retirement Home in function 600 (income security), $0.1 billion for a medical facility demonstration fund in function 700 (veterans benefits and services), and smaller amounts in other budget functions.

Basis of Estimate

For this estimate, CBO assumes that S. 1790 will be enacted near the start of fiscal year 2020 and that the authorized and estimated amounts will be appropriated each fiscal year. Outlays for existing programs were estimated using historical spend-out rates.

Spending Subject to Appropriation

S. 1790 would authorize appropriations totaling an estimated $747.3 billion for the 2020-2024 period, of which $743.9 billion would be for defense programs and $3.4 billion would be for nondefense programs.

For 2020, S. 1790 would authorize appropriations totaling an estimated $744.9 billion, of which almost all ($744.8 billion), would be specifically authorized by the act. Of that amount, $667.0 billion is intended to be appropriated as amounts that would count against that year's defense cap set in the Budget Control Act (BCA), as amended (see Table 2). Another $75.9 billion authorized by the act is intended to be designated for overseas contingency operations—primarily in and around Afghanistan, Iraq, and Syria—and would not be not subject to the defense cap if they were so designated. An additional $1.9 billion is intended to be appropriated as amounts that would count against the nondefense cap.

For defense programs in 2020, $742.9 billion would be specifically authorized—an increase of $32.5 billion (or 5 percent) compared to amounts appropriated for 2019. Authorizations for three of the four major categories of DoD spending would increase: operation and maintenance by $14.2 billion (or 5 percent), research and development by $9.7 billion (10 percent), and military personnel by $4.1 billion (3 percent). Authorized funding for procurement would fall by $1.4 billion (1 percent) compared to the current appropriation level. Authorizations for all other categories combined would increase by $5.8 billion (16 percent); most of that increase would arise from a $3.6 billion authorization for military construction, which if appropriated would replenish currently available appropriations that the Administration intends to use for construction projects along the southern border of the United States.

Over the 2021-2024 period, specified authorizations of appropriations for defense programs would total $1.0 billion and would comprise the following amounts:

- An increase of $0.5 billion in the amounts authorized for costs associated with the Defense Production Act, which provides the President a broad set of authorities to ensure or enable the production of materials, resources, equipment, and technologies that are determined to be essential to national defense;

- $0.4 billion for plans and construction projects at military installations in coastal areas to increase their ability to withstand flooding, hurricanes, and other weather disasters; and

- $0.1 billion for costs arising from DoD's support in combatting foreign traffickers of illicit opioids.

For nondefense programs, the act would specifically authorize $1.9 billion for 2020 and $1.1 billion over the following four years as follows:

- $1.4 billion for 2020 and $0.3 billion over the following four years for programs managed by the Maritime Administration, including $0.6 billion for the National Security Multimission Vessel and $0.6 billion for a program to improve intermodal transportation systems;

- $0.1 billion for 2020 and $0.6 billion over the following four years for the Environmental Protection Agency (EPA) to take several actions to regulate a group of chemicals known as perfluoroalkyl and polyfluoroalkyl substances (PFAS), and for the United States Geological Survey to establish a standard for the detection of PFAS and to sample water sources nationwide to determine the extent of PFAS contamination;

- $0.1 billion for 2020 to the EPA for grants and technical assistance to support research on capturing carbon dioxide emissions;

- $0.1 billion for 2020 and $0.2 billion over the following four years to the Department of State and the Department of Treasury to help deter foreign traffickers of illicit opioids;

- $0.1 billion for 2020 for a Medical Facility Demonstration Fund that is jointly managed by the Department of Veterans Affairs (VA) and DoD; and

- $0.1 billion for 2020 for the Armed Forces Retirement Home.

S. 1790 also contains provisions that would affect the costs of various defense and nondefense discretionary programs in future years. The estimated effects of some of those defense provisions are shown in Table 3 and described below. The following sections discuss how those provisions would affect the need for discretionary appropriations in future years. Spending for affected programs and activities would be subject to the appropriation of the estimated amounts.

Military Force Structure. The act would affect the force structure of the various military services by setting end-strength levels for 2020. End strength would remain at those levels in later years unless changed by subsequent legislation.

Under title IV, the authorized end strength in 2020 for active-duty personnel and personnel in the Selected Reserves would total 1,339,500 and 800,800 respectively. Of those reservists, 86,715 would serve full time on active duty in support of the reserves. When compared with levels authorized under current law for 2020, the total number of service members in the Selected Reserve would decline by 16,900, although the number of such reservists who would serve in full-time support positions would increase by 3,653. Active-duty end strength would increase by 1,400. The specified end-strength levels for each component of the armed forces are detailed below with CBO's estimate of the effects of those changes on DoD's costs for personnel and for operation and maintenance. Those costs for additional personnel include components of military compensation such as basic pay, allowances, bonuses, and health care, as well as operating costs for training and maintenance.

Active-Duty End Strengths. Section 401 would authorize the following increases in active-duty personnel for three of the four services: 5,100 more for the Navy, 3,700 more for the Air Force, and 100 more for the Marine Corps. The end strength authorized for the Army would decrease by 7,500. CBO estimates that the net growth in active-duty personnel of 1,400 service members would cost $0.8 billion over the 2020-2024 period.

Selected Reserve End Strengths. Under section 411, the end strengths for three of the six reserve components in DoD would decrease: 10,000 fewer for the Army Reserve, 7,500 fewer for the Army National Guard, and 100 fewer for the Navy Reserve. End strengths for the Air National Guard and the Air Force Reserve would increase by 600 and 100, respectively, while the authorized level for the Marine Corps Reserve would not change. CBO estimates that the net decrease of 16,900 reservists would reduce costs by $3.0 billion over the 2020-2024 period.

Full-Time Selected Reserve End Strengths. Section 412 would increase the number of reservists who serve full time on active duty in support of the reserves by 3,653 compared with currently authorized end-strength levels for 2020. Those additional full-time reservists would increase costs by $2.4 billion over that same period.

Reserve Technicians End Strengths. Section 413 would reduce the end strength for dual-status military technicians by 2,234. Those personnel are federal civilian employees who are required to maintain membership in the Selected Reserve as a condition of their employment. CBO estimates spending on salaries for dual status positions would decrease by $1.2 billion over the 2020-2024 period. (Changing the number of dual-status technicians would not change the number of part-time reservists set by section 411, discussed above. Thus, the only budgetary effects would be the reduction in civilian compensation.)

