CONGRESS OF THE UNITED STATES
CONGRESSIONAL BUDGET OFFICE

CBO

Accounting for Federal Retirement and Veterans' Benefits: Cash and Accrual Measures

SEPTEMBER 2019

At a Glance

Programs that provide benefits to retired federal civilian workers, retired military personnel, and veterans have long-term effects on the federal budget. The government's cash payments for those benefits are reported in the budget as outlays when they are made, meaning that the long-term costs of current decisions about retirement and veterans' benefits are not reflected in the current budget deficit. Thus, when considering changes to those benefits, policymakers may focus more on short-term budgetary effects than on long-term implications.

Most federal agencies' budgets are charged for the estimated future cost of some of the retirement benefits that their employees accrue each year. However, those accrual charges are credited to the government accounts that pay the benefits and thus have no impact on the deficit. Extending the use of accrual estimates to transactions that do affect the deficit—that is, to the outlays and receipts of retirement and veterans' programs that pay those benefits—would provide more information about the government's long-term personnel costs. (An accrual estimate summarizes, in a single number, all of the future budgetary effects expected to result from a federal commitment when the commitment is made.)

This report analyzes how expanding the use of accrual estimates for federal retirement and veterans' benefits might differ from the current cash-based treatment.

- **Advantages of Accrual Measures.** Accrual estimates accelerate the recognition of long-term costs and would display the expected net cost of new federal commitments when they were incurred and thus were most controllable by policymakers.

- **Disadvantages of Accrual Measures.** Accrual estimates are less transparent and verifiable than cash-based estimates, involve more uncertainty, and would complicate budget reporting.

- **Assessment Criteria.** Factors for assessing whether accrual measures offer helpful information include whether they provide a complete and relevant picture of a program's budgetary effects, are practical and accurate enough to use in the budget process, and are appropriate for the types of federal commitments involved.

- **Options.** Policymakers have various alternatives for expanding the use of accrual measures for federal retirement and veterans' programs. The more that such measures were formally incorporated into the budget process, the greater their potential to ensure that the long-term effects of programs would be taken into account.

Contents

Summary 1

How Are Federal Retirement and Veterans' Benefits Treated in the Budget? 1

How Does CBO Assess the Information Provided by Cash and Accrual Measures for Federal Retirement and Veterans' Benefits? 2

What Are the Advantages and Disadvantages of Accrual Measures for Federal Retirement and Veterans' Benefits? 2

What Are Potential Approaches to Expand the Use of Accrual Measures for Federal Retirement and Veterans' Benefits? 3

1 **Current Budgetary Treatment of Federal Retirement and Veterans' Benefits** 5

Overview of Federal Retirement Programs and Veterans' Benefits 5

Current Budgetary Accounting for Federal Retirement Programs and Veterans' Benefits 7

2 **Weighing the Use of Cash or Accrual Measures for Federal Retirement and Veterans' Benefits** 15

How Accrual Accounting Currently Works in the Federal Budget 15

Assessing the Information That Cash and Accrual Measures Provide About Federal Retirement and Veterans' Benefits 16

BOX 2-1. CASH AND ACCRUAL ESTIMATES OF OPTIONS TO MODIFY RETIREMENT BENEFITS FOR FEDERAL CIVILIAN WORKERS 20

BOX 2-2. BUDGETARY CHALLENGES OF USING ACCRUAL MEASURES FOR VETERANS' BENEFITS 26

Advantages and Disadvantages of Accrual Measures for Federal Retirement and Veterans' Benefits 28

3 **Approaches for Using Accrual Measures in the Federal Budget Process** 31

Adopting an Accrual-Based Treatment in the Budget 31

BOX 3-1. FAIR-VALUE ESTIMATES OF FEDERAL PENSION BENEFITS 32

BOX 3-2. INTERNATIONAL EXPERIENCE WITH ACCRUAL ACCOUNTING AND BUDGETING 34

BOX 3-3. HOW THE NATIONAL INCOME AND PRODUCT ACCOUNTS TREAT FEDERAL PENSIONS 37

Expanding the Use of Agencies' Intragovernmental Accrual Charges 39

Using Accrual Measures Only for Purposes of Congressional Budget Enforcement 39

Providing Supplemental Estimates 40

List of Tables and Figures 41

About This Document 42

Notes

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

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

Summary

How programs are accounted for in the federal budget can significantly affect the size and timing of their estimated effects on the deficit. Those effects in turn can influence lawmakers' decisions about how to allocate the government's budgetary resources.

For programs that provide pensions and health care benefits to retired federal civilian workers and retired military personnel—as well as various benefits to other veterans—the federal budget process uses cash-based accounting to track the programs' effects on the deficit. Cash-based accounting records programs' spending and receipts when they occur, rather than when the government makes the commitments that lead to those transactions. That approach means that the future costs of near-term decisions about such programs are not reflected in the current year's budget totals. Estimates of the effects of proposed changes to those programs typically cover a 10-year period, but that time frame is usually much too short to show the full long-term impact of current policy decisions.

An alternative is for policymakers to use accounting measures that incorporate long-term effects, such as accrual-based estimates. An accrual estimate summarizes, in a single number, the total future net budgetary impact that is expected to result when a commitment is made. Through that summarizing, accrual measures can provide more complete information about federal programs, making it easier to compare the costs of programs or policy proposals that differ in the timing of their cash flows. However, accrual estimates are more complex and involve more uncertainty than cash-based estimates.

This report examines how cash and accrual measures differ for federal retirement and veterans' benefits and highlights trade-offs between the types of information that those measures provide to policymakers.[1] The report also discusses some ways to expand the use of accrual measures for such benefits. (It does not address the treatment of Social Security and Medicare benefits, which many federal retirees also receive.)

How Are Federal Retirement and Veterans' Benefits Treated in the Budget?

Retired civilian employees of the federal government receive pensions through the Federal Employees Retirement System (FERS) or the older Civil Service Retirement System (CSRS), which is being phased out. They receive health insurance through the Federal Employees Health Benefits program. Military personnel who serve long enough to qualify for retirement benefits (typically 20 years) receive pensions from the Department of Defense. An array of other benefits are available to qualifying veterans (not just military retirees), including health care, disability compensation, and assistance with education costs or mortgages.

Federal budget totals reflect the cost of almost all benefit programs for federal retirees and veterans on a cash basis as the benefits are paid. Thus, the effect of those programs on the budget deficit is the difference between cash outflows for benefits and related cash inflows (mainly from federal workers' contributions toward their future pensions) in a given year.

In many cases, however, the budgets of individual federal agencies record those benefits differently. Most agencies' annual budgets are charged for some of the costs of future retirement benefits that their employees earn in the current year. Those charges are calculated on an accrual basis and are credited to the federal retirement funds that will pay the benefits when they become due. Although accrual charges attribute the long-term costs of those benefits to agencies' current budgets, they are recorded as intragovernmental payments (made by one

1. This analysis is one of a series of CBO reports about the use of cash and accrual accounting in the federal budget. The others are Congressional Budget Office, *Cash and Accrual Measures in Federal Budgeting* (January 2018), www.cbo.gov/publication/53461, and *Measuring the Costs of Federal Insurance Programs: Cash or Accrual?* (December 2018), www.cbo.gov/publication/53921.

part of the government to another) and have no net effect on the deficit.

Currently, accrual charges and retirement funds are used to account for the cost of most pensions for federal civilian and military retirees but only a portion of those retirees' health-related benefits.[2] Accrual charges are rarely used for veterans' benefits. Like the bulk of health care benefits for federal retirees, all veterans' benefits except mortgage guarantees are recorded in the budget entirely on a cash basis.

How Does CBO Assess the Information Provided by Cash and Accrual Measures for Federal Retirement and Veterans' Benefits?

In assessing whether accrual estimates offer more helpful information than 10-year cash-based estimates for projecting a program's costs or analyzing proposed changes, the Congressional Budget Office considers the following questions:

- **Do accrual measures convey more complete and relevant information about budgetary effects?** A key factor is the extent to which 10-year cash and accrual estimates communicate different information, potentially affecting how policymakers view the trade-offs between alternatives in designing retirement systems and veterans' benefits.
- **Are accrual measures practical to develop and accurate enough to use in the federal budget process?** An important concern is whether accrual measures are sufficiently reliable to use for enforcing rules and procedures related to Congressional and statutory budget requirements.
- **Is the nature of the government's commitment to provide future retirement and veterans' benefits firm enough to justify recording future cash flows years before they occur?** Accrual measures may be most appropriate for commitments that are legally binding or otherwise firm.

What Are the Advantages and Disadvantages of Accrual Measures for Federal Retirement and Veterans' Benefits?

Although cash-based measures are transparent and readily verifiable, accrual measures can improve decision-making and give a clearer picture of the annual change in the long-term sustainability of the government's retirement and veterans' programs, for several reasons:

- Accrual measures recognize the cost of retirement and veterans' benefits when they are incurred and therefore are most controllable, whereas cash-based measures recognize the cost of those benefits when they are paid, which may be decades after they were earned.
- Accrual measures facilitate direct comparisons between all forms of current and deferred compensation (such as wages and pensions), making the cost of alternatives clearer to policymakers.
- By summarizing long-term budgetary effects up front, accrual measures more accurately indicate whether proposed changes to retirement and veterans' benefits would increase or decrease programs' costs over the long run.
- Accrual measures make it harder to change budgetary outcomes simply by shifting the timing of a program's cash flows (say, from one fiscal year to another) without materially changing the underlying value of those cash flows.

Accrual measures also pose disadvantages compared with cash-based measures:

- Accrual estimates are more methodologically complex and potentially harder to understand.
- Accrual estimates involve additional uncertainty because they rely on projections of variables such as future salaries, health care costs, length of employment, and life expectancy over long horizons. They are also highly sensitive to changes in the technical assumptions used to translate future dollars into present values, and they can be volatile if those assumptions change from year to year. More broadly,

2. Agencies accrue the full cost of pension benefits for participants in FERS but only part of the cost of pension benefits for participants in CSRS; they do not accrue any of the cost of health insurance for federal civilian retirees. The Department of Defense generally records the full accrual cost of pension benefits and some of the accrual cost of health benefits for military personnel. However, the Coast Guard (which is part of the Department of Homeland Security) does not make accrual payments for retirement benefits.

the need to reconcile accrual estimates with actual cash flows periodically requires revisions to estimates and accounting adjustments that can add instability to the budget.

- Using accrual measures in the budget would pose significant challenges of transition and implementation, including the need for new account structures and decisions about how to address the cost of retirement and veterans' benefits that have been earned but not yet paid.

- Incorporating accrual estimates into measures of the deficit would significantly widen the gap that typically exists between the annual budget deficit and the increase in the amount of outstanding federal debt held by the public.

In the context of enforcing statutory and Congressional budget targets, using accrual measures to account for transactions that affect the deficit could be confusing, and permitting lawmakers to budget differently for similar policies might create mixed incentives. On the one hand, accrual accounting would allow a piece of legislation to be credited with long-term savings (or charged with long-term costs) if it altered retirement or veterans' benefits in ways that would affect net costs beyond the 10-year budget window. Thus, accrual measures would give lawmakers a stronger incentive to enact legislation that would constrain or reduce the expected costs of those benefits over the long term.

On the other hand, using accrual estimates for some programs within a broader budget enforcement framework that is based mainly on 10-year cash estimates could encourage lawmakers to use the expected long-term savings from such legislation (measured on an accrual basis) to finance short-term priorities, such as near-term spending increases or tax cuts. The long-term changes to retirement or veterans' benefits might prove difficult to sustain, however. If future lawmakers curtailed those changes rather than letting them take full effect, the projected savings would not occur.

What Are Potential Approaches to Expand the Use of Accrual Measures for Federal Retirement and Veterans' Benefits?

To improve decisionmaking about the allocation of resources among and within federal retirement and veterans' programs, policymakers have options for including information about the long-term effects of those programs in the federal budget process. Those options would affect the budget deficit in various ways:

- Adopting an accrual-based treatment for all federal retirement and veterans' programs in the budget as a whole—akin to the current treatment for federal credit programs—would change those programs' impact on the deficit and probably do the most to incorporate long-term budgetary effects into the decisionmaking process.

- Expanding federal agencies' intragovernmental accrual payments, to recognize the future cost of a broader range of retirement and veterans' benefits than they do now, would affect the budgets of individual agencies. That change could affect the overall deficit, depending on the extent to which making more accrual payments would require agencies to curb other programmatic spending.

- Using accrual estimates only to enforce Congressional budget rules—but not in the budget itself—would change cost estimates for legislation and might affect decisionmaking. But that option would create a potentially confusing inconsistency between the estimates used by the Congress and those used by the Administration.

- Providing policymakers with supplemental information—whether accrual estimates or long-term cash estimates—would allow them to judge the value of such estimates in illuminating long-term effects without changing the budget numbers or budget enforcement. However, that option would do the least to incorporate long-term budgetary effects into legislative procedures.

CHAPTER

1

Current Budgetary Treatment of Federal Retirement and Veterans' Benefits

The retirement benefits available to federal civilian employees and military personnel are an important part of the compensation package that the government offers to attract and retain a highly qualified workforce. Those benefits, which serve as deferred compensation, include pensions and health insurance during retirement. In addition, many veterans can qualify for nonretirement benefits from the Department of Veterans Affairs (VA), such as disability compensation, health care, or assistance with education or home loans.

Because of those various benefits, decisions made in the short term about the size and composition of the federal civilian workforce and the armed forces have budgetary effects that extend far into the future. To make well-informed decisions, policymakers need complete and accurate measures of the long-term costs of the mix of current and deferred compensation provided to federal workers (both civilians and service members).

The net costs of federal retirement and veterans' programs are recorded in the budget using two fundamentally different measures—cash-based accounting and accrual accounting. The principal difference between the two lies in the timing of when the government's commitment or collection of funds is recognized. In cash-based accounting, transactions are recorded when payments are made or receipts are collected, regardless of when the government committed to making those transactions. In accrual accounting, by contrast, when the government makes a commitment that could affect federal cash flows many years into the future, the anticipated net financial effects of that commitment are summarized as a present value and recorded in the budget at the time of the commitment.[1]

1. A present value is a single number that expresses a flow of future income or payments in terms of an equivalent lump sum received or paid at a specific time.

Overview of Federal Retirement Programs and Veterans' Benefits

Many federal programs provide retirement income and health insurance to the more than 5 million federal civilian and military retirees and their survivors. An array of other programs serve the military's roughly 19 million veterans. Looking ahead, many of the 2.8 million current federal civilian workers (including Postal Service employees) and 2.2 million active-duty and reserve military personnel will qualify to receive such benefits in the future, depending in part on how long they serve.[2]

Benefits for Federal Civilian and Military Retirees

Most retired federal workers receive defined benefit pensions based on formulas that take into account their salary history and years of service. The major programs that provide such annuities to civilian workers are the Federal Employees Retirement System and the older Civil Service Retirement System, which is being phased out and has been closed to new employees since 1983.[3] The federal government also provides retirement benefits to railroad workers and their families through the Railroad Retirement program and to retired Foreign Service personnel and certain District of Columbia government workers through separate programs. In general, federal civilian workers (including employees of

2. Federal civilian employees must typically work for five years to become eligible for (vested in) a federal defined benefit pension. Military personnel, by contrast, do not become eligible to receive a defined benefit pension until they serve for 20 years (or qualify for a medical retirement earlier). Thus, unlike vested federal civilian workers, most service members do not earn new pension benefits each year. (However, veterans who take another federal job after they leave the armed forces receive retirement credit for their years of military service.) See Congressional Budget Office, *Costs of Military Pay and Benefits in the Defense Budget* (November 2012), www.cbo.gov/publication/43574.

3. Unlike federal civilian workers and retirees covered by FERS, those covered by CSRS are not eligible for Social Security benefits unless they meet the requirements through other employment.

the Postal Service) are statutorily required to contribute a portion of their salary through payroll deductions to help cover their future pension benefits.

Most federal workers hired since 1983 also participate in the Thrift Savings Plan (TSP), a defined contribution plan similar to the 401(k) plans used in the private sector. The government and employees contribute to individual TSP accounts that are owned and controlled by the employees. In retirement, former employees can receive payments from those accounts.

In general, federal workers covered by FERS are automatically enrolled in the TSP (although they can later opt out). Agencies make automatic contributions to those employees' accounts, as well as matching the employees' contributions up to a specified limit. Federal workers covered by CSRS may participate in the TSP, but they do not receive contributions from their agency. After making any required contributions to the TSP, the government has no further obligations regarding benefits from the plan.

Military personnel who serve long enough to qualify for retirement benefits (usually 20 years) receive pensions paid by the Military Retirement Fund of the Department of Defense (DoD).[4] Unlike federal civilian workers, service members are not required to contribute monetarily to their future pension benefits. In addition, military personnel have been able to participate in the TSP since 2001, although until 2018 they were not eligible to receive matching contributions from their employer.

In 2018, military agencies began implementing a new retirement plan, the Blended Retirement System (BRS). That plan combines the TSP—now with matching employer contributions—and retirees' monthly pension benefits, which are smaller than they were for earlier military retirees. Personnel who entered the armed services after December 31, 2017, are automatically enrolled in the BRS; personnel who had 12 or fewer years of service on that date could opt into the new system. Under the BRS, annuitants can choose to receive part of their pension benefits as a lump-sum payment, an option not available to federal civilian retirees.