Defense Compensation and Benefits. S. 1790 includes several provisions that would affect compensation and benefits for uniformed personnel and civilian employees of DoD. The act would specifically authorize regular appropriations of $150.4 billion for the costs of military pay and allowances in 2020. For military personnel costs resulting from overseas contingency operations (primarily in and around Afghanistan, Iraq, and Syria), the act would authorize the appropriation of an additional $4.5 billion for 2020. Some of those provisions would affect costs in future years as detailed below.

Expiring Bonuses and Allowances. Section 611 would extend for one year DoD's authority to enter agreements to pay certain bonuses and allowances to military personnel. The authority to enter into such agreements expires on December 31, 2019. Some bonuses are paid in lump sums, while others are paid in annual or monthly installments over several years of military service. On the basis of DoD's budget request for fiscal year 2020, CBO estimates that extending that authority for one year would cost $8.6 billion over the 2020-2024 period.

Paid Parental Leave for Employees of the Intelligence Community. Section 9307 would provide 12 weeks of paid leave to employees of the intelligence community following the birth or adoption of a child or the initial placement of a foster child. Such leave would be available during the 12-month period beginning on the date of the child's birth or placement. The Director of National Intelligence would have 15 months from the date of the act's enactment to implement the new leave program. Employees of the intelligence community would become entitled to paid leave for the birth or placement of a child that occurs on or after the date of such implementation.

Under the Family and Medical Leave Act (FMLA), federal employees are entitled to up to 12 weeks of leave without pay after the birth or adoption of a child or the initial placement of a foster child. Employees may get paid during that 12-week period by using any annual or sick leave that they have accrued. The leave provided by this act would be in addition to any leave available to, or taken by, those employees during the 12-week period provided by FMLA. CBO expects that employees entitled to paid leave provided under section 9307 would substitute that leave for annual or sick leave they otherwise would have taken during the 12-week FMLA leave period.

CBO estimates that implementing section 9307 would cost $175 million over the 2020-2024 period. That total covers benefits paid to all personnel of the intelligence community, not just those employed by the defense agencies. Because the exact number of employees in each element of the intelligence community is classified, CBO is unable to separately estimate the budgetary effects for defense and nondefense agencies. CBO relied on publicly available information about the amounts appropriated to DoD and the intelligence community, as well as the number of people employed by DoD as the basis of this estimate. In addition to the increases in spending subject to appropriation, enacting section 9307 also would increase direct spending. Those effects are described in the "Direct Spending and Revenues" section of this estimate.

Benefits for Civilian Employees in Combat Zones. Section 1103 would extend for one year the authority to grant benefits such as paid leave and travel for one trip home, and up to three leave periods each year for rest and recuperation to federal civilian employees who perform official duty in a combat zone. The authority to provide those benefits expires on September 30, 2020. On the basis of information from DoD and the Office of Personnel Management (OPM), CBO estimates that about 1,000 civilian employees of DoD and 500 employees of other federal agencies will work in a designated combat zone in 2021 and, under this provision, would receive an average benefit that would cost about $20,000 a year. Thus, CBO estimates that section 1103 would increase the costs of civilian employees of DoD by $20 million and of other federal agencies by $10 million.

Reimbursements for Taxes Withheld from Relocation Benefits. Section 1105 would authorize DoD and other federal agencies to reimburse civilian employees for taxes on relocation benefits for all types of work-related moves. According to DoD, new appointees, separating employees returning home from an overseas assignment, or members of the Senior Executive Service making a final trip home are not compensated for the tax liability on relocation benefits they receive when they move. CBO estimates that under section 1105 DoD would make about 2,000 additional payments each year averaging $2,000 each to reimburse newly eligible employees for taxes on relocation benefits. Thus, CBO estimates that those additional reimbursements would increase costs for civilian employees of DoD by $20 million over the 2020-2024 period. (In addition, reimbursements to employees of other federal agencies would cost $45 million over the same period, CBO estimates.)

Military Health System. Title VII of S. 1790 would make several changes to health benefits for both active and retired military personnel and their families. CBO estimates that if enacted, those provisions would increase DoD's health care costs by a total of about $60 million over the 2020-2024 period.

DoD-VA Incentive Fund. Section 726 would extend through 2025 the requirement that both DoD and the Department of Veterans Affairs contribute a minimum of $15 million each year to the DoD-VA Health Care Sharing Incentive Fund. That requirement expires at the end of 2020. The fund is used to pay for joint projects aimed at improving the quality, accessibility, and cost effectiveness of health care provided by DoD and VA. On the basis of the levels of contributions from those agencies in recent years, CBO estimates that implementing this provision would cost each agency about $60 million over the 2021-2024 period, for a total cost of $120 million over that same period.

PFAS Blood Test. Section 704 would require DoD to perform annual blood tests on military and DoD civilian firefighters to determine and document potential exposure to perfluoroalkyl and polyfluoroalkyl substances (PFAS), beginning in 2021. PFAS are chemical components of agents DoD uses to fight fuel fires. Recent studies suggest that PFAS are responsible for a number of adverse health effects. Using data from DoD, OPM, and public sources, CBO estimates about 20,000 personnel would require such testing each year and that each test would cost about $200. Thus, satisfying the requirement of section 704 would cost about $4.5 million each year and $18 million over the 2021-2024 period.

TRICARE Payment Options. Section 702 would require military retirees, beginning with calendar year 2021, to have their TRICARE enrollment fees deducted from their retired pay. That change would reduce fees paid by DoD for processing payments made by credit cards. Using information from DoD, CBO estimates that TRICARE enrollment fees for military retirees currently total about $400 million each year; about half of that amount is paid with credit cards. Processing fees average about 2 percent for each transaction. In total, CBO estimates section 702 would reduce costs by about $4 million each year and by $15 million over the 2021-2024 period.

Section 702 also would affect direct spending for health care. Those effects are described under the heading “Direct Spending and Revenues.”

Contraception Cost Sharing. Sections 701 and 5701 would eliminate all cost sharing for contraceptive pharmaceuticals and devices for those who use TRICARE, beginning in 2030. On the basis of information from DoD, CBO estimates that beneficiaries currently pay about $13 million each year for their share of contraceptive drugs and devices. After including the effects of inflation and beneficiaries who would use more expensive drugs when they no longer pay part of the cost of those drugs, CBO estimates this proposal would increase costs by about $20 million per year, beginning in 2030.

Sections 701 and 5701 also would affect direct spending. Those effects are described below under the heading “Direct Spending and Revenues.”

Other Defense Provisions. Various other provisions would affect discretionary spending for other defense programs.

Refuel and Repair Nimitz Class Carriers. Section 128 would authorize the Navy to refuel the nuclear power plants and repair the U.S.S. John C. Stennis (CVN-74) and the U.S.S Harry S. Truman (CVN-75). The act would allow the Navy to incrementally fund those contracts for a period not to exceed six years after advance procurement funds for such nuclear refueling and repairs are first obligated. On the basis of information from the Navy, CBO estimates that refueling the nuclear reactor of CVN-74 would cost $4.4 billion over the 2020-2022 period. Refueling the CVN-75 would cost $1.5 billion over the 2021-2024 period and another $4.2 billion over the 2025-2026 period.

Incrementally Fund the LHA-9 Amphibious Assault Ship. Section 125 would allow the Navy to enter into a contract to build an LHA amphibious assault ship (designated LHA-9) and to incrementally fund that contract through 2025. CBO estimates that the LHA-9 will cost about $4.1 billion once completed. In 2019, Congress appropriated $350 million for LHA-9 construction. On the basis of information from the Navy, CBO expects that the Navy would start building the LHA-9 in 2023 and estimates that the ship would cost $1.8 billion over the 2023-2024 period. Another $1.9 billion would be needed in 2025 to complete construction.

Incrementally Fund the LPD-31 Amphibious Ship. Section 124 would allow the Navy to enter into a contract to build the LPD-31 amphibious ship and to incrementally fund that contract over several years. CBO estimates that the ship will cost about $2 billion once completed. In 2019, Congress appropriated $350 million for LPD-31 construction. The act would authorize the appropriation of $247 million in 2020 for that purpose. CBO estimates that completing the ship would require appropriations of about $1.4 billion in 2021.

Security Clearances.[1] Section 10604 of the act would require the Security, Suitability, and Credentialing Performance Accountability Council (the Council) to achieve the goals of issuing 90 percent of initial determinations for secret and top secret clearances within 30 and 90 days, respectively, by December 31, 2021.[2] The current structure establishes goals for an average processing time for the fastest 90 percent of secret and top secret clearances of 60 days and 100 days, respectively. The difference between the current timeliness goals and those prescribed by section 10604 is significant. CBO estimates that the capacity to investigate and adjudicate initial secret and top secret clearances would need to increase by about 200 percent and 67 percent, respectively, to meet those faster processing requirements. For 2019, CBO estimates that the executive branch will spend about $0.4 billion and $0.6 billion on investigating and adjudicating initial secret clearances and initial top secret clearances. Thus, spending on those activities would ultimately need to increase by about $1.2 billion annually.

Under section 10604, the Administration would have about three years to hire and train enough investigators and adjudicators to meet the prescribed timeliness goals in fiscal year 2022. Accounting for that implementation phase, CBO estimates that it would cost about $0.4 billion in 2020 and about $5.3 billion over the 2020-2024 period. Those costs would be borne by all federal agencies that sponsor security clearances.

While most agencies are funded by annual appropriations, some agencies are authorized to spend monies collected from other sources, such as user fees. Any increase in costs to process security clearances and satisfy the requirements of the act incurred by those agencies would be considered direct spending. Those effects are described in the “Direct Spending and Revenues” section of this estimate.

This estimate is particularly uncertain because the provisions would give the Council broad latitude in reforming the process for granting security clearances. Thus, the steps taken by the Council to meet the processing goals of security clearance investigations could differ significantly from CBO’s estimate.

Plutonium Pit Production. Section 8102 would require the National Nuclear Security Administration (NNSA), the nuclear weapons arm of the Department of Energy, to produce at least 80 plutonium pits each year by 2030. Plutonium pits are components of nuclear missiles and bombs that are involved in the detonation of those weapons. Currently, NNSA produces three or four plutonium pits annually at the Los Alamos National Laboratory in

1. See Congressional Budget Office, cost estimate for S. 1589, the Damon Paul Nelson and Matthew Young Pollard Intelligence Authorization Act for Fiscal Years 2018, 2019, and 2020 (August 14, 2019), www.cbo.gov/publication/55554 for more information on the budgetary effects of this provision and for other select provisions in divisions F and G of S. 1790.
2. The Security, Suitability, and Credentialing Performance Accountability Council was established by Executive Order 13467, as amended, to oversee reform of the federal government’s system for determining the eligibility of individuals to access classified information, hold positions in which an individual could affect national security or trust in the federal government regardless of whether the individual has access to classified information, and gain physical or logical access to federal facilities or information systems.

New Mexico and has the capacity to increase that rate to 10 pits. To achieve the goal of producing 80 pits each year, the agency plans to manufacture at two sites. NNSA plans to increase production at the Los Alamos facility to 30 pits each year by 2026. It also plans to modify a plutonium disposal plant at the Savannah River site in South Carolina to produce another 50 pits annually by 2030. On the basis of information from NNSA, CBO estimates that it would cost $5.7 billion over the 2020-2024 period to increase production to 80 plutonium pits each year at two sites—an increase of about $5 billion over the cost of current production. Most of that increase would be spent to upgrade the two facilities.

CBO estimates that onetime costs for upgrading both facilities would total $4.3 billion over the 2020-2024 period and $6.8 billion in total. On the basis of information from NNSA, CBO estimates that upgrading the Los Alamos facility to meet the goal of producing 30 pits annually would cost $2.3 billion. The upgrades would include installing additional equipment to produce pits, training and qualifying new personnel, and implementing other measures needed to increase production to 30 pits annually. In addition, the agency would need to improve the Savannah River site, which it estimates would cost $2 billion over the 2020-2024 period and $4.5 billion in total.

Currently, NNSA spends about $130 million annually to produce plutonium pits at the Los Alamos facility. On the basis of information provided by the agency, CBO expects that the agency would increase the production rate to about 20 plutonium pits in 2024. CBO estimates that it would cost about $0.6 billion over the 2020-2024 period for the additional people and materials needed to reach that production level. CBO expects that the Savannah River site would start producing plutonium pits after 2024. In 2029, when CBO anticipates that directed rate of production would be reached, it would cost $1.2 billion annually to operate both facilities and produce 80 pits each year, CBO estimates.