Like pensions, health care benefits for retirees also result in long-term commitments for the federal government. In retirement, most federal civilian workers are eligible to continue receiving benefits from the Federal Employees Health Benefits (FEHB) program, which covered them while they were working. The government shares the cost of FEHB premiums with retirees, generally paying the same percentage it did before employees' retirement. In addition, for civilian retirees age 65 or older, FEHB benefits are coordinated with Medicare. For retirees enrolled in both programs, Medicare is the primary insurance plan, and FEHB provides supplemental insurance to pay some costs not covered by Medicare.[5]

Eligible military retirees and their families typically receive health benefits through TRICARE, the health care program of DoD's Military Health System. They can be treated at military medical facilities if providers, space, and other resources are available or by private providers under contract to DoD.[6] Once those retirees become eligible for coverage through Medicare (generally at age 65), any expenses not paid by Medicare are usually paid from DoD's Medicare-Eligible Retiree Health Care Fund (MERHCF). That fund pays for several programs: TRICARE for Life; the Senior Pharmacy Benefit; reimbursements for care provided at military treatment facilities; and an alternative health benefit, the Uniformed Services Family Health Plan.[7]

Benefits for Veterans

The federal government faces long-term commitments to pay certain benefits to eligible veterans through VA, which administers programs to help former service

4. See Congressional Budget Office, *Approaches to Changing Military Compensation* (forthcoming); and Kristy N. Kamarck, *Military Retirement: Background and Recent Developments,* Report for Congress RL34751 (Congressional Research Service, July 12, 2019), https://crsreports.congress.gov/product/pdf/RL/RL34751 (PDF, 1.2 MB).

5. About 1.9 million retired federal workers and family members were enrolled in both the FEHB program and Medicare in 2018. Many, however, were enrolled only in Part A of Medicare, which covers hospital services; they chose to opt out of Part B, which covers physicians' and outpatient services, and Part D, which covers prescription drug costs. See Joseph Antos, James C. Capretta, and Walton J. Francis, *Providing High-Quality, Cost-Effective Health Coverage to Retired Federal Employees Age 65 and Older* (American Enterprise Institute, January 2019), https://tinyurl.com/y6r6o92v.

6. See Congressional Budget Office, *Approaches to Changing Military Health Care* (October 2017), www.cbo.gov/publication/53137.

7. TRICARE and the MERHCF do not cover care for military retirees in VA hospitals.

members and their families. (Veterans consist of personnel who served on active duty in the armed forces. About 2 million veterans also receive military retirement benefits.) VA benefits are generally funded by the government, with few or no contributions from active-duty personnel or veterans. The bulk of VA's budget goes to two benefits: compensation for veterans with service-connected disabilities (and some of their survivors) and medical care for eligible veterans.[8] VA provides a variety of other benefits as well, including assistance with education and vocational rehabilitation, pensions for low-income veterans who served during wartime, benefits for surviving spouses and dependent children, life insurance, and guarantees on mortgages. Eligibility for those benefits varies by program.[9]

Veterans can begin receiving some VA benefits immediately after leaving military service. For some programs, however, veterans may not meet eligibility requirements until several years after leaving the armed forces. For example, many veterans wait years before claiming disability benefits because the conditions that indicate eligibility may not appear until later. Payments for disability benefits usually continue for the duration of the veteran's life.[10]

Current Budgetary Accounting for Federal Retirement Programs and Veterans' Benefits

Benefits for federal civilian and military retirees and veterans are accounted for in the budget using a mix of cash and accrual measures (see Figure 1-1). In general, cash-based measures are used to record outlays for benefits and contributions from employees (and retirees) and to calculate the impact of those benefit programs on the budget deficit. Accrual estimates are mainly used to essentially prefund a share of pension benefits for federal employees through agencies' annual contributions to federal retirement funds, although those amounts do not affect total outlays in the budget or the deficit. Those cash and accrual transactions affect the three major categories of the budget: mandatory (or direct) spending, discretionary spending, and revenues.

Current Use of Cash and Accrual Measures

The federal budget operates largely on a cash basis, so the costs of retirement and veterans' benefits are recorded in the budget when they are paid.[11] Budget projections for those benefits reflect the full extent of anticipated spending based on provisions of law that specify benefit formulas and eligibility criteria. The effect of those benefit programs on the deficit in a given year is determined by the difference between the programs' cash outflows for benefits and their cash inflows (mainly from existing workers' contributions toward their future pensions). The government's contributions to TSP accounts for federal civilian and military personnel are also recorded on a cash basis in the year those outlays occur. (The budgetary treatment of the TSP is shown in Figure 1-2.)

Meanwhile, most federal agencies use annual transactions that are calculated on an accrual basis to account for the future cost of pension benefits (and, in some cases, retirees' health care benefits) earned by their current employees. Those transactions—payments that are charged against their current budgets—effectively transfer a portion of the agencies' current authority to incur obligations (budget authority) for salaries and expenses to the federal retirement funds that will provide those future benefits. For federal civilian employees, agencies accrue the full cost of pension benefits for participants in FERS, which covers most current workers, but they pay only part of the accrual cost of benefits under the older CSRS. (The administrative costs of federal retirement programs are accounted for in the budget on a cash basis.)

Agencies' annual accrual charges account for the "normal cost" of benefits (a measure of the additional liability to pay benefits that a retirement plan accrues during a year

8. See Congressional Budget Office, *Possible Higher Spending Paths for Veterans' Benefits* (December 2018), www.cbo.gov/publication/54881.

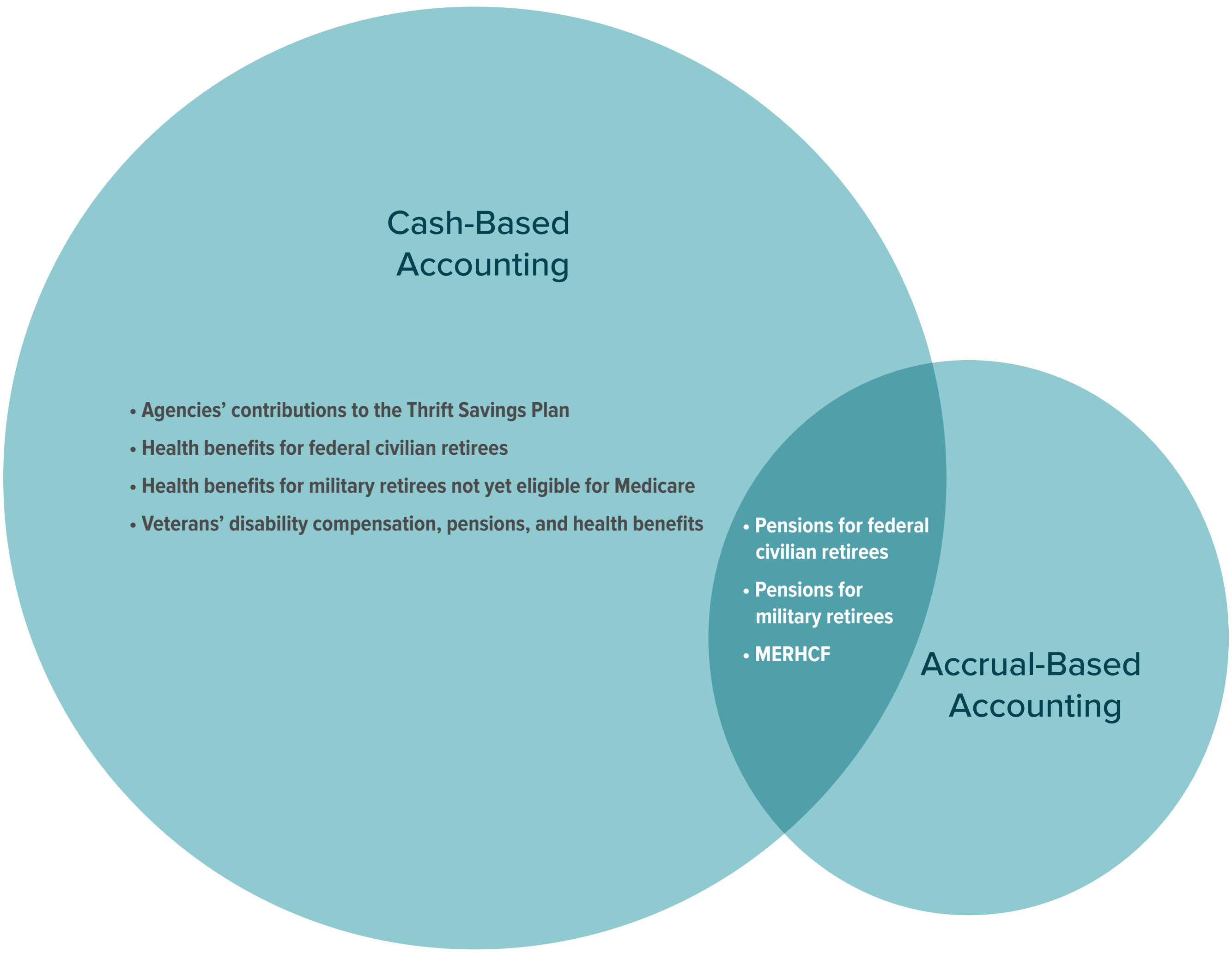
9. Eligibility for VA's medical benefits and disability compensation depends on the nature of a veteran's discharge from the military. Veterans with an "other than honorable," "bad conduct," or "dishonorable" discharge or release may be excluded from benefits. Other eligibility factors for specific VA benefits can include the veteran's length of service, time since discharge, age, income, or service-related disabilities.

10. Some veterans who receive disability benefits also receive a military retirement pension. In such cases, the disability benefits, which are tax-free, can reduce (or offset) the recipient's military retirement benefits, although lawmakers have gradually reduced or eliminated the extent of that offset for some veterans.

11. For more information about which parts of the budget use cash or accrual accounting, see Congressional Budget Office, *Cash and Accrual Measures in Federal Budgeting* (January 2018), www.cbo.gov/publication/53461.

Figure 1-1.

Current Budgetary Treatment of Federal Retirement and Veterans' Benefits



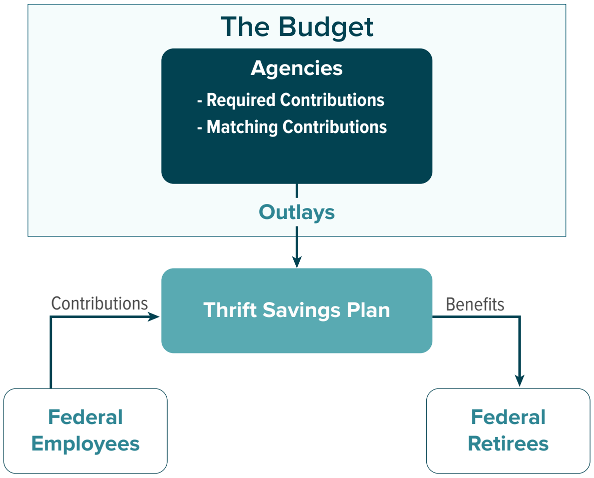
Source: Congressional Budget Office.

The sizes of the cash and accrual areas are illustrative. CBO projects that over the 2020–2029 period, cash outlays for the programs listed above will be several times greater than the accrual charges that agencies make for pensions and the MERHCF, which effectively transfer a portion of agencies' current spending authority to federal retirement funds. Those accrual-based transactions are intragovernmental (paid by one part of the government to another) and do not affect the federal budget deficit.

MERHCF = Medicare-Eligible Retiree Health Care Fund.

Figure 1-2.

Current Budgetary Treatment of the Thrift Savings Plan



Source: Congressional Budget Office.

because of work performed in that year).[12] For example, federal agencies currently contribute 13.7 percent of payroll to the retirement fund for most employees covered by FERS who were hired before 2013, and those employees contribute 0.8 percent of their pay. (For most workers hired in or after 2013, agencies currently contribute 11.9 percent of payroll, and those employees contribute 3.1 percent to 4.4 percent of their pay.)[13] In 2018, the military contributed between 34.3 percent and 38.3 percent of full-time service members' basic pay to the Military Retirement Fund (MRF) to cover accruing benefits for most personnel who entered the armed forces before 2018; the military contributed 25.6 percent of pay for newer service members covered by the Blended Retirement System.

Those accrual transactions serve two main purposes: to measure more fully the long-term costs of the deferred compensation payable to an agency's current workforce and to attribute those costs to the agency's current budget. Such information may help policymakers to allocate agencies' resources more efficiently between deferred compensation and other spending and to make more informed decisions about the size of the federal workforce and its rates of pay.[14]

Agencies' accrual transactions for retirement benefits are intragovernmental bookkeeping transfers in which the outlays charged to agencies' budgets are fully offset by receipts to the retirement funds that will ultimately provide benefits. Those transactions shift federal assets and liabilities among federal accounts, but they do not affect the government's annual budget deficit or the amount of accumulated federal debt held by the public.

The Role of Federal Retirement Funds

In the federal budget, trust funds are accounting mechanisms that link earmarked receipts (money designated for a specific purpose) with corresponding expenditures. Currently, trust funds and the accrual charges that are credited to them are used to account for the bulk of federal civilian and military pensions. Such accrual charges are recorded by the Civil Service Retirement and Disability Fund (CSRDF), the Foreign Service Retirement and Disability Fund, the MRF, and several

12. To value that normal cost, federal pension plans rely on the aggregate entry-age-normal method, which attempts to set level contributions to retirement funds as a percentage of salary throughout an employee's career. Compared with some other methods, that approach has the effect of smoothing pension costs over a career and accelerating the recognition of those costs. Many private-sector pension plans, by contrast, use the projected unit-credit method to value the normal cost, with the intent of funding the present value of benefits as they accrue. That method has the effect of lowering recognized costs early in an employee's career but increasing recognized costs as retirement approaches. See Government Accountability Office, *Pension Plan Valuation: Views on Using Multiple Measures to Offer a More Complete Financial Picture*, GAO-14-264 (September 2014), www.gao.gov/products/GAO-14-264, and *Military Retirement: Service Contributions Do Not Reflect Service Specific Estimated Costs and Full Effect of Proposed Legislation Is Unknown*, GAO-19-195R (December 4, 2018), pp. 13–16, www.gao.gov/products/GAO-19-195R.

13. The Office of Personnel Management revised its actuarial assumptions and announced an increase in normal costs for most employees effective October 1, 2019. As a result, agencies' accrual costs will rise by about 2 percentage points for most employees covered by FERS (and by an average of about 4 percentage points for Members of Congress and Congressional staff).

14. For an example of how accrual accounting can give policymakers and agency managers a more complete measure of the cost of providing current services, see Congressional Budget Office, *The President's Proposal to Accrue Retirement Costs for Federal Employees* (June 2002), www.cbo.gov/publication/13806. That report analyzed a proposal in the President's 2003 budget request that federal agencies pay the full cost of their employees' pension benefits and annuitants' health benefits as those benefits were earned.

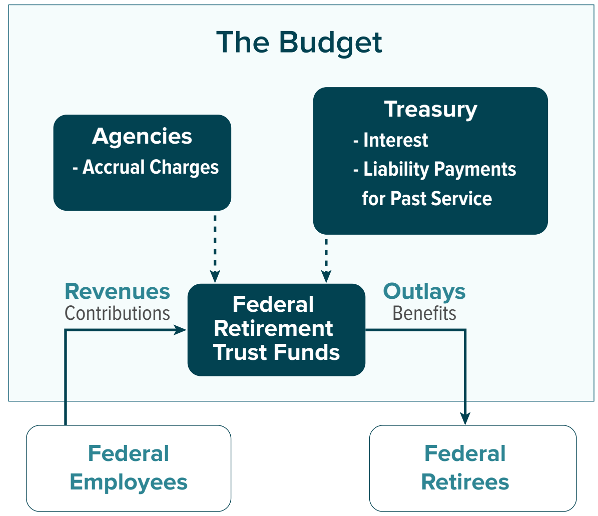
smaller trust funds.[15] In addition, the Postal Service is required to make payments to gradually eliminate its share of the unfunded liabilities for CSRS pensions. (Trust funds are also used to account for Social Security and Medicare benefits for the general population, but those programs are not part of this analysis.)

The use of trust funds and accrual charges is less common for federal retirees' health care benefits than for their pensions. DoD accrues the cost of health care paid for by the MERHCF for Medicare-eligible military retirees, but it does not accrue the cost of health care for retirees under age 65. Likewise, federal agencies do not make accrual payments for their retirees' health care benefits. Current law specifies that the Postal Service should prefund its retirees' health care benefits by making payments to the Postal Service Health Benefits Fund, but it has not done so since 2010.[16]

How Federal Retirement Funds Work. The balance of a retirement fund represents the cumulative difference between income credited to the fund—such as receipts from agencies' accrual charges and employees' required contributions—and benefits paid from the fund (see Figure 1-3). Ordinarily, when a trust fund is credited with income that is not needed immediately to pay benefits or other costs, the Treasury issues nonmarketable Government Account Series (GAS) securities in an amount equal to that excess income. The securities are credited to the trust fund, and the Treasury also credits the fund with periodic interest payments on its GAS holdings.[17]

Figure 1-3.

Current Budgetary Treatment of Federal Retirement Costs



Source: Congressional Budget Office.

Dashed lines indicate intragovernmental transactions (amounts paid by one part of the government to another).

Retirement trust funds are also credited with supplemental payments from the Treasury's general fund. Agencies generally did not begin making accrual payments until well after the federal retirement systems were established, so the balances of retirement funds are smaller than the full amount of the benefits earned to date under the formulas for pension annuities. The Treasury's supplemental payments are intended to gradually make up that difference.[18]

15. DoD pays to the MRF the accrual cost of pension benefits for most military personnel. However, no trust fund exists to account for retirement-related transactions of the Coast Guard, a branch of the military that is part of the Department of Homeland Security. The Coast Guard does not make any accrual payments for retirement benefits for its personnel; those benefits are recorded entirely on a cash basis.

16. See Government Accountability Office, *Postal Retiree Health Benefits: Unsustainable Finances Need to Be Addressed*, GAO-18-602 (August 2018), www.gao.gov/products/GAO-18-602.