Firefighting Agents. Section 316 would prohibit DoD from using firefighting agents that contain certain perfluoroalkyl and polyfluoroalkyl substances (PFAS) at combined levels that exceed one part per million. (PFAS exposure has been linked to several adverse health effects.) That prohibition would take effect on October 1, 2023.[3] PFAS compounds are found in the firefighting foam that DoD uses to extinguish fires caused by flammable and combustible liquids and gases, such as jet fuel and natural gas. On the basis of information from DoD, CBO estimates that complying with that prohibition would cost $2.8 billion over the 2020-2024 period.

DoD is replacing its current firefighting agents with mixtures that have lower PFAS concentrations—at a cost of about $250 million—but that foam exceeds the limitation that would be set by section 316. DoD would have to replace its dispensing equipment in aircraft hangers and on firefighting vehicles to use currently available agents that comply with that limitation. Available foams with low PFAS concentrations do not have the same physical and performance characteristics as the foam DoD currently uses, and the department expects

3. The use of firefighting agents with concentrations of PFAS compounds that exceed that level would still be permitted aboard Navy vessels.

that those thicker foams could not be dispensed from its current delivery systems. DoD also has learned from its recent efforts to replace the previous foam that flushing its equipment and hangar delivery systems does not completely remove all traces of PFAS compounds. The amount of PFAS left behind could contaminate the new agent, causing them to exceed the concentration limit that would be set by section 316.

On the basis of information from DoD and participants in the firefighting-equipment industry, the department would need to replace about 1,350 foam delivery systems installed in aircraft hangars at a cost of about $1.5 million each. About 3,000 foam-delivery systems installed on firefighting vehicles also would need to be replaced at an average cost of about $35,000 each. In total, replacing those systems would cost about $2.1 billion, CBO estimates.

Test results of low-PFAS agents indicates that they need to be applied at higher rates to meet DoD's performance standards for extinguishing fires. Thus, CBO expects that DoD also would need to increase its emergency response capacity and hold a larger inventory of firefighting agents on hand. On the basis of information from DoD and industry, CBO estimates that it would cost DoD about $0.5 billion to increase the number firefighting vehicles by 25 percent, increase the amount of agent in its fixed systems by 50 percent, and increase the reserves of firefighting agent stored at its installations by 50 percent.

DoD also would need to replace its current inventory of firefighting agents. On the basis of the cost to replace the previous firefighting agent, CBO estimates that removing, disposing of and replacing the current inventory would cost about $0.2 billion.

Those estimated costs are particularly subject to considerable uncertainty. DoD may incur other costs in addition to the amounts estimated here. Recycling facilities may hesitate to accept replaced equipment because of PFAS contamination; thus, DoD may have to further treat that equipment or store it indefinitely. Conversely, costs may be lower if DoD finds a satisfactory agent that has similar physical and performance characteristics as the agent used today and develops a method to remove all trace elements of the current firefighting agent from its existing systems, eliminating the need to replace that equipment.

Space Force. Sections 1603 through 1605 would restructure certain organizations and personnel of the Air Force into the United States Space Force. The commander of the Space Force would be responsible for organizing, training, equipping, and operating those assets, and also would serve as a member of the Joint Chiefs of Staff.

The Administration recently proposed the creation of a new military service to oversee and operate most military space assets.[4] CBO estimated that the additional management and overhead positions required for a new service would increase annual costs by between $0.8 billion and $1.3 billion (in 2020 dollars), and also would incur onetime costs of between

4. See Department of Defense, *United States Space Force* (February 2019), https://media.defense.gov/2019/Mar/01/2002095012/-1/-1/1/United-States-Space-Force-Strategic-Overview.pdf.

$1.1 billion and $3.0 billion.[5] However, sections 1603 through 1605 would not create that new service; thus, many of the administrative and overhead activities associated with a new service would not be needed. Moreover, section 1604 would not allow DoD to increase the number of military or civilian personnel in the department when it establishes the Space Force. Because DoD has not provided information on how it would organize a new Space Force that would be authorized by the act, CBO has no basis on which to estimate any associated costs.

The Administration also proposed creating two other space-related organizations in its budget for fiscal year 2020: a new agency that would develop and acquire space systems and a new combatant command for operations in space. CBO recently estimated that creating a new space development organization would increase annual costs by between $240 million and $460 million (in 2020 dollars) and also would incur onetime costs of between $220 million and $560 million.[6] CBO expects that the Administration can establish a new space development agency using authorities in current law. CBO estimated that a new combatant command would increase annual costs by between $80 million and $120 million and would incur onetime costs of between $520 million and $1,060 million. Section 1611 of the act would repeal a requirement in current law that a unified command for space forces be under the jurisdiction of the U.S. Strategic Command. It is not clear whether the Administration can create the new combatant command as proposed if that requirement remains in current law. Because of this uncertainty, CBO cannot estimate whether any costs for a new combatant command would arise as a result of the act.

The costs associated with the new space organizations are uncertain because DoD would have significant latitude in deciding how to organize and staff those entities. Decisions about which military units and agencies would be transferred to the new organizations and whether to repurpose existing assets and infrastructure would significantly affect costs. It is also unclear to what extent creation of the organizations would lead to an increase in spending for space-based military capabilities.

Nondefense Provisions. S. 1790 also would affect costs of nondefense programs over the 2020-2024 period.

Manufacturing Programs. Sections 6008 and 6009 would authorize an estimated $53 million annually, or about $265 million in total, over the 2020-2024 period for Manufacturing USA—a federal grant program administered by the National Institute of Standards and Technology—and for a Regional Innovation Program administered by the Economic Development Administration.

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5. See Congressional Budget Office, *The Personnel Requirements and Costs of New Military Space Organizations* (May 2019), www.cbo.gov/publication/55178. That report provides additional details on the methodology behind the estimates. In addition to the cost of standing up a new military service, the report also includes estimates of the cost of creating a new combatant command and a new development agency for space assets.
6. Ibid, 5.

DoD-VA Incentive Fund. As discussed above (for DoD), section 726 would extend through 2025 the requirement that both DoD and VA contribute a minimum of $15 million each year to the DoD-VA Health Care Sharing Incentive Fund. That requirement expires at the end of 2020. On the basis of the levels of contributions from the agencies in recent years, CBO estimates that implementing this provision would cost VA $15 million annually and a total of $60 million over the 2021-2024 period.

Reimbursements for Taxes Withheld from Relocation Benefits. Section 1105 would authorize federal agencies to reimburse civilian employees for taxes on relocation benefits for all types of work-related moves. CBO estimates that those additional reimbursements would increase costs for civilian employees of agencies other than the Department of Defense by $45 million over the 2020-2024 period. (As discussed under the heading "Defense Compensation and Benefits" the authority would increase costs for DoD by $20 million over that period.)

Benefits for Civilian Employees in Combat Zones. As discussed above, section 1103 would extend for one year the authority to provide certain benefits to federal civilian employees who perform official duty in a combat zone. The authority to provide those benefits expires on September 30, 2020. On the basis of information from the Office of Personnel Management, CBO estimates that about 500 employees of federal agencies other than DoD will work in a designated combat zone in 2021 and, under this provision, would receive an average benefit that would cost about $20,000 a year. CBO estimates that it would cost $10 million to provide those benefits to employees of those federal agencies.

Direct Spending and Revenues

Various provisions in S. 1790 would affect direct spending and revenues, but only one would have a significant effect. Section 702 would decrease outlays by $1 million over the 2020-2029 period (see Table 4). Enacting the act would have an insignificant effect on revenues.

TRICARE Payment Options. Section 702 would require military retirees, beginning in calendar year 2021, to have their TRICARE enrollment fees deducted from their retired pay, which would reduce fees paid by DoD for processing credit card payments. Implementing this section would reduce direct spending because it would lower health care spending for retirees of the other uniformed services (U.S. Coast Guard, National Oceanic and Atmospheric Administration, and Public Health Service) and their dependents. Health benefits for those retirees are paid from mandatory appropriations. In total, CBO estimates that section 702 would reduce direct spending by $1 million over the 2021-2029 period.

Implementing section 702 also would reduce discretionary spending. Details of those effects are described under the heading "Spending Subject to Appropriation."

Other Provisions. Several provisions in S. 1790 would have insignificant effects on direct spending and revenues, generally because they would affect very few people, would have offsetting effects, or involve transactions of very small amounts.

- Sections 353, 1213, 1221, 1222, 2822, 8518, 8519, and 10744 would extend or add to agencies' authority to accept and spend amounts received from nonfederal entities for various purposes. Because some of those agencies would not spend all the funds they receive, those sections would reduce direct spending.
- Section 506 would require DoD to obtain the Senate's consent to increase the rank of a retired officer. Such upgrades increase those officers' subsequent retired pay. Requiring the consent of the Senate might affect the timing of a few upgrades of retired officers' grades.
- Section 527 would require DoD to provide service members who allege sexual assault with immunity from charges stemming from their misconduct that occurs in connection with the reported assault. Fines and forfeitures adjudged against service members during military justice proceedings are classified as revenues. CBO expects the policies would change the number of cases that are adjudicated; that change could increase or decrease revenues in a given year.
- Sections 701 and 5701 would eliminate all cost sharing for contraceptive pharmaceuticals and devices for those who use TRICARE, beginning in 2030. CBO estimates that, when implemented, this provision would increase spending for retirees of the other uniformed services by about $300,000 per year. Those health benefits are paid from mandatory appropriations.
- Section 1031 would establish an act of contempt before a military commission as a punishable offense. Additional penalties collected as a result of section 1031 would be classified as revenues.
- Section 2811 would authorize the Army to release all terms and conditions retained over land located at Camp Joseph T. Robinson to the State of Arkansas. The State would be required to reimburse the Army for the costs of releasing the terms and conditions.
- Section 5510 would extend DoD's authority to retain in an active status the Chiefs and Deputy Chiefs of Chaplains in each military service beyond their mandatory separation age. That change would affect when some service members would begin drawing retirement annuities.
- Section 6204 could increase transfers of defense articles to the Government of Cyprus. Many transfers of defense items to foreign countries are financed through the Foreign Military Sales Trust Fund. That fund can receive and expend

amounts without further appropriation. Because the program operates at no net cost to the federal government, CBO estimates that the net effects on direct spending from any additional sales to the Government of Cyprus would be insignificant.

- Section 9304 would establish a program for temporarily exchanging employees of elements of the intelligence community and employees of entities in the private sector. That exchange would increase direct spending for compensation for private-sector employees who are injured in the course of their work in the intelligence community. Any related medical expenses would be paid through the federal workers' compensation program; such payments are classified as direct spending.

- Section 9307 would provide up to 12 weeks of paid leave to employees of the intelligence community following the birth or adoption of a child or the initial placement of a foster child. That paid leave would increase the sick leave balances for employees who would defer the use of sick leave they otherwise would have taken under current law. Any additional sick leave carried through to retirement as a result of section 9307 would be used in the computation of those employees' or survivors' annuities.

- Section 10202 would make the benefits offered under the Central Intelligence Agency Retirement and Disability System similar to the benefits offered under the Civil Service Retirement System. Those changes would both increase and decrease direct spending on retirement benefits; the effect on net direct spending would be insignificant.

- Several sections of divisions F and G would increase administrative costs for agencies that are not funded through annual appropriations to process security clearances and satisfy the other requirements related to security clearances. Such spending is considered direct spending. Those agencies are allowed to use fees, receipts from the sale of goods, and other collections to cover the increase in administrative expenses. CBO estimates that any net changes in direct spending by those agencies would be negligible over the 2020-2029 period because most of them can adjust amounts collected to account for changes in operating costs.

Uncertainty

As described above, areas of significant uncertainty include anticipating the manner in which the Administration would implement changes to the security clearance process (arising from section 10604) and costs that would be incurred to replace existing firefighting agents (section 316). Additionally, costs associated with restructuring certain organizations and personnel of the Air Force into the United States Space Force (sections 1603-1605) are uncertain because it is not clear how DoD would organize and staff the new space organizations.

Pay-As-You-Go Considerations

The Statutory Pay-As-You-Go Act of 2010 establishes budget-reporting and enforcement procedures for legislation affecting direct spending or revenues. The net changes in outlays that are subject to those pay-as-you-go procedures are shown in Table 4.

Increase in Long-Term Deficits: None.

Mandates

S. 1790 contains intergovernmental and private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA). CBO estimates that the aggregate cost of complying with the mandates would exceed the annual thresholds established in UMRA for intergovernmental and private-sector mandates ($82 million and $164 million, respectively in 2019, adjusted annually for inflation).