17. Although the balances of the retirement trust funds for federal civilian employees and military personnel are invested in nonmarketable Treasury securities, the balance of the trust fund for railroad retirees, the National Railroad Retirement Investment Trust, is invested in stocks, bonds, and other private investments. For budgetary purposes, purchases of those assets are not considered outlays, and sales are not considered offsetting receipts, as specified by the Railroad Retirement and Survivors' Improvement Act of 2001. Instead, those transactions are considered an exchange of assets of equal value and are classified in the budget as a means of financing, which is consistent with accrual accounting. See Congressional Budget Office, *Evaluating and Accounting for Federal Investment in Corporate Stocks and Other Private Securities* (January 2003), www.cbo.gov/publication/14245; and Zhe Li, *Railroad Retirement Board: Trust Fund Investment Practices*, Report for Congress RS22782 (Congressional Research Service, January 10, 2019), https://crsreports.congress.gov/product/pdf/RS/RS22782 (PDF, 1 MB).

18. DoD did not make accrual payments for military personnel until 1985, and federal agencies are not charged the full accrual cost of pension benefits for civilian employees covered by CSRS (most employees hired before 1983). As a result, federal retirement funds have unfunded liabilities, meaning that the funds' assets are smaller than their projected liabilities for scheduled benefit payments. Payments from the Treasury are set to gradually reduce those unfunded liabilities over time. Actuaries project that the unfunded liabilities of the MRF will be eliminated in 2026, whereas the unfunded liabilities of the CSRDF are projected to persist until 2090.

The balance of a retirement fund is not walled off from the rest of the federal government's finances. Instead, a fund's excess cash income—that is, money that comes from outside the government, such as federal employees' contributions, but not agencies' intragovernmental accrual charges—is available for the Treasury to use for other purposes. That income reduces the amount of new federal borrowing needed to finance government activities. In other words, the Treasury "borrows" the excess cash from a retirement fund (by issuing GAS securities) and therefore borrows less from the public (by selling marketable Treasury securities) than it would without that extra net income. If the cash income credited to a retirement fund falls short of expenses in a given year, the reverse happens: The Treasury redeems GAS securities and makes up the difference in order to pay benefits, up to whatever amounts are legally authorized.

Because fund balances are held in the form of Treasury securities, the balance of a retirement trust fund represents an asset for the related program but a liability for the government as a whole.[19] Trust funds have an important legal meaning in that their balances are a measure of the amounts that the government is legally authorized to spend for certain purposes under current law. But the resources needed to redeem a fund's securities in some future year—and thus pay for benefits or other program costs—must be generated in that year from taxes, other sources of government income, or borrowing from the public. In other words, the actual cash needed to pay federal retirement benefits as they become due will come from revenues generated at that time or from federal borrowing from the public.

Although the balances of retirement funds indicate how much the government is legally authorized to spend under current law, they have little relevance in an economic or budgetary sense unless the limits of that spending authority are reached. In that case, without further legislative action, the government's authority to provide retirement benefits in a given year would be limited by the amount of income credited to the retirement funds in that year. However, the Congressional Budget Office projects that if current laws remained the same, the federal retirement trust funds would maintain positive balances for at least the next 10 years—in which case, pension benefits could continue to be paid in full.[20]

Projected Balances of the Major Retirement Funds. At the end of fiscal year 2018, the balances of the CSRDF, the Foreign Service Retirement and Disability Fund, and several smaller civilian retirement funds totaled $943 billion, and the balance of the MRF totaled $743 billion.[21] In May 2019, CBO projected that under current law, the income credited to those retirement funds would exceed outlays, meaning that the funds would run cash flow surpluses, throughout the next decade. The annual surpluses for all of the retirement funds combined would grow from $101 billion in 2019 to $150 billion in 2026 and then decline to $48 billion by 2029, CBO projected.

Most of the cumulative growth in the funds' balances projected for the 2019–2029 period is attributable to the MRF.[22] In CBO's baseline projections, the balance of that fund increases rapidly over the coming decade, from $743 billion in 2018 to nearly $1.7 trillion in 2029. Most of that projected growth results from additional payments that the Treasury is expected to make in the next several years to better align the size of the MRF with its projected liabilities. Balances in the civilian retirement funds, by contrast, are projected to grow gradually over the next decade, at an average rate of about 1 percent a year, increasing to roughly $1.1 trillion in 2029.

Budgetary Classification of Transactions Related to Federal Retirement and Veterans' Benefits

Most expenditures for benefits paid to federal retirees and veterans are classified as *mandatory spending* (also known as *direct spending*) because they are determined by eligibility criteria and benefit formulas specified in permanent laws and are generally not constrained by annual appropriation acts. Federal workers' statutorily required contributions toward those benefits—mostly from civilian employees for their future pensions—are recorded as *revenues* (collections of funds that result primarily from the government's exercise of sovereign power).

19. Debt issued in the form of GAS securities is included in a measure of federal debt called gross debt. It is also counted for purposes of enforcing the statutory debt ceiling. However, because such debt is intragovernmental in nature, it is not included when calculating federal debt held by the public.

20. For background information about trust funds for federal employees' retirement programs, see Congressional Budget Office, *The Budget and Economic Outlook: 2019 to 2029* (January 2019), pp. 140–144, www.cbo.gov/publication/54918.

21. Ibid., p. 143.

22. Ibid., p. 144.

Table 1-1.

CBO's May 2019 Baseline Budget Projections for Federal Retirement and Veterans' Benefits, Adjusted to Exclude the Effects of Timing Shifts

Billions of Dollars

	Actual, 2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total, 2020–2029
						Mandatory Spending							
Outlays for Federal Retirement Programs													
Civilian retirement[a]	103	105	109	114	118	122	126	130	133	137	141	145	1,274
Military retirement[b]	59	60	63	65	67	69	70	72	74	76	78	80	712
MERHCF	10	10	11	11	12	13	13	14	15	15	16	17	137
Postal Service's share of employees' retirement and TSP contributions[c]	5	5	5	5	6	6	6	6	6	6	6	7	59
Other[d]	6	4	6	6	7	8	9	5	10	7	7	7	72
Subtotal	182	185	193	201	209	216	224	227	238	242	249	255	2,254
Outlays for Veterans' Programs[b]													
Income security[e]	93	99	104	107	111	115	119	123	128	132	136	141	1,217
Other[f]	16	16	19	17	17	17	18	19	19	20	21	22	188
Subtotal	109	114	123	124	128	132	137	142	147	152	157	163	1,405
Mandatory Outlays, Excluding the Effects of Offsetting Receipts	**291**	**299**	**316**	**325**	**337**	**348**	**361**	**369**	**385**	**394**	**406**	**418**	**3,659**
Offsetting Receipts													
Federal share of employees' retirement													
Civil service retirement and other[c]	-36	-37	-39	-41	-42	-44	-46	-47	-49	-50	-52	-53	-463
Military retirement	-18	-20	-22	-22	-23	-23	-24	-24	-25	-25	-26	-26	-240
MERHCF	-8	-8	-8	-9	-9	-10	-10	-11	-11	-12	-12	-13	-104
Subtotal	-62	-65	-69	-71	-74	-77	-79	-82	-85	-87	-90	-93	-807
Total Mandatory Outlays Net of Offsetting Receipts	**229**	**234**	**247**	**254**	**263**	**272**	**282**	**287**	**300**	**307**	**316**	**326**	**2,852**

Continued

Spending on health care for veterans and for military retirees under age 65, as well as agencies' contributions to TSP accounts, is generally contingent on annual appropriation acts and thus is considered *discretionary spending*. Most agencies' accrual payments to retirement funds are also drawn from annual appropriations for salaries and expenses and are therefore also considered discretionary.[23] However, the retirement funds record income stemming from those accrual charges as *offsetting receipts,* which are treated as offsets to mandatory spending.

CBO's cash-based projections of federal budget deficits over the 2020–2029 period include the following totals for federal retirement and veterans' benefits (see Table 1-1):

- $2.3 trillion in mandatory outlays for federal civilian and military retirement benefits;
- $1.4 trillion in mandatory outlays for veterans' benefits;
- $1.9 trillion in discretionary outlays, including $930 billion for health care and related spending for veterans, $145 billion for health care for military retirees not yet eligible for Medicare, and $102 billion

23. Some agencies, such as the Postal Service, receive funding to pay for salaries and expenses, including TSP contributions and annual accrual charges, through mandatory appropriations.

Table 1-1. Continued

CBO's May 2019 Baseline Budget Projections for Federal Retirement and Veterans' Benefits, Adjusted to Exclude the Effects of Timing Shifts

Billions of Dollars

	Actual, 2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total, 2020–2029
						Discretionary Spending							
Agencies' Accrual Payments													
Federal share of employees' retirement[g]													
Civil service retirement and other[h]	32	33	35	37	38	40	42	43	44	45	47	48	419
Military retirement	18	20	22	22	23	23	24	24	25	25	26	26	240
MERHCF	8	8	8	9	9	10	10	11	11	12	12	13	104
Subtotal	59	61	65	68	69	72	75	77	80	82	85	87	762
Veterans' Health Care[i]	70	75	79	83	86	89	92	95	97	100	103	106	930
Military Retirees' Health Care (Working-age retirees)	11	11	12	12	13	13	14	15	15	16	17	18	145
Agencies' Contributions to the TSP for Non-Postal Civilian Employees[j]	8	8	8	9	9	10	10	10	11	11	11	12	102
Total Discretionary Outlays	**147**	**156**	**164**	**172**	**177**	**184**	**191**	**197**	**204**	**210**	**217**	**223**	**1,939**
						Revenues							
Employees' Retirement Contributions[k]	5	5	5	6	6	7	7	8	8	9	9	10	74

Source: Congressional Budget Office.

Data on spending for benefit programs in this table generally exclude administrative costs, which are discretionary.

MERHCF = Medicare-Eligible Retiree Health Care Fund; TSP = Thrift Savings Plan.

a. Includes benefits for retirement programs of the civil service, foreign service, and Coast Guard; benefits for smaller retirement programs; and annuitants' health care benefits.

b. When October 1 (the first day of the fiscal year) falls on a weekend, certain payments that ordinarily would have been made on that day are instead made at the end of September and thus are shifted into the previous fiscal year. Outlays for programs affected by such timing shifts have been adjusted to exclude the effects of those shifts.

c. The total includes $44 billion for the Postal Service's share of employees' retirement and $15 billion for its contributions to the TSP.

d. Includes the Railroad Retirement Board, certain District of Columbia pension plans, special benefits for coal miners, and the Pension Benefit Guaranty Corporation.

e. Includes veterans' disability compensation, pensions, and life insurance programs. Most of the costs of veterans' health care are classified as discretionary spending.

f. Includes education and vocational rehabilitation but excludes mandatory spending from the Veterans Choice Fund ($4 billion in 2018, $4 billion in 2019, and $3 billion in 2020) and spending by the Department of Veterans Affairs for mortgage guarantees (about $6 billion over the 2020–2029 period).

g. Federal agencies also make payments for Social Security for eligible employees.

h. Excludes accrual payments made by the Postal Service, which are classified as mandatory spending.

i. Includes the Department of Veteran Affairs' spending on hospital and medical care, including hospital construction. Excludes mandatory spending from the Veterans Choice Fund.

j. Consists only of contributions to the Thrift Savings Plan by agencies other than the Postal Service for employees covered by the Federal Employees Retirement System; excludes contributions for military personnel and for federal civilian employees covered by smaller retirement programs.

k. Consists largely of federal employees' contributions to the Federal Employees Retirement System and the Civil Service Retirement System.

for federal agencies' contributions to the TSP for civilian employees; and

- $74 billion in revenues from federal civilian employees' contributions toward the costs of their future pensions.

CBO's projections of discretionary outlays over the 2020–2029 period also include $762 billion in agencies' accrual-based intragovernmental transfers to retirement trust funds. That amount is reported as mandatory offsetting receipts to those funds. (Offsetting receipts also include $44 billion in intragovernmental transfers by the Postal Service to the CSRDF.)

CHAPTER

2

Weighing the Use of Cash or Accrual Measures for Federal Retirement and Veterans' Benefits

Whether federal programs are accounted for on a cash or an accrual basis can significantly affect the size and timing of their estimated effects on the budget deficit. Those effects could in turn influence how policymakers allocate budgetary resources.

The current federal budget process focuses mainly on cash-based measures that cover the next decade. Thus, legislative decisions are informed primarily by how government activities would affect cash flows over that 10-year period. However, that period does not capture the full effects that decisions made in the near term will have on benefits paid to federal retirees in the future because of the long lags between when federal workers earn retirement benefits and when they receive those benefits. (The lags may be shorter for veterans' benefits, some of which veterans can qualify for soon after leaving military service. However, once begun, most veterans' benefits continue to be provided for the rest of a recipient's lifetime.) In rare cases, the Congressional Budget Office has provided longer-term cash-based estimates to report those effects, but such estimates require more time to prepare than 10-year cash-based estimates.

Accrual estimates that consider a program's impact on the deficit over longer periods would provide more complete information about the total costs of federal retirement and veterans' benefits. That information could help to highlight the trade-offs between policy options that differ with respect to the mix of current and deferred compensation provided to federal employees. However, accrual estimates also have disadvantages, including greater complexity than cash-based estimates.

How Accrual Accounting Currently Works in the Federal Budget

Accrual measures are used in the federal budget for a few activities—mainly federal credit programs (such as student loans and mortgage guarantees) and capital leases—to help policymakers compare the net costs of programs despite differences in the timing of their cash flows. Unlike cash-based measures, which record a program's receipts and expenditures when they occur, accrual measures summarize a program's anticipated cash flows over many years in net-present-value terms. That is, an accrual estimate translates expected future cash flows into a single value by adjusting (discounting) future payments and income for the time value of money to make them comparable to an equivalent lump sum at a specific time.[1]

For mortgage guarantees issued by the Department of Veterans Affairs and other federal programs that make or guarantee loans, the Federal Credit Reform Act of 1990 (FCRA) specifies that the budget reflect the anticipated net cost (or savings) of a loan or loan guarantee—known as the subsidy cost—on an accrual basis when the loan is disbursed. The administrative costs of those programs, however, are accounted for in the budget on a cash basis.

For each credit program, the FCRA approach requires two accounts: an on-budget program account and a nonbudgetary financing account. The program account shows the net subsidy costs over the life of the program's loans (as well as administrative costs), and the financing account reflects the cash flows that make up those subsidy costs. Cash flows between the financing account and entities outside the government, such as originators or borrowers of federal loans, are excluded from calculations of the budget deficit. (In technical terms, those cash flows are considered a means of financing the deficit.) If the program has a positive subsidy, the program account makes a single payment to the financing account for each credit cohort (all the loans or loan guarantees that the

1. Calculating such a present value depends on the rate of interest (known as the discount rate) used to translate future cash flows into current dollars. For example, if $100 is invested on January 1 at an annual interest rate of 5 percent, it will grow to $105 by January 1 of the next year. Hence, with a discount rate of 5 percent, $105 payable a year from today has a present value of $100.

program obligates in a given year). If the program has a negative subsidy, the financing account makes a payment to an on-budget receipt account in the Treasury.

Agencies update their estimates (that is, reestimate) the subsidy costs of existing credit cohorts each year. Like the original estimates of subsidy costs, a positive (or upward) reestimate results in a payment from the program account to the financing account. A negative (or downward) reestimate results in a payment from the financing account to the receipt account. Interest transactions—which can flow in either direction between the financing account and the Treasury—take into account the time value of money. Over time, as a credit program's various cash flows change and credit subsidy reestimates are made, the inflows or outflows of the program's financing account should net to zero, and all of the net costs or savings should be recorded in the budget in the program account.

Assessing the Information That Cash and Accrual Measures Provide About Federal Retirement and Veterans' Benefits

In evaluating past, current, and projected changes in the government's fiscal condition, what information is the most useful? Cash-based measures provide a clear picture of the government's cash flows year by year, illuminating the government's borrowing needs on a real-time basis. However, cash-based estimates can sometimes provide misleading information about a program's longer-term costs, generally when the program's budgetary effects extend over many years and the 10-year budget window truncates those effects. Using accrual measures to show the government's additional long-term liabilities for federal retirement and veterans' benefits might give a more accurate representation of the government's overall fiscal position. But accrual measures might provide less helpful information about the current budget situation.

When policymakers and analysts assess such trade-offs, the key concerns are whether cash or accrual measures accurately show whether a federal activity involves net costs or savings and whether those measures provide a reasonable sense of the size of the activity's total budgetary impact. In cases in which 10-year cash-based measures pose problems, accrual measures might be helpful, but several considerations are important in assessing their value (see Table 2-1):

- How relevant are accrual measures for understanding a program's overall budgetary effects?
- Are accrual measures practical enough to be worth developing and reliable enough to be used more extensively in executing rules and procedures related to budget enforcement?
- Is the government's commitment of future resources firm enough to justify recording future cash flows years before they occur?

Relevance for Understanding Overall Budgetary Effects

The cash-based estimates used in the budget to account for federal retirement benefits can provide incomplete and potentially misleading information—mainly because of the sizable time difference between when commitments to provide benefits are incurred and when those benefits are paid, coupled with the truncation caused by the 10-year budget window. The fact that some veterans' and retirees' benefits may be paid for many decades also contributes to the shortcomings of 10-year cash-based measures.

Those measures fail to show the liability that taxpayers incur in a given year for retirement and veterans' benefits and the long-term costs or savings that would result from changes to those benefits. For example, the Treasury estimated that the government had $8.0 trillion of existing liabilities for federal retirement and veterans' benefits at the end of 2018 (see Table 2-2).[2] However, only a portion of the anticipated outlays for those liabilities are reflected in 10-year cash-based budget projections (such as those shown in Table 1-1 on page 12).

Expanding the use of accrual measures to account for the budgetary effects of federal civilian and military retirement and veterans' programs would illuminate the full extent of costs stemming from near-term decisions about the federal workforce and its compensation structure.[3] In recent years, the government's financial reports have generally showed that the accrual cost of retirement and

2. See Department of the Treasury, *Financial Report of the United States Government, Fiscal Year 2018* (March 2019), pp. 99–100, https://tinyurl.com/yy84m8ge.

3. For an analysis of the government's explicit and implicit exposure to the costs of federal retirement and veterans' benefits, see Government Accountability Office, *Fiscal Exposures: Federal Insurance and Other Activities That Transfer Risk or Losses to the Government*, GAO-19-353 (March 2019), pp. 18–20 and 65–66, www.gao.gov/products/GAO-19-353, and *Fiscal Exposures: Improving Cost Recognition in the Federal Budget*, GAO-14-28 (October 2013), pp. 33–52, www.gao.gov/products/GAO-14-28.

Table 2-1.

Key Factors for Assessing the Budgetary Information That Accrual Measures Provide About Federal Retirement and Veterans' Benefits

	Current Use of Accrual Measures	Relevance for Understanding Budgetary Effects	Practicality and Reliability	Nature of Federal Commitments
Federal Civilian and Military Pensions	Most federal agencies make intragovernmental accrual payments to federal retirement funds from their current appropriations for salaries and personnel-related expenses	Ten-year cash measures truncate a large portion of the budgetary effects stemming from near-term commitments; accrual measures would highlight trade-offs between current and deferred compensation and between defined benefit pensions and the defined contribution Thrift Savings Plan	Actuaries have experience estimating pension costs on an accrual basis, but policymakers would need to address various practical issues in making the transition to accrual-based budgeting	The government's pension commitments are considered firm, although lawmakers can modify benefits even after they are earned[a]
Retirees' Health Benefits	Federal agencies generally do not make intragovernmental payments to cover the accrual cost of health care benefits provided to civilian retirees; however, DoD makes intragovernmental accrual payments for benefits provided through the MERHCF	Ten-year cash measures truncate a large portion of long-term budgetary effects; accrual estimates would give agencies a more complete measure of labor costs and highlight trade-offs between current and deferred compensation	Accrual estimates for health benefits are more uncertain and volatile than accrual estimates for pensions, largely because of uncertainty about the future growth of health care costs	The government's commitments to provide health benefits to retired federal employees and military personnel are considered firm, although lawmakers can modify benefits even after they are earned[a]
Veterans' Disability and Health Benefits[b]	Accrual measures are not currently used for veterans' benefits (those benefits are associated with military service and thus may be considered deferred compensation for DoD's military personnel, but they are administered by VA)	Accrual estimates would identify at least some of the costs of veterans' benefits at the time when the commitments were made, but it is unclear whether DoD or VA should accrue those costs	Accrual measures could probably be developed more easily for veterans' disability compensation and income-related benefits than for health benefits, which are subject to much more uncertainty	A significant portion of veterans' benefits—particularly disability compensation and pensions for low-income wartime veterans—are considered entitlements and thus firm commitments, although lawmakers can modify benefits even after they are earned. The government's commitments to provide veterans' health benefits are not as firm, because VA may restrict access to health care depending on the amount of funding available

Source: Congressional Budget Office.

DoD = Department of Defense; MERHCF = Medicare-Eligible Retiree Health Care Fund; VA = Department of Veterans Affairs.

a. Legislative changes to federal retirement benefits risk legal challenges in which retirees could argue that they are entitled to those benefits because they completed their service and relied on the government's promise to provide those benefits. If successful, such claims could alter the budgetary effects of the legislative changes.

b. Includes pensions for low-income wartime veterans. In addition to disability compensation and pensions, lawmakers could consider whether to accrue the costs of other veterans' benefits that would continue to be incurred unless underlying laws governing benefit formulas and eligibility criteria were changed. Such benefits include life insurance and assistance with education and vocational rehabilitation. (VA's mortgage guarantees, another benefit for veterans that is governed by formulas and eligibility rules in underlying law, are already accounted for in the budget on an accrual basis when the guarantees are made, in accordance with the Federal Credit Reform Act of 1990.) This report does not specifically examine the issues that would arise with accrual measures for those programs.

Table 2-2.

The Government's Liabilities for Federal Retirement and Veterans' Benefits as of September 30, 2018

Billions of Dollars

	Liabilities for Federal Civilian Employees	Liabilities for Military Personnel	Total
Pensions	2,049	1,621	3,670
Retirees' Health Benefits	403	787	1,190
Veterans' Disability Compensation[a]	n.a.	2,956	2,956
Other[b]	83	82	166
Total	**2,536**	**5,447**	**7,982**

Source: Congressional Budget Office, using data from Department of the Treasury, *Financial Report of the United States Government, Fiscal Year 2018* (March 2019), p. 99, https://tinyurl.com/yy84m8ge.

n.a. = not applicable.

a. Includes burial benefits but excludes pensions for low-income wartime veterans.

b. Includes life insurance and workers' compensation benefits for all employees as well as education benefits for veterans.

veterans' benefits was considerably higher than the cash cost reported in the budget.[4]

Moreover, the current cash budgetary treatment, truncated budget horizon, and framework of rules and procedures for budget enforcement may cause policymakers to focus more on the near-term budgetary effects of policy proposals than on the long-term implications. That situation may contribute to a tendency to weight the government's mix of current and deferred compensation more heavily toward deferred compensation.[5] In a 2017 analysis of federal compensation, CBO found that the government deferred a greater share of compensation for its civilian workers than large private-sector employers did.[6]

Cash and accrual measures can provide very different information about the incremental costs of proposals to modify federal retirement or veterans' benefits and about the trade-offs between different approaches. For example:

- Ten-year cash-based estimates understate the potential savings from proposals to reduce the future costs of retirement or veterans' benefits (such as by curbing the future benefits that current workers earn). Similarly, cash-based estimates understate the potential costs of proposals to increase future benefits. Both cash and accrual measures would report immediate savings from policy changes that would decrease benefits to current recipients or require larger contributions from current employees.[7] But because the accrual measures would reflect long-term effects and would account for differences in the timing of various policies' effects, accrual estimates of different proposals could be easier to compare than cash-based estimates and could help highlight the net impact of changes to benefits for current and future recipients.

4. That accrual cost represents the normal cost of benefits attributed to work or service performed in the current year plus imputed interest on existing liabilities and the effects of changing estimates. In recent years, that accrual cost has frequently exceeded the cash cost reported in the budget by more than $100 billion per year, largely because of imputed interest on liabilities and actuarial losses (or gains) resulting from changes in estimating assumptions. However, the difference can vary widely from year to year and could be much less than $100 billion, depending on actuarial gains and losses. See Department of the Treasury, *Financial Report of the United States Government, Fiscal Year 2017* (February 2018), pp. 53, 97–98, and 103, https://tinyurl.com/y5s7yeqo, and *Financial Report of the United States Government, Fiscal Year 2018* (March 2019), pp. 53, 99–101, and 105, https://tinyurl.com/yy84m8ge; and Congressional Budget Office, *Comparing Budget and Accounting Measures of the Federal Government's Fiscal Condition* (December 2006), www.cbo.gov/publication/18262.

5. See Marvin Phaup, "Budgeting for Mandatory Spending: Prologue to Reform," *Public Budgeting and Finance*, vol. 39, no. 1 (Spring 2019), pp. 24–44, https://onlinelibrary.wiley.com/doi/full/10.1111/pbaf.12210; and Herman B. Leonard, *Checks Unbalanced: The Quiet Side of Public Spending* (Basic Books, 1986).

6. On average, CBO estimated, the cost of hourly benefits was 47 percent higher for federal civilian employees than for private-sector employees with certain similar characteristics. Overall, the federal government paid 17 percent more in total compensation than it would have if its average compensation had been comparable with that in the private sector (after accounting for various observable characteristics of workers, including the size of their employer). However, that compensation differential varied greatly among types of workers. See Congressional Budget Office, *Comparing the Compensation of Federal and Private-Sector Employees, 2011 to 2015* (April 2017), www.cbo.gov/publication/52637.

7. In the past, annual cost-of-living adjustments to benefits for existing retirees have occasionally been delayed or reduced because of budgetary pressures, and lawmakers have twice raised the contribution rate for new employees covered by FERS (most recently in the Bipartisan Budget Act of 2013). See Katelin P. Isaacs, *Cost-of-Living Adjustments for Federal Civil Service Annuities*, Report for Congress 94-834 (Congressional Research Service, November 5, 2014), and *Federal Employees Retirement System: Benefits and Financing*, Report for Congress 98-810 (Congressional Research Service, July 15, 2015).

- For proposals that aim to achieve long-term savings by replacing defined benefit pensions for new federal civilian workers with larger near-term federal contributions to workers' Thrift Savings Plan accounts, cash-based estimates would show increases in costs in the near term and miss anticipated savings in later decades (see Box 2-1 for details). Accrual measures, by contrast, would capture those anticipated savings and give a clearer indication of changes in long-term net budgetary effects.

Practicality and Reliability

Accrual measures are standard in financial accounting in the private sector and much of the public sector worldwide—although they are more commonly used for projecting pension costs than for projecting the costs of health care benefits. Federal agencies already use accrual accounting to determine the annual accrual charges that effectively transfer a portion of their budget authority to retirement trust funds to cover some future costs. Thus, a foundation exists in the federal government for more formal or widespread use of accrual measures. However, those measures are more methodologically complex than cash-based measures.

Other key issues in using accrual accounting for federal retirement and veterans' benefits relate to the feasibility of tracking the costs of the government's commitments for those benefits and the accuracy of accrual estimates, which involve significant uncertainty. As a result, policy-makers might want to consider whether such measures are useful enough in federal budgeting to be worth the added difficulty to develop, and whether they are accurate and reliable enough to use in enforcing statutory and Congressional targets for the budget.

Tracking the Cost of Commitments. The analytical value of accrual measures is probably greatest when the costs of commitments made during a specific period and the budgetary resources to pay for them can be readily aligned, tracked, and monitored—as is the case for federal credit programs. Agencies already effectively identify new cohorts of commitments to provide federal pensions. For example, agencies' annual accrual charges for pensions represent the normal cost of additional covered benefits attributable to work performed in a given year.

Accounting for federal retirement and veterans' benefits on an accrual basis would require the government to track how actual costs differ from initial projections. Such tracking, however, would not necessarily require the same level of detail needed for federal credit programs. For instance, annual reestimates of the net cost of existing commitments to provide retirement and veterans' benefits could probably be made in aggregate at the fund level—as happens now with the largest federal retirement trust funds and with private pension plans—rather than for specific cohorts of recipients.

Accuracy of Accrual Estimates. Accrual accounting for federal retirement and veterans' benefits would depend on projections made decades ahead for such key factors as wages, health insurance costs, inflation, and people's longevity. Those factors are highly uncertain. (In general, projections of health insurance costs are probably more uncertain than projections of pension benefits.) The farther into the future that such projections extend, the greater the uncertainty. As a result, accrual measures that depend on long-term estimates are subject to change and require regular recalibration as estimators' technical judgments and data shift.

Any estimate of budgetary effects stretching several decades into the future—whether cash- or accrual-based—would be subject to that uncertainty and would require periodic recalibration. Accrual estimates, however, involve additional variability because they are particularly sensitive to the discount rate, the interest rate used to translate streams of future cash flows into a single present value. A systematic and consistent approach to discounting is critical. But like all technical assumptions, discounting requires analysts to make judgments about factors that are difficult to predict. That is especially true if the accrual estimates account for market risk (the element of financial risk that is correlated with overall economic conditions and thus that cannot be eliminated by diversifying a portfolio of investments).[8] For example,

8. Whether to incorporate market risk into measures of federal costs is a separate question from whether to estimate costs on a cash or an accrual basis. In practice, however, estimates that include market risk generally use accrual accounting. Such estimates are prepared on a "fair value" basis, which usually entails using the discount rates on expected future cash flows that private financial institutions would use (see Box 3-1 on page 32). That approach effectively uses market prices to measure costs to the public and provides a more comprehensive measure of costs than other accrual measures do. Fair-value estimates are currently used in the Congressional budget process to account for a few programs, such as the activities of Fannie Mae and Freddie Mac, two federally controlled entities that guarantee roughly half of all outstanding mortgages in the United States.

Box 2-1.

Cash and Accrual Estimates of Options to Modify Retirement Benefits for Federal Civilian Workers

In a 2017 report, the Congressional Budget Office analyzed the impact of retirement benefits on the federal budget and on the compensation, recruitment, and retention of federal employees.[1] The report examined two broad policy approaches: either altering the Federal Employees Retirement System (FERS) or replacing the defined benefit FERS pension for newly hired workers with an expansion of the defined contribution Thrift Savings Plan (TSP).[2]

Two of the options that CBO analyzed would eliminate FERS pensions for new federal employees and replace them with larger TSP contributions, in different ways:

- Option 1 would increase the government's automatic TSP contribution to 8 percent of an employee's salary and require the government to match up to 7 percent of additional contributions by new employees, for a total federal contribution of as much as 15 percent.
- Option 2 would increase the government's automatic TSP contribution to 10 percent of an employee's salary and eliminate the government's matching contributions.

CBO examined how the options would change federal spending for civilian workers on a cash basis and an accrual basis (under the assumption that appropriations would be changed by an amount commensurate with the accrual estimates). On a cash basis, CBO measured federal outlays (for payments of pension benefits and the government's contributions to employees' TSP accounts) and revenues (from employees' contributions toward their future pensions) in nominal terms over the coming 10 years and as a share of the nation's gross domestic product over 75 years. When measuring costs on an accrual basis, by contrast, CBO estimated the percentage of the salaries of all new employees that the government would need to set aside each year to fully fund those workers' pension and TSP benefits.

For illustrative purposes, CBO compared the cash and accrual costs for federal workers who would be hired in 2018. On a cash basis, such options would impose costs in the near term because they would require larger up-front outlays for the government's TSP contributions. But relative to current law, costs would be lower in the future, particularly when employees affected by the options retired. CBO estimated that those two options would have had the following effects:

- Option 1 would have increased the government's retirement costs for employees enrolled in FERS by 24 percent over 10 years on a cash basis and by 10 percent over 75 years on a present-value basis.[3] However, the cash cost of the option would have been lower than the cost under current law if the analysis had been projected over a long enough period to incorporate the full savings from reductions in future liabilities. On an accrual basis, retirement costs for new employees would have been about 6 percent lower than costs under current law because the government's contributions to fully fund those workers' benefits would have declined from 14.2 percent of salary to 13.3 percent (see the figure on page 21).
- Option 2 would have increased the government's retirement costs for employees enrolled in FERS by 17 percent over 10 years on a cash basis but would have reduced costs by about 3 percent over 75 years on a present-value basis. The option would have reduced accrual costs for new employees by 29 percent because the government's contributions to fully fund those workers' benefits would have dropped from 14.2 percent of salary to 10.0 percent.

1. See Congressional Budget Office, *Options for Changing the Retirement System for Federal Civilian Workers* (August 2017), www.cbo.gov/publication/53003.

2. Such changes could affect federal employees' willingness to remain in government service. See Justin Falk and Nadia Karamcheva, *Comparing the Effects of Current Pay and Defined Benefit Pensions on Employee Retention*, Working Paper 2018-06 (Congressional Budget Office, June 2018), www.cbo.gov/publication/54056.

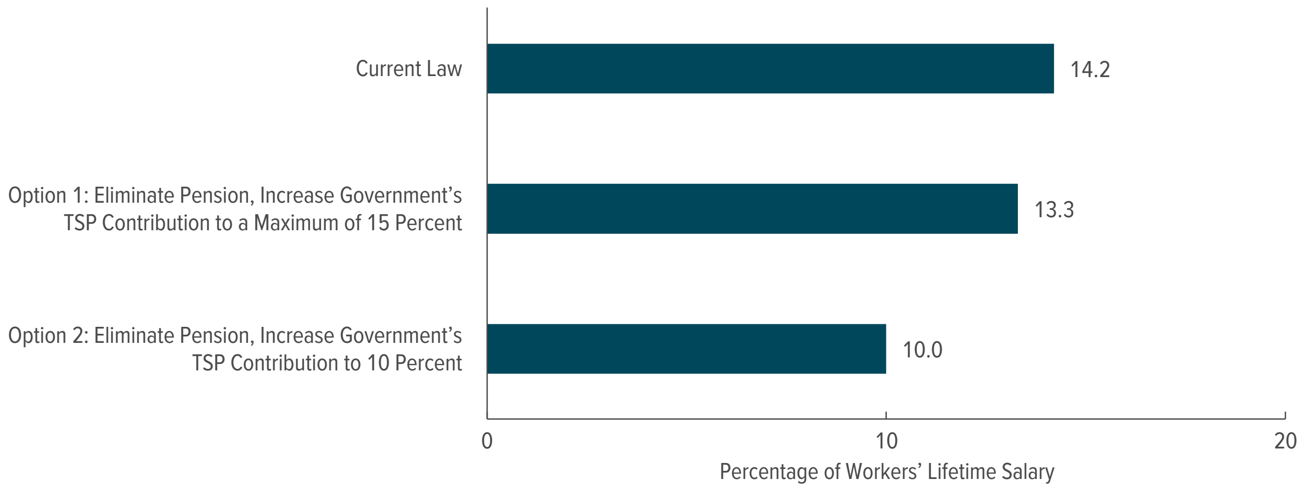
3. A present value is a single number that expresses a flow of future income or payments in terms of an equivalent lump sum received or paid at a specific time.