Mandate that Applies to Public and Private Entities

Military Force Structure. Section 401 would increase the costs of complying with existing intergovernmental and private-sector mandates by increasing the number of service members on active duty by about 1,400 relative to currently authorized levels. Those additional service members would be eligible for existing protections under the Servicemembers Civil Relief Act (SCRA). Protections under SCRA require public and private entities to grant active-duty personnel various allowances for business and tax transactions and court procedures.

For example, SCRA allows service members to maintain a single state of residence for paying state and local personal income taxes and to request deferrals for certain state and local fees. SCRA also requires creditors to charge no more than 6 percent interest on service members' loan obligations if the service member acquired the loan before starting active-duty service, and it allows courts to temporarily stay certain civil proceedings, such as evictions, foreclosures, and repossessions. The SCRA also prohibits lenders from using a service member's personal assets to satisfy the member's trade or business liability while he or she is in military service.

Under the act, the number of active-duty service members covered by SCRA would increase by less than 1 percent, CBO estimates. Service members' utilization of the various provisions of the SCRA depends on a number of uncertain factors, including how often and how long they are deployed. The increase in the number of active-duty service members covered by SCRA would be small, and CBO estimates that the incremental cost of compliance for public or private entities also would be small.

PFAS Release, Disclosure, Detection, and Safe Drinking Water Assistance. By requiring EPA to promulgate a new regulation controlling the level of PFAS in drinking water, section 6721 would impose a mandate on owners and operators of public water systems that are regulated by the Safe Drinking Water Act (SDWA).To comply with the new regulation, all water systems, regardless of ownership, would be required to meet standards for water testing, monitoring, and treatment that would require both capital expenditures and ongoing operations and maintenance costs. (Approximately 32,000 water systems owned and operated by public entities serve nearly 90 percent of the U.S. population, while about 35,000 smaller systems, many serving fewer than 500 people, are owned by private entities.)

Section 6722 would require water systems to test and monitor water for the presence of additional PFAS chemicals. The act would authorize EPA to pay the reasonable costs for testing and laboratory analysis. Those funds would first be allocated to water systems serving more than 10,000 people. Water systems serving fewer than 10,000 people but more than 3,300 people, and a representative sample of systems serving less than 3,300 people also would be required to meet the monitoring requirement if federal funds remain available after covering monitoring costs for the largest water systems.

The new drinking water regulations have not been established by EPA; therefore, CBO has no basis to estimate the extent of investments that would be needed to comply with those requirements. However, because over 67,000 public water systems in the United States would be subject to the new drinking water regulations, CBO expects that the capital and ongoing costs for monitoring, treating, and removing PFAS from drinking water could exceed several billion dollars in the first five years the mandate would be in effect.

Mandates that Apply to Private Entities Only

Title 67 would impose new requirements on industrial facilities that use or manufacture PFAS. The type and number of substances in the category of PFAS that would be regulated, as well as the number of industrial facilities using, processing, manufacturing, or importing the chemicals is widespread and unknown. Therefore, CBO is unable to estimate the burden on the affected private entities to comply with the new regulations regarding those chemicals.

- Section 6711 would impose record-keeping and reporting requirements on industrial facilities that use, process, manufacture, or import a certain group of PFAS, by adding those substances to the Toxic Release Inventory (TRI);

- Section 6751 would require industrial facilities that have manufactured PFOA and PFOS in any year since 2006 to meet certain reporting requirements starting in 2023; and

- Section 6752 would require industrial enterprises to notify the EPA 90 days before using, processing, manufacturing, or importing certain PFAS.

The act would impose several additional mandates on private entities. Because the populations and events affected by each of the remaining mandates are limited, CBO estimates that the aggregate cost to comply with those mandates would be small.

- Section 6007 would prohibit real property lessors from imposing early termination fees on spouses of service members who are catastrophically injured while in military service to terminate certain property leases without charge.

- Section 6813 could prohibit individuals or entities in the United States from engaging in activities that would otherwise be permitted under current law, such as making loans or procuring goods or services, by imposing sanctions on U.S. persons and entities that interact with certain opioid traffickers. The cost of the mandate would be any income that U.S. entities lose because they may no longer engage in transactions prohibited by the act.

- Section 6952 would eliminate an existing right of action against asset managers that divest from companies that invest in North Korea. The cost of the mandate would be the forgone net value of awards and settlements that would have been awarded for such claims in the absence of the act.

Mandates that Apply to Public Entities Only

The act would impose several mandates on public entities. Because the scope of each mandate is limited, CBO estimates the aggregate compliance costs and revenue forgone by state, local, and tribal governments would be small.

- Section 725 would preempt state licensing laws by permitting licensed veterinarians employed by the Department of Defense or members of the Armed Services or National Guard to perform veterinary services in any state, the District of Columbia, or U.S. territory without requiring the veterinarian to obtain additional state or local licenses to practice in those jurisdictions. This authority would be limited to areas receiving a presidential national emergency declaration, major disaster, public health emergency, or extraordinary emergency (declared by the Agriculture Secretary). The cost of the mandate would be lost state license fees and examination revenue.

- Section 1083 would expand residency benefits for military spouses so that they may elect residency for any purpose while living in another state with their spouse who has relocated under military or naval orders. By allowing spouses to choose residency in those circumstances, the act would preempt the taxing authority of state and local governments. The provision would expand a 2018 law that extended spousal residency for taxation and voting purposes. CBO expects section 1083 would be used primarily to register and operate a business and that some spouses would elect to retain their residency if sale and use taxes and fee rates in their home state are lower. The effect on revenue collections by individual state and local governments would vary depending on the number and income of these individuals and where they reside.

- Section 6019 would authorize the Secretary of Interior to acquire and take into trust 200 acres of land for the Little Shell Tribe. Because that land would be exempt from state and local taxes, the provision would impose an intergovernmental mandate.

- Section 6951 would require states that plan to divest from companies that invest in North Korea to notify affected companies and delay divestment until 90 days after issuing the notice. This section also would require states to give the affected companies an opportunity to demonstrate that they do not invest in North Korea. States that plan to divest from such companies also would be required to notify the Department of Justice. If states do not comply with the requirements of the act, the act would preempt state laws that would otherwise require such divestments.

- Section 10742 would preempt state and local laws that would otherwise require governmental agencies participating in an energy infrastructure pilot program to disclose information about their activities, such as sharing cybersecurity information. Although the preemption would limit the application of state and local laws, CBO estimates that it would impose no duty on state or local governments that would result in additional spending or a loss of revenues.