Continued

Box 2-1. Continued

Cash and Accrual Estimates of Options to Modify Retirement Benefits for Federal Civilian Workers

Net Accrual Cost to the Government of Retirement Benefits for Federal Workers Hired in 2018, Under Current Law and Two Options



Source: Congressional Budget Office.

These estimates are for workers with no previous federal service who were projected to join the federal workforce in 2018, regardless of whether they receive a pension in retirement. The estimates approximate the share of workers' salaries that would need to be set aside each year to fully fund those workers' benefits. Retirement benefits and lifetime salary are discounted at a rate equal to the projected interest rate on 20-year Treasury securities. (Twenty years is approximately the average maturity of defined benefit obligations.)

Under current law, federal employees hired in 2018 contribute 4.4 percent of their salary to the FERS pension. The government makes an automatic TSP contribution of 1 percent of salary and will match employees' contributions up to an additional 4 percent.

Option 1 would eliminate the FERS pension, increase the government's automatic TSP contribution to 8 percent of salary, and require the government to match employees' contributions up to an additional 7 percent.

Option 2 would eliminate the FERS pension, increase the government's automatic TSP contribution to 10 percent of salary, and eliminate the government's matching contributions.

These estimates do not reflect the Office of Personnel Management's recent revisions to its actuarial assumptions, which increased the normal cost for most employees as of October 1, 2019. (The "normal cost" is a measure of the additional liability to pay benefits that a retirement plan accrues during a year because of work performed in that year.) As a result, agencies' accrual costs will rise by about 2 percentage points for most employees covered by FERS (and by an average of about 4 percentage points for Members of Congress and Congressional staff).

The estimates do not include an adjustment for market risk (the element of financial risk that is correlated with overall economic conditions and thus that cannot be eliminated by diversifying a portfolio). An accrual measure of benefit costs under current law would be lower under a fair-value approach, which accounts for market risk by effectively using market prices to measure benefit costs (see Box 3-1 on page 32). However, the higher interest rates used in fair-value accounting to translate future dollars into present values would leave the estimated accrual costs under Options 1 and 2 roughly unchanged.

FERS = Federal Employees Retirement System; TSP = Thrift Savings Plan.

actuaries for state and local governments' pension plans often assume high discount rates based on expected high rates of return on the plans' investments.[9] Those assumptions reduce state and local governments' required pension contributions and contribute to underfunded pension systems.[10]

Because the cash flows of federal retirement and veterans' programs are so large, updates to accrual estimates for those programs could result in sizable revisions that might fluctuate widely from year to year, causing swings in the estimated size of the budget deficit—even with no changes to underlying laws or policies. Those swings might result more from methodological adjustments or technical changes to projections of very uncertain factors far in the future than from current economic factors.[11] The concern about potentially large reestimates of initial accrual measures also exists for federal credit programs, but in the past, such reestimates have been fairly small relative to the initial estimates.[12] However, given the considerable uncertainty of projections for retirement and veterans' benefits, changes in the deficit because of reestimates for those benefits might be larger.

Information about annual changes in liabilities for federal pensions, retirees' health care benefits, and veterans' benefits is available in the government's annual financial reports. (Those reports, like private companies' financial statements, are prepared on an accrual basis and consist of a balance sheet, an income statement, a cash flow statement, and related notes.) In 2018, for example, the government reported a total expense of $237 billion for the increase in estimated liabilities for federal civilian and military pensions in that year (before accounting for benefits paid during the year). Only a portion of that increase, $77 billion, reflected additional liabilities to pay pension benefits earned by federal workers during the year. Reestimates accounted for $26 billion of that increase—consisting of actuarial losses of $8 billion stemming from reestimates to align prior-year assumptions with actual experience, and actuarial losses of $18 billion resulting from changes to technical assumptions made in projecting the costs of future liabilities (see Table 2-3).[13]

Over the 2009–2018 period, reestimates for federal retirement benefits were substantial in both relative and absolute terms (see Table 2-4):

- For federal civilian and military pensions, net upward reestimates totaled $351 billion, accounting for about a third of the overall increase in pension liabilities, from $2.6 trillion to $3.7 trillion, during that period. Actuarial losses (of $637 billion) from changes in assumptions greatly exceeded the gains (of $287 billion) attributed to experience—that is, to reestimates designed to align previous assumptions with actual outcomes. A significant factor in those reestimates was a decline in inflation-adjusted interest rates.

- For retirees' health care benefits, net downward reestimates totaled $368 billion. That reduction largely offset other factors and helped keep liabilities from rising much—by just $28 billion over the 10-year period, to $1.2 trillion. The main reason for the reduction was lower projections of health care costs.

9. See, for example, Andrew G. Biggs, "Public-Sector Pensions Assume Record-High Investment Returns," *Forbes* (December 4, 2018), https://tinyurl.com/yyem7s98.

10. See Congressional Budget Office, *The Underfunding of State and Local Pension Plans* (May 2011), www.cbo.gov/publication/22042.

11. See Government Accountability Office, *Budget Issues: Accrual Budgeting Useful in Certain Areas but Does Not Provide Sufficient Information for Reporting on Our Nation's Longer-Term Fiscal Challenge*, GAO-08-206 (December 2007), p. 42, www.gao.gov/products/GAO-08-206, and *Understanding Similarities and Differences Between Accrual and Cash Deficits*, GAO-07-117SP (December 2006), pp. 17–18 and 21, www.gao.gov/products/GAO-07-117SP.

12. During the 2001–2014 period, reestimates raised the total cost of federal direct loans by $3.1 billion and the total cost of federally guaranteed loans by $39 billion. See Government Accountability Office, *Credit Reform: Current Method to Estimate Credit Subsidy Costs Is More Appropriate for Budget Estimates Than a Fair Value Approach*, GAO-16-41 (January 2016), pp. 17–20, www.gao.gov/products/GAO-16-41.

13. A larger amount of the government's increase in pension liabilities in 2018, $126 billion, resulted from routine updates to reflect the passage of time. To account for the fact that pension liabilities are one year closer to coming due, the Treasury discounts those projected liabilities by one fewer year, causing the present value of the liabilities to grow. In federal financial statements, that component of costs is reported as interest accrued on federal liabilities. That interest cost is analogous to interest on federal debt. See Department of the Treasury, *Financial Report of the United States Government, Fiscal Year 2018* (March 2019), p. 99, https://tinyurl.com/yy84m8ge.

Table 2-3.

Change in the Government's Liabilities for Federal Pensions in 2018

Billions of Dollars

	Liabilities for Federal Civilian Employees	Liabilities for Military Personnel	Total
Pension Liabilities at the Beginning of 2018	**2,014**	**1,568**	**3,582**
Pension Expenses			
Past service costs from plan amendments or new plans	0	9	9
Normal cost[a]	42	34	77
Interest on liabilities[b]	69	58	126
Reestimates			
Actuarial gains (-) or losses from experience[c]	-2	10	8
Actuarial gains (-) or losses from changes in assumptions[d]	16	2	18
Total Pension Expenses	125	112	237
Benefits Paid	-90	-59	-149
Pension Liabilities at the End of 2018	**2,049**	**1,621**	**3,670**

Source: Congressional Budget Office, using data from Department of the Treasury, *Financial Report of the United States Government, Fiscal Year 2018* (March 2019), p. 99, https://tinyurl.com/yy84m8ge.

a. Normal cost is a measure of the additional liability to pay benefits that a pension plan has accrued during a year.

b. Interest on the government's pension liabilities accrues because, as those liablities become a year closer to coming due, the present value of the liablities increases as they are discounted for one fewer year.

c. Actuarial gains or losses from experience align actual outcomes with the initial estimates (much as reestimates do for federal credit programs).

d. Changes in actuarial assumptions, including assumptions about discount rates and the inflation-adjusted growth of wages, alter estimates of projected liabilities.

Concerns about potentially large swings in accrual estimates are not unique to the federal government. Private firms and state and local governments that fund retirement-related costs on an accrual basis must also deal with the volatility and uncertainty of estimates. They respond to that volatility (and past underfunding) by smoothing the changes in actuarial assumptions and experience over time through amortization payments, which gradually eliminate the shortfall of assets relative to liabilities over a long period.[14]

Adopting accrual accounting would be more challenging for veterans' benefits, possibly including veterans' health care, than for federal retirement benefits because the Department of Veterans Affairs has no experience accruing those benefits in the federal budget (see Box 2-2 on page 26 for details). However, in its financial statements, VA uses accrual measures for disability compensation and education benefits. Estimates of liabilities for veterans' benefits have been more volatile than estimates of other benefits. In particular, estimating the number of veterans who might receive disability compensation in the future and the cost of those benefits is challenging, in part because they vary with parameters unique to the military population, such as the effects of the United States' entering a conflict.

Challenges for Budget Enforcement. If policymakers expanded the use of accrual measures or other long-term estimates, they would need to specify how such estimates would factor into the existing framework for statutory and Congressional budget enforcement. That framework recognizes fundamental distinctions between major categories of the budget—revenues, mandatory spending, and discretionary spending. Within the budget process, legislation is subject to different rules and procedures for enforcing budgetary requirements depending on which categories it affects. Revenues and mandatory spending

14. See Financial Accounting Standards Board, *Employers' Accounting for Pensions*, Statement 87 (December 1985), paragraph 34, https://tinyurl.com/y3g4t597; and Governmental Accounting Standards Board, *Accounting and Financial Reporting for Pensions*, Statement 68 (June 2012), paragraphs 33 and 280–283, https://tinyurl.com/yy9v796a.

Table 2-4.

Change in the Government's Liabilities for Federal Retirement Benefits From 2009 to 2018

Billions of Dollars

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total, 2009–2018
	Federal Civilian and Military Pensions										
Pension Liabilities at the Beginning of the Year	**2,609**	**2,707**	**2,896**	**2,981**	**3,254**	**3,392**	**3,470**	**3,508**	**3,401**	**3,582**	**n.a.**
Pension Expenses											
Past service costs from plan amendments or new plans	*	**	0	**	0	0	0	-20	-1	9	-12
Normal cost[a]	53	56	62	71	70	71	69	66	66	77	660
Interest on liabilities[b]	155	160	141	139	144	142	143	137	127	126	1,415
Reestimates											
Actuarial gains (-) or losses from experience[c]	2	-61	-71	7	-34	-36	-35	-53	-14	8	-287
Actuarial gains (-) or losses from changes in assumptions[d]	10	157	78	187	93	39	3	-94	147	18	637
Total Pension Expenses	219	312	210	403	273	217	180	37	326	237	2,414
Benefits Paid	-121	-123	-125	-130	-135	-139	-142	-144	-146	-149	-1,353
Pension Liabilities at the End of the Year	**2,707**	**2,896**	**2,981**	**3,254**	**3,392**	**3,470**	**3,508**	**3,401**	**3,582**	**3,670**	**n.a.**
Memorandum:											
Reestimates											
In billions of dollars	12	96	7	193	59	4	-32	-147	134	26	351
As a percentage of liabilities at the beginning of the year	0.4	3.5	0.3	6.5	1.8	0.1	-0.9	-4.2	3.9	0.7	n.a.
	Federal Civilian and Military Retirees' Health Benefits										
Liabilities for Retirees' Health Benefits at the Beginning of the Year	**1,162**	**1,178**	**1,260**	**1,185**	**1,161**	**1,074**	**1,097**	**1,095**	**1,152**	**1,157**	**n.a.**
Expenses											
Past service costs from plan amendments or new plans	0	*	-16	-32	-47	0	-21	-6	0	-21	-143
Normal cost[a]	33	35	39	35	34	34	31	34	34	36	344
Interest on liabilities[b]	68	70	64	58	54	48	47	45	46	44	544
Reestimates											
Actuarial gains (-) or losses from experience[c]	-52	137	-19	-34	-19	-11	-15	30	-16	-17	-16
Actuarial gains (-) or losses from changes in assumptions[d]	-1	-126	-108	-17	-75	-13	-9	-10	-21	28	-353
Total Expenses for Retirees' Health Benefits	48	115	-41	11	-52	57	33	92	43	71	376
Benefits Paid	-32	-33	-35	-35	-35	-34	-35	-35	-37	-38	-348
Liabilities for Retirees' Health Benefits at the End of the Year	**1,178**	**1,260**	**1,185**	**1,161**	**1,074**	**1,097**	**1,095**	**1,152**	**1,157**	**1,190**	**n.a.**
Memorandum:											
Reestimates											
In billions of dollars	-54	11	-127	-50	-93	-25	-24	19	-37	11	-368
As a percentage of liabilities at the beginning of the year	***	****	-10.1	-4.2	-8.0	-2.3	-2.2	1.8	-3.2	1.0	n.a.

Source: Congressional Budget Office, using data from Department of the Treasury, *Financial Report of the United States Government* (various years).

n.a. = not applicable; * = between -$500 million and zero; ** = between zero and $500 million; *** = between -0.05 percent and zero; **** = between zero and 0.05 percent.

a. Normal cost is a measure of the additional liability to pay benefits that a plan has accrued during a year.

b. Interest on the government's liabilities accrues because, as those liablities become a year closer to coming due, the present value of the liablities increases as they are discounted for one fewer year.

c. Actuarial gains or losses from experience align actual outcomes with the initial estimates (much as reestimates do for federal credit programs).

d. Changes in actuarial assumptions, including assumptions about discount rates and the inflation-adjusted growth of wages, alter estimates of projected liabilities.

are subject to pay-as-you-go procedures that generally require new laws to be deficit neutral. Discretionary spending is controlled by statutory limits (currently in effect through 2021) that constrain the amount of new discretionary budget authority that can be provided in annual appropriation acts.

The accrual measures currently used in the federal budget process summarize budgetary effects within only one budget category. However, programs that provide federal retirement and veterans' benefits can have budgetary effects that span multiple categories, so expanding the use of accrual measures to summarize those effects would complicate the budget process. Likewise, CBO's baseline projections and cost estimates for legislation report budgetary effects for those major budget categories separately. As a result, accrual measures that summarized budgetary effects across those categories would not fit cleanly into the existing framework of statutory and Congressional rules.

The Nature of the Government's Commitments

Another critical consideration about accrual measures is whether federal commitments are firm enough to justify accounting for cash flows that are expected to occur far in the future. Budget projections generally reflect the cash flows that are expected to result from future commitments as long as they are probable under current laws and policies. The case for accrual measures, which summarize long-term effects, may be stronger for federal commitments that are legally binding or otherwise relatively certain and that require no further legislation to ensure that agencies have enough resources to pay for those commitments.

The nature of the commitments for federal credit programs and for federal retirement and veterans' programs differ in important ways. Federal credit programs involve firm contractual agreements between federal agencies and loan borrowers (or originators of guaranteed loans and securities), which make accrual measures particularly well suited to those programs. Federal commitments to pay retirement and veterans' benefits, in contrast, are governed by underlying laws that could be altered. In addition, most of the changes in the budgetary cost of the government's credit exposure that are beyond policymakers' control (such as changes stemming from borrowers' defaults or prepayments) generally occur within the 10-year budget window. But for federal retirement and veterans' programs, lags between when the government commits to providing benefits and when the resulting cash flows occur can be much longer than 10 years.

Although they are not contractual obligations, the government's commitments to pay federal retirement benefits are firm and probable.[15] Unless laws are changed, the government will continue to incur those obligations. Similarly, federal commitments to pay some veterans' benefits—particularly disability compensation for veterans with injuries and illnesses that were incurred or aggravated during their military service and pensions for wartime veterans with very low income—are considered entitlements and thus represent firm commitments to the people who meet the eligibility criteria. Federal commitments to provide health care to veterans, by contrast, can be carried out only to the extent that funding is provided in annual appropriation acts. As a result, accruing the costs of veterans' health care benefits up front would be at odds with the fact that anticipated commitments are contingent on future laws (see Box 2-2).

In the past, some legislative changes to federal employees' pension benefits have been subject to legal challenges. In those cases, courts have consistently affirmed lawmakers' power to cut pension benefits for federal workers and have declined to treat such commitments as contractual obligations.[16] Consequently, CBO expects that those obligations will be met under current laws or policies

15. See, for example, Government Accountability Office, *Fiscal Exposures: Improving Cost Recognition in the Federal Budget*, GAO-14-28 (October 2013), pp. 33–52, www.gao.gov/products/GAO-14-28. Organizations that set financial standards for the private sector require that current commitments be firm, but not necessarily contractual, to be recognized in financial statements. For example, since 1993, the Financial Accounting Standards Board has required most private firms to recognize the accrual cost of retirees' health care benefits and the liability for those benefits in their financial statements—although private firms generally have significant scope to adjust or even eliminate those benefits for current employees and retirees. (Accounting standards have long required private firms to accrue the cost of their pension benefits.)

16. See, for example, *National Association of Retired Federal Employees v. Horner*, 633 F. Supp. 511 (D.D.C. 1986), which upheld the suspension of cost-of-living-adjustments for federal retirees under the Civil Service Retirement Act. However, legislative changes to federal retirement benefits would still risk legal challenges in which retirees could argue that they are entitled to those benefits because they completed their service and relied on the government's promise to provide those benefits. If successful, such claims could alter the budgetary effects of the legislative changes.

Box 2-2.

Budgetary Challenges of Using Accrual Measures for Veterans' Benefits

Veterans' benefits are a significant part of the deferred compensation provided to U.S. military personnel. The costs of those benefits are associated with military service—and arguably might be considered deferred compensation for the Department of Defense's (DoD's) military personnel—although the benefits are administered by the Department of Veterans Affairs (VA).[1] The challenge of working with the budgets of two separate departments is one of several potential difficulties in using accrual measures for veterans' benefits.

The Scope of VA's Benefits for Veterans

VA's total spending has grown rapidly over the past two decades—from $64 billion (2.6 percent of all federal spending) in 2000 to $187 billion (4.5 percent of all federal spending) in 2018. (Those dollar amounts are expressed in 2018 dollars, adjusted to remove the effects of inflation.)[2] The large increase in spending has prompted concerns about the long-run affordability of VA benefits.[3]

The $187 billion that VA spent in 2018 included $92 billion on disability compensation and pensions for 5.6 million veterans and some of their survivors and $74 billion on medical care (health care provided to almost 7 million beneficiaries, construction of health care facilities, and medical research). Spending on VA programs is affected by many factors that cannot be projected with certainty, such as the future cost of health care, the department's policies for that care, and the number of veterans who will apply and qualify for disability payments.

1. In 2015, CBO estimated that the average annual cost of employing a service member included $34,000 for VA benefits, measured on a present-value basis. (A present value is a single number that expresses a flow of future income or payments in terms of an equivalent lump sum received or paid at a specific time.) That $34,000 consisted of $16,000 for compensation for service-connected disabilities and pension payments to eligible low-income wartime veterans, $15,000 for health care for eligible veterans, and $3,000 for education assistance and other benefits. See Congressional Budget Office, *Replacing Military Personnel in Support Positions With Civilian Employees* (December 2015), pp. 15 and 27, www.cbo.gov/publication/51012.

2. The estimates have also been adjusted to exclude the effects of timing shifts (such as when October 1, the first day of the federal fiscal year, falls on a weekend, and certain payments that are scheduled to be made on that day are instead made in September, in the previous fiscal year).

3. See Congressional Budget Office, *Possible Higher Spending Paths for Veterans' Benefits* (December 2018), www.cbo.gov/publication/54881.

Many veterans' benefits—most notably, disability compensation and pensions for low-income wartime veterans—are considered entitlements (legal obligations governed by statutory provisions that specify eligibility criteria and benefit formulas). The government has no dedicated income sources or trust funds to finance those benefits. Rather, they are paid as they come due from VA's mandatory appropriations, which are drawn from the general fund of the Treasury.

Veterans obtain health-related benefits and services at VA facilities if providers, space, and other resources are available, subject to the ongoing appropriation of funds necessary to operate those facilities.[4] (Under certain circumstances, VA also pays for health care that veterans receive from private providers.) A priority system helps determine who can receive care if VA needs to restrict access because of the amount of annual funding provided.

The government's accrued liability to provide the veterans' benefits that are considered entitlements or otherwise firm commitments is significant, totaling $3.0 trillion at the end of 2018, according to federal financial statements. That amount does not include the cost of VA health care benefits, which are not considered entitlements and are not reported on the federal balance sheet as a liability. By comparison, the government's liabilities to provide federal civilian and military pensions and retirees' health benefits totaled $4.9 trillion at the end of 2018 (see Table 2-2 on page 18).

Issues in Adopting Accrual Measures for Veterans' Benefits

In theory, requiring DoD to make accrual payments to reflect the estimated cost of future benefits for veterans would provide a more complete picture of the cost of deferred compensation for military personnel. Given the current statutory framework governing benefits, the case for using accrual measures is stronger for benefits that are considered entitlements than for health care benefits. The accrual payments could be made to a fund administered by VA.

4. Nearly all of VA's health-related spending is discretionary, but the Veterans Access, Choice, and Accountability Act of 2014 provided mandatory funding of $5 billion to expand VA's in-house capacity and an additional $10 billion to establish the Veterans Choice Program, a temporary program aimed at improving veterans' access to care at non-VA facilities.

Continued

Box 2-2. Continued

Budgetary Challenges of Using Accrual Measures for Veterans' Benefits

In practice, however, accounting for veterans' benefits on an accrual basis would involve major changes to the budgets of both DoD and VA, because none of the cost of veterans' benefits currently appears in DoD's budget. Moreover, with two departments involved, their incentives to control costs might not align well, and which department should accrue the costs is not evident. DoD's control over those costs is limited, in part because VA has some flexibility to change veterans' benefits. The accrued cost of those benefits could be reflected in VA's budget rather than DoD's, but such a change might have little effect on DoD's underlying decisions about military personnel. (Canada has adopted an approach in which it accrues the cost of veterans' benefits in the budget of its veterans' affairs department rather than recognizing the cash cost of those benefits. Some evidence suggests that the accrual information proved useful when Canada decided to alter eligibility requirements to reduce the cost of its veterans' benefits.)[5]

All types of accrual estimates can be volatile when the estimating assumptions change—particularly assumptions about the interest rates used to discount the value of future cash flows—but the changes in VA's estimates have frequently been large. For example, in VA's financial statements for 2015 and 2016, the department reported large actuarial losses from changes in assumptions, causing the current expenses reported in those years to swing from $80 billion to $550 billion.[6] The changes were smaller in 2017 and 2018 but still significant. Accrued expenses fell by more than $150 billion in 2017 and by $160 billion in 2018 (to $230 billion) because of smaller actuarial losses from changes in assumptions, including reductions in the discount rates used in 2017 and 2018.[7]

5. That proposal was modified after accrual measures revealed the size of the proposed cuts in benefits. See Government Accountability Office, *Budget Issues: Accrual Budgeting Useful in Certain Areas but Does Not Provide Sufficient Information for Reporting on Our Nation's Longer-Term Fiscal Challenge*, GAO-08-206 (December 2007), pp. 32–33, www.gao.gov/products/GAO-08-206.

6. VA reported $377 billion in actuarial losses from assumption changes in 2016, compared with a gain of $13 billion in 2015. See Department of the Treasury, *Financial Report of the United States Government, Fiscal Year 2016* (January 2017), p. 107, https://tinyurl.com/y34rtn4f.

7. See Department of the Treasury, *Financial Report of the United States Government, Fiscal Year 2017* (February 2018), p. 103, https://tinyurl.com/y5s7yeqo, and *Financial Report of the United States Government, Fiscal Year 2018* (March 2019), p. 105, https://tinyurl.com/yy84m8ge.

if sufficient resources are available to cover their costs, but they are governed by benefit formulas and eligibility criteria set in law that could be changed at any time for both current and future workers, retirees, or veterans.

Lawmakers may be unlikely to change those benefits because of other negative consequences that could occur if the government did not fulfill its expected commitments. For example, cutting retirement benefits that workers have already earned would have negative effects on the government's reputation as an employer and thus on its ability to attract and retain a highly qualified workforce.[17]

Despite the relative firmness of the government's future commitments to provide federal retirement and veterans' benefits, analysts may disagree about the extent to which projected budgetary effects in future decades should be incorporated into estimates used to make near-term decisions. One concern is that greater use of accrual estimates that stretch far into the future might prematurely recognize costs stemming from current-law commitments that might not be paid in the future. Agencies' current payments to retirement trust funds for accrued costs have the same drawback, but the concern might be greater if the accrual-based transactions affected the budget deficit.

17. In the private sector, the Employee Retirement Income Security Act of 1974 generally protects the interests of participants in pension plans and generally prohibits cuts to accrued pension benefits promised by employers (but not to health care benefits for retirees). However, the Kline-Miller Multiemployer Pension Reform Act of 2014 established a new process in which private multiemployer pension plans can propose a temporary or permanent reduction in pension benefits if they are projected to run out of money before paying all of their promised benefits. Several plans have applied for benefit suspensions, some of which have been approved by the Treasury. See Department of the Treasury, "Services: The Multiemployer Pension Reform Act of 2014" (accessed January 4, 2019), www.treasury.gov/services/Pages/Benefit-Suspensions.aspx, and "Services: Applications for Benefit Suspensions" (accessed January 4, 2019), www.treasury.gov/services/Pages/Plan-Applications.aspx.

Advantages and Disadvantages of Accrual Measures for Federal Retirement and Veterans' Benefits

Both cash and accrual measures have advantages and disadvantages for federal budgeting. Cash-based measures are transparent, verifiable, and track changes in federal debt held by the public. Broadly speaking, they work well for programs that have short lags between when commitments are made and when the resulting cash flows occur. But 10-year cash-based estimates account for significantly less of the budgetary effects of retirement programs than accrual estimates do.

Compared with cash-based measures, accrual measures of federal retirement and veterans' benefits would provide a clearer picture of the annual change in the long-term sustainability of the government's fiscal policies in several ways:[18]

- Accrual measures would recognize the costs of retirement and veterans' benefits when they were incurred and thus when they were most controllable by policymakers.
- By measuring all forms of current and deferred compensation on a consistent basis, accrual estimates might enable more meaningful comparisons between alternative compensation structures. For example, accrual measures would highlight budgetary trade-offs between current and deferred compensation or between traditional defined benefit pensions and defined contribution TSP accounts.
- By summarizing long-term budgetary effects up front, accrual measures would give policymakers a more accurate sense of whether and how much proposed changes to deferred compensation would increase or decrease the deficit over the long run. That perspective is especially important when considering changes to defined benefit pensions, which involve commitments over long periods of time.
- Accrual measures would make it harder for lawmakers to engineer more favorable budgetary outcomes by shifting the timing of a program's cash flows (such as by delaying the payment date for monthly pension benefits to the next fiscal year to reduce the reported deficit in the current year).

The potential benefits of accrual estimates are illustrated by CBO's analysis of the relative costs of replacing support personnel in the armed forces with civilian employees of the Department of Defense.[19] That analysis determined that proposals to change the composition of the military workforce had the potential to produce budgetary savings. Using estimates of the accrual costs of federal civilian and military retirement benefits and VA benefits, CBO found that, on average, a civilian employee in DoD's commercial positions costs the federal government about 30 percent less than an active-duty service member (largely because the civilian worker would not be eligible for VA benefits). Those accrual measures of costs are broader than the cash-based measures used to estimate the cost of proposed legislation; the current approach to legislative cost estimates would not encompass all of the changes in the government's future long-term liabilities that could result from such proposals. The full budgetary effects would not be realized for a few decades, when new employees began to retire and collect benefits.

Using accrual measures for federal retirement programs and veterans' benefits would have some drawbacks, however, compared with cash-based measures:

- Accrual measures are more methodologically complex and potentially harder to understand. For example, accrual measures for pension plans are based on actuarial estimates that incorporate forecasts of future interest rates, wages, length of employees' service, and mortality rates.
- Accrual estimates generally have a wider range of uncertainty because of their longer time horizons and their reliance on the technical assumptions

18. See the testimony of James L. Blum, Deputy Director, Congressional Budget Office, before the Subcommittee on Civil Service of the House Committee on Government Reform and Oversight, *Financing Retirement for Federal Civilian Employees* (June 28, 1995), www.cbo.gov/publication/15498.

19. See Congressional Budget Office, *Replacing Military Personnel in Support Positions With Civilian Employees* (December 2015), pp. 17 and 20–21, www.cbo.gov/publication/51012, and *Options for Reducing the Deficit: 2019 to 2028* (December 2018), pp. 130–131, www.cbo.gov/budget-options/2018/54756.

used to discount the value of future cash flows.[20] Thus, accrual estimates are typically subject to larger revisions than cash-based estimates. In particular, small changes in discount rates could lead to large reestimates of accrual measures. Such updates could cause swings in the deficit, as reestimates for federal credit programs do, but the swings attributable to reestimates for retirement and veterans' benefits might be larger.

- Accrual measures pose significant transition and implementation challenges, including the need to establish new federal accounts to reconcile accrual estimates with actual cash flows and the need to determine how to report the cost of nearly $8 trillion of existing federal liabilities for retirement and veterans' benefits (see Table 2-2 on page 18).

- Accrual measures do not track changes in the amount of federal debt held by the public, which is a key measure of the government's fiscal condition.[21]

In the context of federal budgeting, mixing accrual and cash measures within a framework of budget enforcement that is based largely on 10-year cash measures could prove confusing and offer mixed incentives. Accrual measures would provide a way for legislation to be credited with long-term savings (or charged with long-term costs) for changes to federal retirement or veterans' benefits that would occur outside the 10-year budget window. But subjecting possibly similar activities to different budgetary treatments could give advocates for a program an incentive to try to categorize their program in whatever way would result in the preferred treatment.

More broadly, accrual measures would let lawmakers use expected savings from potentially unsustainable legislative changes—such as significant cuts to federal retirement or veterans' benefits in the long term—to finance near-term spending increases or tax cuts. In the future, lawmakers might feel it necessary to reduce or reverse the scheduled cuts to benefits. But because the short-term steps that raised spending or lowered revenues would have already occurred, undoing the scheduled cuts would add to the pressures on the federal budget.

20. State and local governments have reduced, and continue to reduce, their budget outlays by making optimistic assumptions about expected returns on assets that affect their required contributions to retirement plans. See Robert Novy-Marx and Joshua D. Rauh, "The Liabilities and Risks of State-Sponsored Pension Plans," *Journal of Economic Perspectives*, vol. 23, no. 4 (Fall 2009), pp. 191–210, http://dx.doi.org/10.1257/jep.23.4.191; and Jeffrey R. Brown and Richard F. Dye, *Illinois Pensions in a Fiscal Context: A (Basket) Case Study,* Working Paper 21293 (National Bureau of Economic Research, June 2015), www.nber.org/papers/w21293. Because most federal retirement funds hold Treasury securities, such concerns are currently not as relevant at the federal level.

21. Because federal credit programs are accounted for in the budget on an accrual basis, a difference already exists between the budget deficit and the annual change in federal debt held by the public. Foreign governments that report costs on an accrual basis in their budgets also report cash flows, including cash-based measures of government debt, as the United States does.

CHAPTER

3

Approaches for Using Accrual Measures in the Federal Budget Process

Various options exist for expanding the use of accrual measures for federal retirement and veterans' benefits. Those options would affect the federal budget—and measures of the deficit—to varying degrees. In weighing such changes, lawmakers would need to consider how accrual measures for those benefits would factor into the framework of statutory requirements and Congressional rules that make up the federal budget process.[1] In this analysis, the Congressional Budget Office examines four possible approaches:

- The broadest option would be to formally adopt an accrual-based budgetary treatment for federal retirement and veterans' benefits. For example, in 2016, the House Budget Committee proposed requiring that the net cost of federal retirement programs be recorded in the budget on a fair-value basis (a type of accrual measure described in Box 3-1).[2]

- A narrower expansion that would affect the federal budget but have less impact on the deficit would be to require federal agencies to make accrual payments for a larger set of benefits than they do now.

- Lawmakers could keep the current cash-based budgetary treatment for federal retirement and veterans' benefits but use accrual measures to estimate the cost of legislative proposals for those benefits and to enforce Congressional budget rules.

- The most limited option would be to use accrual estimates as supplemental information when making decisions about federal retirement and veterans' benefits.

In all cases, the more that accrual measures were formally incorporated into the budget process, the greater their potential to ensure that the long-term effects of programs would be taken into account.

Adopting an Accrual-Based Treatment in the Budget

Under the broadest approach, accrual estimates would be reported in the budget for programs that provide benefits to federal civilian and military retirees and veterans—as they are now for federal credit programs. Those estimates would also be used to enforce targets for the budget. Such an approach would ensure that policymakers' decisions were based on estimates that captured cash flows expected to occur outside the 10-year budget window.

Like actuaries, estimators would distinguish between future costs stemming from benefits that the existing workforce earned in the current period and changes to the estimated future costs of benefits accrued in earlier periods. For example, budget projections would reflect the anticipated net present value of the long-term costs of new commitments related to benefits earned (or attributed to service) during a given year.

Some developed countries currently budget for retirement benefits on an accrual basis (see Box 3-2 on page 34).[3] Adopting that treatment for federal retirement and veterans' benefits in the United States would require policymakers to address certain key issues, such

1. For an overview of that process, including information about the mechanisms that the government uses to enforce budget targets, see Congressional Budget Office, *Cash and Accrual Measures in Federal Budgeting* (January 2018), Box 1, pp. 4–5, www.cbo.gov/publication/53461.

2. See House Committee on the Budget, *Proposed Rewrite of the Congressional Budget Process—Discussion Draft: Description and Rationale* (November 30, 2016), p. 22, https://tinyurl.com/y5c5bdsv (PDF, 430 KB).

3. Also see Jan van Helden and Christoph Reichard, "Cash or Accruals for Budgeting? Why Some Governments in Europe Changed Their Budgeting Mode and Others Not," *OECD Journal on Budgeting*, vol. 18, no. 1 (2018), pp. 89–113, https://doi.org/10.1787/budget-18-5j8l804pq0g8.

Box 3-1.

Fair-Value Estimates of Federal Pension Benefits

The accrual estimates that federal agencies use to report their pension liabilities in financial statements—and to determine the amount of current budget authority to transfer to federal retirement funds—are based on a measure of pension liabilities called the projected benefit obligation (PBO). That measure incorporates anticipated increases in an employee's salary over the employee's projected tenure.

Future salaries tend to reflect the strength or weakness of the economy, so the PBO involves uncertainty stemming from market risk—the element of financial risk that is correlated with overall economic conditions (and thus that cannot be eliminated by diversifying a portfolio of investments). In particular, the government's total cost for pension benefits is likely to be relatively high if the economy performs well for an extended period and relatively low if the economy underperforms for a long period.

Although the salaries of federal workers are controlled by the Congress, the Congressional Budget Office considers federal pensions based on those salaries to be subject to market risk because competition with other employers induces the government to raise salaries to remain attractive to prospective workers and to keep well-performing current workers. The higher salaries paid in good economic times generate higher pension benefits (those salaries are also associated with higher labor productivity). This report does not separately evaluate the cost of risk associated with current salaries and benefits.