Previous CBO Estimate

On May 6, 2019, CBO transmitted an estimate of S. 383, the USE IT Act, as reported by the Senate Committee on Environment and Public Works on April 10, 2019. Both S. 383 and section 6001 of S. 1790 would authorize the appropriation of $85 million for the Environmental Protection Agency to support research and development on advanced technologies to capture carbon dioxide from the atmosphere for permanent storage or for use in commercial products or processes.

On June 17, 2019, CBO transmitted an estimate of the direct spending and revenue effects for S. 1790, the National Defense Authorization Act for Fiscal Year 2020, as reported by the Senate Committee on Armed Services on June 11, 2019. S. 1790 as reported would increase direct spending by an estimated $33 million and increase revenues by an estimated $40 million over the 2020-2029 period. S. 1790 as passed by the Senate would decrease direct spending by $1 million over the 2020-2029 period and would not significantly affect revenues over those 10 years.

On June 26, 2019, CBO transmitted a cost estimate for H.R. 2500, the National Defense Authorization Act for Fiscal Year 2020, as reported by the House Committee on Armed Services on June 19, 2019. For fiscal year 2020, S. 1790 would authorize the appropriation of an estimated $744.9 billion—$17.3 billion more than the $727.6 billion that would be authorized by H.R. 2500. In addition, H.R. 2500 would reduce direct spending by an estimated $9 million over the 2020-2029 period, while S. 1790 would lower such spending by $1 million over those 10 years.

On August 9, 2019, CBO transmitted an estimate of S. 1427, the Global Leadership in Advanced Manufacturing Act of 2019, as ordered reported by the Senate Committee on Commerce, Science, and Transportation on July 10, 2019. Both S. 1427 and sections 6008 and 6009 of S. 1790 would authorize an estimated $53 million annually during the 2020-2024 period for the Manufacturing USA program and the Regional Innovation Program.

On August 14, 2019, CBO transmitted an estimate of S. 1589, the Damon Paul Nelson and Matthew Young Pollard Intelligence Authorization Act for Fiscal Years 2018, 2019, and 2020, as reported by the Senate Select Committee on Intelligence on May 22, 2019. Nearly all provisions that would be subject to appropriation in S. 1589 are identical to those in Division F and Division G of S. 1790 as passed by the Senate. Both S. 1589, as well as Divisions F and G of S. 1790, would affect direct spending; however enactment of S. 1589 would increase direct spending by $10 million over the 2020-2029 period, whereas Divisions F and G would not significantly affect such spending over those 10 years.

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Defense Authorizations—Kent Christensen
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Table 1.
Estimated Budgetary Effects of S. 1790, as passed by the Senate on June 27, 2019

	By Fiscal Year, Millions of Dollars						
	2019	2020	2021	2022	2023	2024	2019-2024
	Increases in Spending Subject to Appropriation						
Specified Authorizations for Defense Appropriations							
Authorization Level[a]	0	742,908	252	252	252	257	743,921
Estimated Outlays	0	423,785	180,617	65,804	32,769	14,613	717,588
Specified Authorizations for Nondefense Appropriations							
Authorization Level[b]	0	1,916	195	287	287	287	2,972
Estimated Outlays	0	556	363	493	578	619	2,609
Subtotal, Specified Authorizations							
Authorization Level	0	744,824	447	539	539	544	746,893
Estimated Outlays	0	424,341	180,980	66,297	33,347	15,232	720,197
Estimated Authorizations for Nondefense Appropriations							
Estimated Authorization Level[c]	0	58	88	78	78	78	380
Estimated Outlays	0	9	35	41	61	68	214
Total							
Estimated Authorization Level	0	744,882	535	617	617	622	747,273
Estimated Outlays	0	424,350	181,015	66,338	33,408	15,300	720,411
	Changes in Direct Spending[d]						
Estimated Budget Authority	0	0	*	*	*	*	*
Estimated Outlays	0	0	*	*	*	*	*

Except as discussed in footnote c, the authorization levels in this table reflect amounts that would be specifically authorized by the act (as reflected in Table 2). Some provisions in the act also would affect the costs of defense programs in 2021 and future years but not specifically authorize appropriations for those years. Estimates for some of those provisions are shown in Table 3, but are not included above because CBO expects authorizations of appropriations for those costs would be provided in subsequent defense authorization acts.

* = between -$500,000 and zero.

a. Amounts that would be specifically authorized by the act for defense programs, also included in Table 2.
b. Amounts that would be specifically authorized by the act for nondefense programs, as reflected in Table 2.
c. Estimated authorizations for nondefense programs are detailed in Table 3.
d. In addition to the changes in direct spending shown here, S. 1790 would have effects beyond 2024. CBO estimates that over the 2020-2029 period, the act would decrease outlays by $1 million (see Table 4).

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Table 2.
Specified Authorizations of Appropriations in S. 1790, as passed by the Senate on June 27, 2019

	By Fiscal Year, Millions of Dollars						
	2019	2020	2021	2022	2023	2024	2019-2024
Specified Authorizations for Defense Appropriations Subject to the BCA Cap							
Department of Defense							
Military Personnel							
Authorization Level	0	150,374	0	0	0	0	150,374
Estimated Outlays	0	139,805	8,551	203	41	0	148,600
Operation and Maintenance							
Authorization Level	0	240,027	25	25	25	25	240,127
Estimated Outlays	0	154,915	62,804	10,756	3,514	1,523	233,512
Procurement							
Authorization Level	0	136,174	117	117	117	117	136,642
Estimated Outlays	0	24,484	40,591	32,925	19,332	8,626	125,958
Research and Development							
Authorization Level	0	104,053	10	10	10	15	104,098
Estimated Outlays	0	47,412	38,265	9,334	4,429	2,122	101,562
Military Construction and Family Housing							
Authorization Level	0	11,149	100	100	100	100	11,549
Estimated Outlays	0	960	2,299	2,985	2,088	1,142	9,474
Revolving Funds							
Authorization Level	0	1,436	0	0	0	0	1,436
Estimated Outlays	0	1,053	238	61	43	41	1,436
Subtotal, Department of Defense							
Authorization Level	0	643,213	252	252	252	257	644,226
Estimated Outlays	0	368,629	152,748	56,264	29,447	13,454	620,542
Atomic Energy Defense Activities[a]							
Authorization Level	0	23,220	0	0	0	0	23,220
Estimated Outlays	0	14,652	6,590	1,970	7	1	23,220
Defense-Related Activities[b]							
Authorization Level	0	570	0	0	0	0	570
Estimated Outlays	0	368	162	21	8	3	562
Subtotal, Subject to the BCA Defense Cap							
Authorization Level	0	667,003	252	252	252	257	668,016
Estimated Outlays	0	383,649	159,500	58,255	29,462	13,458	644,324
Specified Authorizations for Defense Appropriations not subject to the BCA Cap[c]							
Military Personnel							
Authorization Level	0	4,486	0	0	0	0	4,486
Estimated Outlays	0	4,136	295	3	1	0	4,435