Adjusting Accrual Estimates for Market Risk

In CBO's view, fair-value methods of accrual accounting provide a comprehensive measure of the present value of future cash flows that involve market risk.[1] Such methods recognize that in the private sector, uncertain cash flows that grow and shrink with the economy are less valuable than cash flows that are stable regardless of economic conditions. To reflect that market risk for assets (such as loans or loan guarantees) that are more likely to decline in value as more creditors default when the economy is weak, fair-value estimates would discount the value of future cash flows at a higher rate than interest rates on Treasury securities, which are considered risk-free.[2] Those fair-value estimates would be lower than present-value estimates made by discounting future cash flows at Treasury rates—the method prescribed for federal loan programs by the Federal Credit Reform Act of 1990 (FCRA).

Although the government's commitment to provide pensions to federal civilian and military retirees represents a liability rather than an asset, the principle is the same: Because pension payments might be larger when economic performance is better than expected over a long period, and smaller in the opposite case, using a discount rate higher than Treasury rates to account for market risk is appropriate for accrual estimates of federal pension benefits, in CBO's view.

CBO estimates that for federal pension liabilities, a discount rate that incorporates the price of market risk will be roughly 1.5 percentage points higher than the interest rate on 20-year Treasury securities.[3] That adjustment for market risk reflects the price a private company would charge to cover the uncertainty about the future earnings of federal employees if it provided pension benefits to those workers. The private company could invest workers' pension contributions in a mix of assets that matched the risk of the pension obligations. That mix of assets—which would be expected to earn a higher return than the rate of return on 20-year Treasury securities—would be

1. A present value is a single number that expresses a flow of future income or payments in terms of an equivalent lump sum received or paid at a specific time. For more information about the advantages and disadvantages of fair-value estimates, see the testimony of Douglas W. Elmendorf, Director, Congressional Budget Office, before the House Committee on Financial Services, *Estimates of the Cost of the Credit Programs of the Export-Import Bank* (June 25, 2014), pp. 9–10, www.cbo.gov/publication/45468. Also see Congressional Budget Office, *How CBO Produces Fair-Value Estimates of the Cost of Federal Credit Programs: A Primer* (July 2018), www.cbo.gov/publication/53886.

2. See Congressional Budget Office, *Fair-Value Estimates of the Cost of Federal Credit Programs in 2020* (May 2019), www.cbo.gov/publication/55278.

3. That premium for market risk for pension benefits under the Federal Employees Retirement System (FERS) is based on the strong long-term relationship between stock prices and wages, which implies that some fraction of the equity premium (the excess return that stocks earn over Treasury bonds because of their systematic relationship to the economy) should apply to the discount rate for FERS benefits. CBO estimated that fraction to be three-eighths. When applied to an equity premium of 4 percent, that fraction yields an adjustment for market risk of 1.5 percentage points. See Congressional Budget Office, *Including Market Risk in Estimates of the Budgetary Effects of Changing the Federal Retirement System for Civilian Workers* (supplemental material for *Options for Changing the Retirement System for Federal Civilian Workers*, October 2017), https://go.usa.gov/xVas9 (PDF, 653 KB).

Continued

Box 3-1. Continued

Fair-Value Estimates of Federal Pension Benefits

sufficient to pay the pension benefits, on average, under the higher discount rate.

Adjusting the PBO for market risk reduces the projected cost of pension liabilities, which may seem surprising given that the reverse occurs with federal credit programs. The reason is that unlike many government obligations (such as the costs of federal loans and loan guarantees) that grow when the economy is weak and shrink when it is strong, pension obligations do the opposite: They grow and shrink in tandem with the government's capacity to make payments.[4]

What Fair-Value Estimates Indicate About Federal Pension Benefits

If current laws and policies governing federal pension benefits stayed the same, the PBO of pension benefits would equal 11.5 percent of lifetime salary for federal workers hired in 2018 measured on a fair-value basis, compared with 14.2 percent on a FCRA basis.[5] The reason is that discounting reduces the present value of pension payments more than the present value of lifetime salaries, because the pension payments occur farther in the future and because the fair-value estimate incorporates a higher discount rate. Thus, estimates of the costs of options to increase pension benefits—or of the savings from options to decrease pension benefits—tend to be smaller on a fair-value basis than on a FCRA basis.

Fair-value estimates also show that there would be no expected net gain to taxpayers if the balances of federal retirement trust funds were invested in private securities rather than in federal securities (as is done in Australia and has been proposed in the United States). Fair-value estimates of the value of the retirement funds would be the same in either case—the higher expected return on stocks would be offset by the higher cost of market risk for those investments.[6] However, an important implication of fair-value estimates is that the normal cost of pension liabilities each year would be independent of the investments held by the retirement trust funds.

The Importance of How Federal Pension Liabilities Are Measured

Ultimately, whether discount rates should reflect Treasury rates or include an adjustment for market risk depends on which accrual measure best reflects the pension liabilities faced by the government: the projected benefit obligation or the accumulated benefit obligation (ABO). Unlike the PBO, the ABO is based on current salaries and generally reflects liabilities only for pension benefits that workers have already earned. If the ABO is a better characterization of the government's liabilities, Treasury discount rates would be appropriate because estimates of the ABO generally do not include projections of future cash flows that involve market risk.

Although private firms report the PBO in their financial statements, minimum funding rules for pensions generally require them to use the ABO to determine their annual contributions to their pension funds. The ABO ignores workers' expected future years of service or salary increases until they occur. Under that measure, no market uncertainty exists about the size of future liabilities for pension obligations, and thus the appropriate discount rate for the private sector would be a low-risk rate. (The discount rate that is typically used is the interest rate on high-grade corporate bonds, but some firms use Treasury interest rates instead.)

4. Research on valuing Social Security benefits and private pensions supports that perspective. See John Geanokoplos and Stephen P. Zeldes, "Market Valuation of Accrued Social Security Benefits," in Deborah Lucas, ed., *Measuring and Managing Federal Financial Risk* (University of Chicago Press, 2010), pp. 213–233, http://papers.nber.org/books/luca07-1; Deborah Lucas and Stephen P. Zeldes, *Valuing and Hedging Defined Benefit Pension Obligations—The Role of Stocks Revisited* (working paper, Northwestern University and Columbia University, September 2006), https://tinyurl.com/ybqdx8rq (PDF, 290 KB); and Deborah J. Lucas and Stephen P. Zeldes, "How Should Public Pension Plans Invest?" *American Economic Review*, vol. 99, no. 2 (May 2009), pp. 527–532, http://dx.doi.org/10.1257/aer.99.2.527.

5. See Congressional Budget Office, *Including Market Risk in Estimates of the Budgetary Effects of Changing the Federal Retirement System for Civilian Workers* (supplemental material for *Options for Changing the Retirement System for Federal Civilian Workers*, October 2017), https://go.usa.gov/xVas9 (PDF, 653 KB).

6. The National Railroad Retirement Investment Trust is authorized (under the Railroad Retirement and Survivors' Improvement Act of 2001) to invest in corporate stocks, bonds, and other private assets. To adjust the higher expected returns of private securities for their increased risk, CBO and the Office of Management and Budget opted to project the trust's income using the rate of return on Treasury securities. That practice means that baseline projections of the deficit are unaffected by the government's investment policy. See Congressional Budget Office, *Evaluating and Accounting for Federal Investment in Corporate Stocks and Other Private Securities* (January 2003), www.cbo.gov/publication/14245.

Box 3-2.

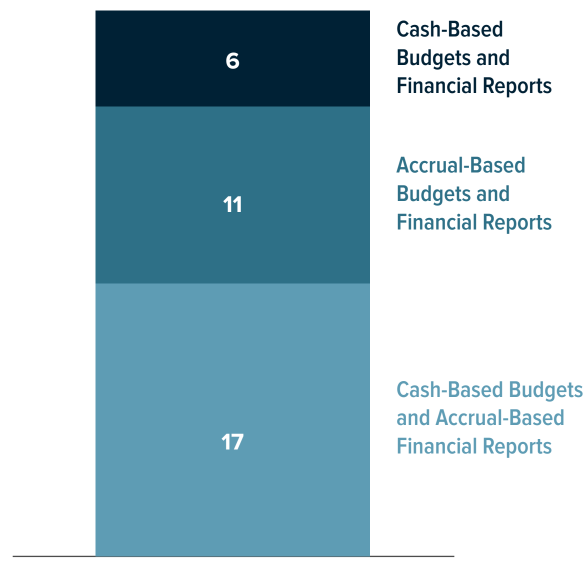
International Experience With Accrual Accounting and Budgeting

The Organisation for Economic Co-operation and Development (OECD) reports that since the early 2000s, several of its member countries have expanded their use of accrual measures for financial accounting and budgeting.[1] The extent to which those countries use accrual measures rather than cash-based accounting varies substantially (see the figure). Although the specific reasons for adopting accrual measures also vary, in many cases a primary goal is to support reform efforts that could enable a country to present uniform and comprehensive measures of the cost of government activities, create or support a performance-based culture, or modernize public management systems.

The OECD reported in 2017 that 28 of its 34 member countries were, or soon would be, using accrual measures for year-end financial reports.[2] Among those countries, 17 (including the United States) mainly use cash-based measures to prepare and execute their budgets; the other 11 use accrual measures for both financial accounting and budget preparation.

For OECD countries that use accrual-based budgeting to recognize their commitments, the basis used to allocate resources to pay those commitments also varies.[3] For example, New Zealand and the United Kingdom use accrual-based appropriations that are similar to the subsidy appropriations used for federal credit programs in the United States. In such cases, although laws that provide funding reflect accrual measures, government agencies have access to the full amounts of cash necessary to execute programs. Canada, Chile, and Mexico, by contrast, use cash-based appropriations, perhaps

Budgeting and Financial Reporting Practices of the OECD's 34 Member Countries



Source: Congressional Budget Office based on Delphine Moretti, "Accrual Practices and Reform Experiences in OECD Countries—Results of the 2016 OECD Accruals Survey," *OECD Journal on Budgeting,* vol. 16, no. 1 (2016), pp. 9–28, http://dx.doi.org/10.1787/budget-16-5jlv2jx2mtzq.

OECD = Organisation for Economic Co-operation and Development.

1. See Organisation for Economic Co-operation and Development and International Federation of Accountants, *Accrual Practices and Reform Experiences in OECD Countries* (OECD, 2017), https://dx.doi.org/10.1787/9789264270572-en.
2. Ibid. The OECD surveyed member countries in 2016.
3. For more information about appropriating funds under an accrual system, see Jón R. Blöndal, "Issues in Accrual Budgeting," *OECD Journal on Budgeting*, vol. 4, no. 1 (April 2006), pp. 103–119, https://doi.org/10.1787/budget-v4-art5-en.

Continued

as what account structures to use, what to measure in accrual estimates, how to implement reestimates, and how to make a smooth transition from cash to accrual budgeting.

A Potential Accrual Accounting Framework for Federal Retirement and Veterans' Benefits

Budgeting for retirement and veterans' benefits on an accrual basis could be modeled on the accounting and budgeting system used for federal credit programs.[4] In that case, the existing retirement trust funds used to track cash flows between federal agencies, retirees, and existing workers would become nonbudgetary ("below the line") accounts for tracking programs' cash

4. Under the Federal Credit Reform Act of 1990, the administrative costs of federal credit programs are accounted for in the budget on a cash basis. If accrual budgeting was adopted for federal retirement and veterans' programs, policymakers would have to decide how to account for those programs' administrative costs.

Box 3-2. Continued

International Experience With Accrual Accounting and Budgeting

indicating a preference among policymakers to retain control over the amount of cash provided to agencies. Other countries use a mix of accrual- and cash-based appropriations.

Practices for reporting the government's liabilities for civil service and military pensions differ widely among the 28 OECD countries that use accrual measures for their financial reports. Most of those countries report pension liabilities either on the balance sheet or in the notes to their financial statements. However, a significant number do not disclose pension liabilities at all; they do not consider pension benefits to be contractual entitlements because those benefits can be changed.[4]

Some of the OECD countries that have more fully embraced accrual-based budgeting have already seen advantages from expanding the use of such measures for government-funded pensions. Pension obligations for public-sector employees usually constitute a country's largest government liability after sovereign debt, and some nations have concluded that simply controlling government borrowing is not sufficient to ensure long-term fiscal sustainability. Using accrual measures may help countries control long-term obligations. For example, when accrual budgeting in New Zealand and the United Kingdom made the costs of civil servants' pensions more transparent and the size of the existing commitments clearer, policymakers took steps to reduce pension costs for new employees.[5] New Zealand switched from defined benefit plans to defined contribution plans for public-sector workers. Australia created a sovereign wealth fund in 2006, which it cannot draw on until 2020, to offset growing liabilities for public employee and military pensions.[6]

The experiences of OECD countries illuminate several common challenges inherent in the long and complicated process of transitioning from cash-based to accrual-based accounting. One fundamental conceptual challenge involves identifying and valuing assets and liabilities, particularly when high-quality data about the inventory of existing assets are lacking. Most countries also say that implementing new information technology systems—a difficult task even when underlying accounting methods do not change—involved even more complexity when they were also modifying the accounting basis they used. In addition, some countries had trouble coordinating processes for allocating resources to execute government activities.

4. See Organisation for Economic Co-operation and Development and International Federation of Accountants, *Accrual Practices and Reform Experiences in OECD Countries* (OECD, 2017), https://dx.doi.org/10.1787/9789264270572-en; and Government Accountability Office, *Budget Issues: Accrual Budgeting Useful in Certain Areas but Does Not Provide Sufficient Information for Reporting on Our Nation's Longer-Term Fiscal Challenge*, GAO-08-206 (December 2007), pp. 20 and 25, www.gao.gov/products/GAO-08-206.

5. See Timothy C. Irwin, *Accounting Devices and Fiscal Illusions*, Staff Discussion Note 12/02 (International Monetary Fund, March 2012), p. 10, http://tinyurl.com/y4aqmwa9; and General Accounting Office (now Government Accountability Office), *Accrual Budgeting: Experiences of Other Nations and Implications for the United States*, GAO/AIMD-00-57 (February 2000), pp. 12, 21–22, and 193, www.gao.gov/products/AIMD-00-57.

6. See Delphine Moretti and Tim Youngberry, "Getting Added Value Out of Accruals Reforms," *OECD Journal on Budgeting*, vol. 18, no. 1 (September 2018), pp. 120, 135, and 140, https://doi.org/10.1787/budget-18-5j8l804hpvmt; and Government Accountability Office, *Budget Issues: Accrual Budgeting Useful in Certain Areas but Does Not Provide Sufficient Information for Reporting on Our Nation's Longer-Term Fiscal Challenge*, GAO-08-206 (December 2007), p. 32, www.gao.gov/products/GAO-08-206.

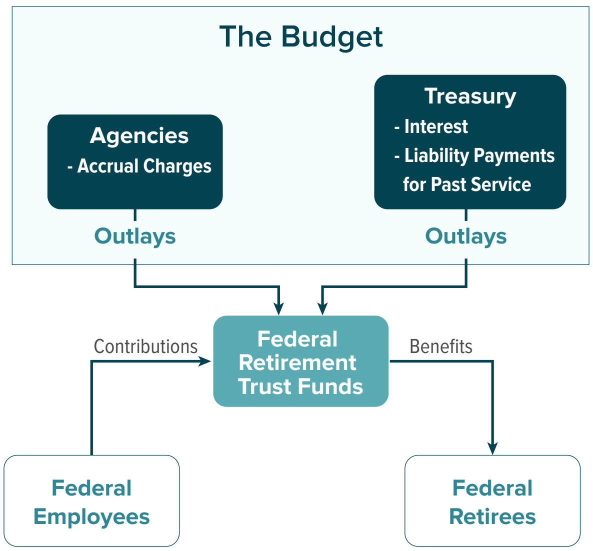
flows—similar to financing accounts for credit programs. New accounts would have to be set up for retirement and veterans' benefits that are currently paid from the Treasury's general fund rather than from retirement trust funds. All of those nonbudgetary accounts would be excluded from calculations of the deficit.

The budget would record the following transactions with those nonbudgetary accounts as outlays (see Figure 3-1):

- Agencies' annual accrual charges, which would measure the budgetary resources being conveyed to the nonbudgetary accounts used to track programs' cash flows;
- The Treasury's net positive or negative outlays for any reestimates considered necessary, over time, to reconcile the balances of the nonbudgetary accounts with plans' liabilities and for payments to gradually

Figure 3-1.

Potential Accrual Budgetary Treatment of Federal Retirement Costs



Source: Congressional Budget Office.

fund the cost of benefits earned by past employees before agencies began making accrual payments;[5] and

- Annual interest payments from the Treasury to those accounts on their holdings of Government Account Series securities.

Under an accrual budgetary treatment, those federal payments to nonbudgetary accounts would factor into measures of the deficit, which could improve the budget's usefulness in identifying ways that government spending for federal retirement and veterans' benefits might affect the economy. (For an example of how such treatment of those payments is implemented in the national income and product accounts, see Box 3-3.) Transactions between those nonbudgetary accounts and individuals—such as contributions from current workers and spending for benefits to current retirees—would be recorded on a cash basis in the accounts and have no direct effect on the deficit. In the current system, by contrast, those transactions are recorded on a cash basis in the budget.

Deciding What Accrual Estimates Would Measure

Policymakers would need to consider what information the accrual measures used in the budget process should include. For example, actuaries typically estimate two measures of pension liabilities: the accumulated benefit obligation (ABO) and the projected benefit obligation (PBO). The ABO measures the present value of the benefits earned by all participants covered by a plan, without accounting for projected increases in those participants' salary between now and retirement. Thus, it indicates the liabilities that would exist if an employee left his or her position immediately.

The PBO, by contrast, reflects anticipated salary increases over employees' projected tenure.[6] As a result, it provides a more complete estimate of a plan's current and future liabilities, but it also involves more complexity and uncertainty. In particular, because wage increases over the long term are tied to the future condition of markets and the economy, estimates of the PBO involve uncertainty stemming from market risk (a component of financial risk that is tied to overall economic conditions).