(Continued)

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**Table 2.
Continued**

	By Fiscal Year, Millions of Dollars						
	2019	2020	2021	2022	2023	2024	2019-2024
Operation and Maintenance							
Authorization Level	0	54,029	0	0	0	0	54,029
Estimated Outlays	0	32,886	15,693	2,778	756	347	52,460
Procurement							
Authorization Level	0	9,688	0	0	0	0	9,688
Estimated Outlays	0	2,641	2,976	2,220	1,084	394	9,315
Research and Development							
Authorization Level	0	899	0	0	0	0	899
Estimated Outlays	0	388	358	83	35	14	878
Military Construction							
Authorization Level	0	6,783	0	0	0	0	6,783
Estimated Outlays	0	71	1,791	2,463	1,431	400	6,156
Working Capital Funds							
Authorization Level	0	20	0	0	0	0	20
Estimated Outlays	0	14	4	2	0	0	20
Subtotal Not Subject to the BCA Cap							
Authorization Level	0	75,905	0	0	0	0	75,905
Estimated Outlays	0	40,136	21,117	7,549	3,307	1,155	73,264
Total Specified Authorizations for Defense Appropriations							
Authorization Level	0	742,908	252	252	252	257	743,921
Estimated Outlays	0	423,785	180,617	65,804	32,769	14,613	717,588
Specified Authorizations for Nondefense Appropriations Subject to the BCA Caps							
Authorization Level	0	1,916	195	287	287	287	2,972
Estimated Outlays	0	556	363	493	578	619	2,609
Total Specified Authorizations							
Authorization Level	0	744,824	447	539	539	544	746,893
Estimated Outlays	0	424,341	180,980	66,297	33,347	15,232	720,197

This table reflects specified authorizations of appropriations in the act. Various provisions of the act also would authorize activities and provide authorities that would affect costs in 2021 and in future years. Because the act would not specifically authorize appropriations to cover those costs, they are not included in this table. Table 3 provides the estimated costs of some of those provisions.

BCA = Budget Control Act.

a. Primarily for the atomic energy defense activities of the Department of Energy.
b. For the Intelligence Community Management Account (section 9103) and activities to secure energy infrastructure (section 10742).
c. Authorizations for appropriations intended to be designated for Overseas Contingency Operations—primarily military operations and related activities in and around Afghanistan, Iraq, and Syria.

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Table 3.
Estimated Costs for Selected Provisions in S. 1790 as Passed by the Senate on June 27, 2019

	By Fiscal Year, Millions of Dollars						
	2019	2020	2021	2022	2023	2024	2019-2024
			Military Force Structure				
Active-Duty End Strengths	0	25	235	160	166	171	757
Selected Reserve End Strengths	0	-430	-529	-646	-664	-682	-2,951
Full-Time Selected Reserve End Strengths	0	247	505	521	536	552	2,361
Reserve Technicians End Strengths	0	-122	-251	-259	-267	-274	-1,173
			Defense Compensation and Benefits				
Expiring Bonuses and Allowances	**0**	3,123	2,166	1,462	1,440	402	8,593
Paid Parental Leave for Employees of the Intelligence Community	0	0	33	46	47	49	175
Benefits for Civilian Employees in Combat Zones	0	0	20	0	0	0	20
Reimbursements for Taxes Withheld from Relocation Benefits	0	2	4	4	5	5	20
			Military Health System				
DoD-VA Incentive Fund (DoD Contribution)	0	0	15	15	15	15	60
PFAS Blood Test	0	0	4	4	5	5	18
TRICARE Payment Options	0	0	-3	-4	-4	-4	-15
			Other Defense Provisions				
Refuel and Repair Nimitz Class Carriers	0	648	1,890	2,120	510	700	5,868
Incrementally Fund the LHA-9 Amphibious Assault Ship	0	0	0	0	170	1,620	1,790
Incrementally Fund the LPD-31 Amphibious Ship	0	247	1,390	0	0	0	1,637
Security Clearances	0	410	840	1,310	1,350	1,400	5,310
Plutonium Pit Production							
Onetime Costs	0	549	700	1,000	1,200	900	4,349
Annual Cost	0	30	95	130	160	200	615
Firefighting Agents	0	0	2,600	200	0	0	2,800
			Nondefense Provisions[a]				
Manufacturing Programs	0	53	53	53	53	53	265
DoD-VA Incentive Fund (VA contribution)	0	0	15	15	15	15	60
Reimbursements for Taxes Withheld from Relocation Benefits	0	5	10	10	10	10	45
Benefits for Civilian Employees in Combat Zones	0	0	10	0	0	0	10

Amounts shown for defense programs and activities in this table for 2020 are included in the amounts that would be specifically authorized to be appropriated by the act (as shown in Table 2 and summarized in Table 1). Associated costs for defense programs after 2020 would not be specifically authorized by the act (and therefore are not included in Tables 1 and 2); rather, CBO expects those amounts would be covered by specified authorizations in future National Defense Authorization Acts.

DoD = Department of Defense; PFAS = perfluoroalkyl and polyfluoroalkyl substances; VA = Department of Veterans Affairs.

a. The estimated costs of these provisions—to agencies other than DoD—are summarized in Table 1.

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Table 4.
Estimated Changes in Direct Spending Under S. 1790, as passed by the Senate on June 27, 2019

	By Fiscal Year, Millions of Dollars											
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2019-2024	2019-2029
TRICARE Payment Options													
Estimated Budget Authority	0	0	*	*	*	*	*	*	*	*	*	*	-1
Estimated Outlays	0	0	*	*	*	*	*	*	*	*	*	*	-1

Components do not add up to totals because of rounding; *= between -$500,000 and zero.

Other provisions in S. 1790 would have insignificant effects on direct spending and revenues.