In CBO's view, measures of the PBO are most useful when prepared on a fair-value basis that accounts for the additional risk that is not reflected in ABO measures.

5. Such payments to or from the Treasury might be needed to adjust the accounts' balances for changes in actuarial assumptions and experience. Reestimates would probably be made at the program level rather than for every cohort, which would simplify the process and reduce the administrative burden. For pension plans operated by the private sector or state and local governments, the standard funding practice is for a plan's sponsor to make not only normal-cost payments but also amortization payments (including for liabilities for past service) to align the pension fund's balance with the plan's liabilities. The Treasury currently makes a series of amortization payments to the largest federal retirement trust funds.

6. Benefit formulas for federal civilian employees' pensions are based on the average of a worker's highest earnings over three consecutive years. (Pensions for military personnel are also generally based on the highest three years of earnings, although some retirees receive pensions that are tied to their final salary.) Most federal employees also qualify for annual pay raises. Under the Federal Employees Pay Comparability Act of 1990, those raises are set at 0.5 percentage points less than the annual change in the employment cost index, a measure of average wage growth in the economy. (Lawmakers often modify those annual raises, however. For example, they eliminated across-the-board pay increases for most federal civilian workers in calendar years 2011, 2012, and 2013.) Employees may also receive seniority- and merit-based increases, as well as adjustments for locality pay differentials. See Congressional Budget Office, *Comparing the Compensation of Federal and Private-Sector Employees, 2011 to 2015* (April 2017), www.cbo.gov/publication/52637.

Box 3-3.

How the National Income and Product Accounts Treat Federal Pensions

The federal budget helps the government plan and manage its activities. Another set of federal accounts—the national income and product accounts (NIPAs) produced by the Department of Commerce's Bureau of Economic Analysis (BEA)—serve a different purpose.[1] They indicate how the federal government fits into BEA's overall accounting framework for the U.S. economy by detailing current production and income over specific periods, the major sources of that production, and recipients of income resulting from current output. (The NIPAs are constructed to cover calendar years, but totals for federal fiscal years can be derived from quarterly estimates.)

In accounting for federal retirement and veterans' benefits, the NIPAs generally include accrual costs only for civilian and military pensions. They do not include accrual costs for retirees' health care benefits or for veterans' benefits. Those costs are reported on a cash basis when the benefits are paid.[2]

In 2013, BEA changed the way it measures the transactions of defined benefit pension plans. The new method counts as an expenditure the change in the present value of the benefits that employees accrue during the year, rather than actual contributions made by the employer (and actual income from the plan's assets).[3] For example, federal agencies contribute less than the normal cost of pension liabilities for employees in the Civil Service Retirement System, but the NIPAs report the full normal cost as part of the government's expenditures and as part of federal employees' current income.

BEA's new method also includes a calculation of imputed interest for periods when the government's pension plans are underfunded—because, in BEA's view, the government has effectively borrowed from those plans and owes interest on the total pension liability. That imputed interest is the largest source of the difference between negative net federal government saving as reported in the NIPAs and the deficit as reported in the federal budget. BEA's new accrual measures of the government's retirement expenditures, consistent with the principles of national income accounting, better align measures of pension compensation with the timing of when those benefits are earned.

1. See Congressional Budget Office, *CBO's Projections of Federal Receipts and Expenditures in the National Income and Product Accounts: 2019 to 2029* (July 2019), www.cbo.gov/publication/55466.

2. As in the federal budget, exceptions are made for the accrual costs of health benefits for retired Postal Service employees and for military retirees covered by the Department of Defense's Medicare-Eligible Retiree Health Care Fund.

3. A present value is a single number that expresses a flow of future income or payments in terms of an equivalent lump sum received or paid at a specific time. For more details about the change in methods for measuring the transactions of defined benefit pension plans, see Dylan G. Rassier, *Private Defined Benefit Pension Plans in the U.S. National Accounts: Accrual Measures for the 2013 Comprehensive Revision* (Bureau of Economic Analysis, August 2014), https://tinyurl.com/yylrheh8; and Marshall B. Reinsdorf, David G. Lenze, and Dylan G. Rassier, "Bringing Actuarial Measures of Defined Benefit Pensions Into the U.S. National Accounts" (paper prepared for the 33rd General Conference of the International Association for Research in Income and Wealth, Rotterdam, the Netherlands, August 24–30, 2014), www.iariw.org/papers/2014/ReinsdorfPaper.pdf (520 KB).

(The fair-value approach to accrual accounting for pension obligations is discussed in Box 3-1 on page 32.) Specifically, projections of future costs underlying PBO measures should be discounted at rates that exceed the interest rates on Treasury securities, which are generally considered to be free of risk. In contrast, projections of future costs underlying ABO measures do not involve market risk, so a Treasury discount rate would be appropriate for them, in CBO's view.

Both ABO and PBO measures provide important information. Financial reports for private pension plans typically report both measures, although such plans determine their annual pension costs using the ABO. Federal financial statements generally report the PBO as a measure of federal liabilities for pensions. That measure is also used to determine agencies' annual accrual payments to federal retirement funds.

Implementing Reestimates

Another consideration in adopting an accrual budgetary treatment for federal retirement and veterans' benefits is what legal framework to use for reestimates. Such updated estimates are necessary to reconcile initial accrual measures with actual experience to date and with revised projections of future costs. In the case of federal credit programs, lawmakers opted to give agencies permanent, indefinite budget authority to pay for reestimates of subsidy costs, reflecting the fact that once federal loans are made or guaranteed, their ultimate impact on the budget is largely beyond lawmakers' control (because costs are determined by borrowers' creditworthiness and the terms of legally binding contracts).

Permanent, indefinite budget authority for reestimates enables the full recognition of net costs in the budget. Under the Federal Credit Reform Act, adjustments to the amount of budgetary resources required for credit programs are made automatically without any further legislation—and without being subject to budget enforcement mechanisms, which focus on legislative changes. For example, if initial accrual estimates are too low and actual costs are higher, policymakers and agencies are held harmless. Some analysts consider that policy a drawback of accrual measures because agencies are not required to take any action when new estimates show a deterioration in the government's fiscal condition. Similarly, if actual costs turn out to be lower than initial estimates, reestimates account for the fact that fewer budgetary resources are required to cover those commitments, but any such savings are not available for agencies to spend on new commitments. Thus, neither policymakers nor agencies are held accountable for updates to accrual estimates—which is also the case with changes to cash-based estimates under the current budgetary treatment.

If accrual estimates were used in the budget to account for the deficit effects of retirement and veterans' benefits, similar budget authority for reestimates could be provided. But policymakers would need to consider the budgetary classification of the underlying cash flows. For cash flows considered to be mandatory spending or revenues—which do not depend on the enactment of new legislation—providing authority for automatic reestimates would merely change the timing of when budgetary effects were recognized. But for veterans' health care benefits and other cash flows that now depend on future law, automatic authority to implement reestimates would be inconsistent with those programs' current budgetary treatment and with the nature of Congressional control over those programs. As an alternative, lawmakers could choose to make reestimates of accrual costs for such benefits contingent on future legislation.

Transitioning From a Cash to an Accrual Treatment

Making the transition to an accrual-based budgetary treatment would pose major challenges, such as how to report the cost of nearly $8 trillion of existing liabilities for federal retirement and veterans' benefits that have yet to affect the deficit. If the budget was adjusted all at once to account for the full accrued costs of future benefits, the deficit could balloon by trillions of dollars in a single year.

Alternatively, following the approach used when FCRA was enacted, policymakers could create a clear one-time separation between costs related to existing commitments at the time of the transition (retirement benefits earned to date) and costs related to new commitments (new or added benefits for current and future employees). Such an approach could mirror the liquidating accounts that were established under FCRA to record ongoing cash flows stemming from credit commitments in existence when accrual accounting was adopted for federal credit programs. In transitioning to accrual accounting for those programs, policymakers decided to continue recording existing activities on a cash basis and to apply accrual budgetary treatment prospectively to new commitments.

However, drawing a distinction between existing and new commitments—and reflecting that distinction in the budget—would be more complicated for federal retirement and veterans' programs than for credit programs because many people's retirement or veterans' benefits could be subject to both accounting approaches. For example, for current workers who were already covered by retirement systems when the transition to an accrual budgetary treatment occurred, policymakers would need to decide whether the budget would use cash or accrual measures—or a combination of the two—to account for those workers' pensions and retiree health care benefits.

Given the potentially daunting transition issues involved for retirement and veterans' benefits, policymakers could choose instead to apply accrual budgetary treatment only to newly hired workers. That option might require setting up separate funds to track those cash flows, or it might be useful in the rare situations in which the government created new retirement systems with their own trust funds. Precedents exist for phasing in accrual treatment for retirement benefits. When the Federal Employees Retirement System was introduced for new federal workers in 1987, agencies were required to pay the full cost of the benefits earned by current workers to that retirement fund, but they continued to make only partial payments for the cost of benefits earned by workers covered by the earlier Civil Service Retirement System.

Expanding the Use of Agencies' Intragovernmental Accrual Charges

A more limited approach for increasing the use of accrual measures in accounting for federal retirement and veterans' benefits in the budget would be to require agencies to expand the scope of benefits for which they incur annual accrual charges. Agencies already pay most of the accrued normal cost of pension benefits for civilian employees to the government's retirement trust funds. However, no federal civilian agency makes accrual payments for retirees' health care benefits; those costs are charged (on a cash basis) to the Office of Personnel Management rather than to the employing agencies. The Department of Defense's budget already reflects accrual costs for pension benefits and for the supplemental cost of health care for military retirees who qualify for Medicare. But DoD's budget does not cover accrual costs for other health care benefits for retirees.

Expanding the scope of accrual charges would have significant effects on agencies' budgets.[7] Unless an agency received a funding increase to cover the cost of new accrual charges, this change would require the agency to devote a greater portion of its annual budget to personnel-related costs, potentially constraining program spending. The impact of such an expansion on an agency's budget (and indirectly on the overall deficit) would depend partly on the extent to which the agency already records retirement-related expenses on an accrual basis and partly on methodological decisions about how to measure and record the cost of existing liabilities. For example, besides paying the accrual cost of FERS benefits being earned by current employees, civilian agencies could make intragovernmental accrual payments to cover the future cost of retirees' health care benefits. Likewise, DoD could make intragovernmental accrual payments to cover the cost of health care benefits for military retirees not yet eligible for Medicare.[8]

In 2017, CBO analyzed the budgetary effects of replacing the military's TRICARE program with private insurance and using payments based on accrual measures to cover the cost of health care benefits for working-age military retirees and their families.[9] CBO estimated that once the policy changes had been fully implemented, in 2031, accrual-based payments would total about $13.4 billion per year (in 2017 dollars), compared with cash outlays of $16.8 billion per year under TRICARE.[10] Thus, that option would reduce discretionary costs in the budget in 2031 by about $3.2 billion. Payments from the accrual fund for retirees would be considered mandatory spending and would amount to about $16 billion per year, CBO estimated.

Expanding the use of accrual payments to account more fully for the cost of future benefits would bring greater consistency to accounting for retirement and other deferred benefits and would enable agency managers to more readily compare the costs of current and deferred compensation. Although those accrual transactions would remain intragovernmental and would not directly affect the deficit, they might highlight the overall costs related to the federal workforce.

Using Accrual Measures Only for Purposes of Congressional Budget Enforcement

The Congress has created various rules and procedures intended to ensure that newly enacted legislation complies with its budgetary and fiscal goals. Lawmakers rely on estimates of the budgetary effects of legislative

7. When the Administration, in its 2003 budget request, proposed accruing retirement costs for federal employees, it also proposed increasing agencies' budget authority to cover the newly recognized expense. Otherwise, agencies would need to cut spending for other discretionary expenses or reduce employment to pay the increased accrual charges. See Congressional Budget Office, *The President's Proposal to Accrue Retirement Costs for Federal Employees* (June 2002), www.cbo.gov/publication/13806.

8. In 2015, a commission proposed that the costs of non-Medicare-eligible military retirees be accrued in DoD's budget. See Alphonso Maldon Jr. and others, *Final Report of the Military Compensation and Retirement Modernization Commission* (January 2015), pp. 117 and 261–262, https://tinyurl.com/yy6mckjp (PDF, 6.9 MB).

9. Assessing the budgetary effects of major programmatic changes while also making accounting changes could be confusing for policymakers, unless analysts separately estimated the effects of changes under cash and accrual accounting, as CBO did. See Congressional Budget Office, *Approaches to Changing Military Health Care* (October 2017), pp. 32–33, www.cbo.gov/publication/53137.

10. In addition, discretionary spending for the Veterans Health Administration, the Federal Employees Health Benefits program, and the Coast Guard would rise by $0.2 billion.

proposals to determine whether those proposals would trigger statutory or legislative budget enforcement procedures. In some cases, for example, if enacted legislation exceeds budget limits, the Administration must order a sequestration cancelling budgetary resources for certain activities.

Lawmakers could use accrual estimates for federal retirement and veterans' benefits to enforce budget targets, while the budget continued to report the deficit effects of those benefits on a cash basis. That approach might improve policymakers' ability to base decisions about allocating resources on the underlying economic substance of policy options, and it would be less burdensome than adopting accrual estimates for those benefits in all aspects of federal budgeting and accounting.

However, having the Congress enforce its budget targets using one set of measures and the Administration execute statutory budget rules using a different set of measures could cause confusion and complicate communication between the two branches of government. That situation would create a disconnect between the numbers that the Congress uses in making decisions and the numbers that the Administration uses in presenting proposals and recording the effects of legislation. Such a difference could affect the use of sequestration for statutory budget enforcement. Although sequestrations have occurred only rarely, differences in estimates might affect both the overall size of the required reductions in federal spending and the distribution of those reductions among affected programs.

Providing Supplemental Estimates

Another option would be for estimators to provide lawmakers with supplemental information about the long-term effects of federal retirement and veterans' benefits, particularly when traditional 10-year cash-based estimates would offer incomplete or misleading information about the overall implications of policy changes. That supplemental information could take the form of either accrual estimates or long-term cash-based estimates.

CBO has on rare occasions developed cash-based estimates of the long-term cost of policies to change federal retirement systems. (Such estimates are often expressed not in nominal terms but as a percentage of gross domestic product.) Past examples have focused on the government's lifetime costs for new military personnel, the long-term budgetary effects of changing the military retirement system, and the long-term budgetary and personnel effects of modifying the pension system for federal civilian employees.[11] CBO could translate such long-term cash-based estimates into accrual estimates, as it did for the cohort of new civilian employees starting in 2018.[12]

Such information could encourage lawmakers to take a long-term view in crafting policies related to federal retirement and veterans' benefits and might help address biases toward proposals that have front-loaded savings or back-loaded costs. However, updating and maintaining the models needed to support those kinds of analyses would require substantial time and other resources. The other options discussed above would require similar or greater efforts.

11. See, for example, Congressional Budget Office, cost estimate for S. 1376, the National Defense Authorization Act for Fiscal Year 2016 (June 3, 2015), pp. 3, 15–23, and 34, www.cbo.gov/publication/50266, and *Options for Changing the Retirement System for Federal Civilian Workers* (August 2017), www.cbo.gov/publication/53003.

12. See Congressional Budget Office, *Options for Changing the Retirement System for Federal Civilian Workers* (August 2017), www.cbo.gov/publication/53003.

List of Tables and Figures

Tables

1-1. CBO's May 2019 Baseline Budget Projections for Federal Retirement and Veterans' Benefits, Adjusted to Exclude the Effects of Timing Shifts 12

2-1. Key Factors for Assessing the Budgetary Information That Accrual Measures Provide About Federal Retirement and Veterans' Benefits 17

2-2. The Government's Liabilities for Federal Retirement and Veterans' Benefits as of September 30, 2018 18

2-3. Change in the Government's Liabilities for Federal Pensions in 2018 23

2-4. Change in the Government's Liabilities for Federal Retirement Benefits From 2009 to 2018 24

Figures

1-1. Current Budgetary Treatment of Federal Retirement and Veterans' Benefits 8

1-2. Current Budgetary Treatment of the Thrift Savings Plan 9

1-3. Current Budgetary Treatment of Federal Retirement Costs 10

3-1. Potential Accrual Budgetary Treatment of Federal Retirement Costs 36

About This Document

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

Megan Carroll and David Torregrosa wrote the report, with contributions from Justin Falk, Michael Falkenheim, and Nadia Karamcheva and with guidance from Sebastien Gay and Damien Moore (formerly of CBO). Elizabeth Bass, Ann Futrell, Heidi Golding, Kate Kelly, Wendy Kiska, Avi Lerner, Amber Marcellino, Carla Tighe Murray (formerly of CBO), David Newman, Sam Papenfuss, Jeffrey Perry, David Rafferty, Dawn Sauter Regan, Matt Schmitt, Logan Smith, Rebecca Verreau, and Christopher Williams of CBO provided useful comments on various drafts of the report.

Helpful comments were also provided by Marcia Carlsen, Susan Irving, Joe Silvestri, Frank Todisco, and Melissa Wolf of the Government Accountability Office; Grant Driessen of the Congressional Research Service; Deborah J. Lucas of the Massachusetts Institute of Technology (a consultant to CBO); Delphine Moretti of the Organisation for Economic Co-operation and Development; and Allen Schick of the University of Maryland. The assistance of external reviewers implies no responsibility for the final product, which rests solely with CBO.

Wendy Edelberg, Mark Hadley, Jeffrey Kling, and Robert Sunshine reviewed the report; Christian Howlett edited it; and Jorge Salazar prepared it for publication. An electronic version is available on CBO's website (www.cbo.gov/publication/55499).

CBO continually seeks feedback to make its work as useful as possible. Please send any comments to communications@cbo.gov.

Phillip L. Swagel
Director
September 2019