

# CBO

## Measuring the Costs of Federal Insurance Programs: Cash or Accrual?



## At a Glance

Some federal insurance programs have long-term effects on the budget. But the federal budget process typically uses cash-based measures that cover a 10-year period, which may be too short to accurately show some programs' expected net effects over the long term. This report analyzes how using accrual accounting for such programs might differ from the current cash-based treatment.

- Accrual measures accelerate the recognition of long-term costs and any offsetting income. Thus, they could clearly display the expected net costs of the new insurance commitments that the government makes each year at the point when those commitments are most controllable. That clearer display could allow for more meaningful comparisons of the costs of competing programs and a greater focus on risk when setting prices and reserve requirements.
- Accrual measures can avoid the timing-related distortions that sometimes result from cash estimates—particularly when a significant share of a program's cash flows are expected to occur outside the 10-year budget window or when there is a mismatch in the timing of receipts and expenditures.
- Accrual measures can more easily incorporate the market risk that the government is exposed to from some federal insurance programs. (Market risk is the element of financial risk that is correlated with overall economic conditions and therefore cannot be eliminated by diversifying a portfolio.) For federal programs that face a significant amount of market risk, such as pension insurance and deposit insurance, accounting for that risk would result in more comprehensive estimates of federal costs.
- Accrual measures have several disadvantages, however. They are less transparent and verifiable than cash measures because they are more methodologically complex. They also have a wider range of uncertainty, are more subject to change, and would complicate budget reporting. Moreover, if accrual measures incorporated market risk, they would involve considerable analytical judgment and be harder to understand.
- For the Federal Deposit Insurance Corporation's resolutions of troubled financial firms (carried out through the deposit insurance program and the Orderly Liquidation Fund), cash measures for a given 10-year period may not be a good indicator of net costs during or after a financial crisis, when losses are large. Accrual measures would provide more accurate information about long-term costs.
- For federal flood insurance, 10-year cash estimates (particularly for the near term) may be dominated by costs resulting from past events. By clearly showing the net costs of the government's new insurance commitments, accrual measures might help to highlight structural imbalances in that program.
- For federal pension insurance, 10-year cash measures fail to convey the size of the imbalance between the resources of the Pension Benefit Guaranty Corporation and its liabilities for future claims. Accrual measures would provide a more accurate measure of the agency's long-term commitments.



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## Notes

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

Numbers may not add up to totals because of rounding.

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# Measuring the Costs of Federal Insurance Programs: Cash or Accrual?

## Summary

Some federal insurance programs have long-term effects on the budget, and policymakers need complete and accurate measures of those effects to make informed decisions about such programs. The cash-based measures that are used for most programs in the federal budget process generally focus on a 10-year period. However, that period may not be long enough to accurately indicate some insurance programs' expected net effects on the budget over the long term.

Accrual-based estimates, which consider long-term effects, can provide more complete information about some federal insurance programs. An accrual estimate summarizes, in a single number, the net budgetary impact that is anticipated at a particular time from a commitment that will affect federal cash flows many years into the future. Through such summarizing, accrual measures make it easier to compare the net costs of programs despite differences in the timing of their cash flows.

The Congressional Budget Office currently produces two main types of accrual estimates for a limited set of federal activities: estimates prepared using the methodology specified in the Federal Credit Reform Act of 1990 (FCRA), which applies to most federal credit programs, and estimates prepared on a fair-value basis. The difference between FCRA and fair-value estimates lies in the treatment of market risk—the element of financial risk that is correlated with overall economic conditions and thus that cannot be eliminated by diversifying a portfolio. In general, FCRA-based estimates account for the time value of money (the fact that a dollar today is worth more than a dollar at some future date because it can earn interest in the interim), but such estimates do not reflect the full extent of financial risk that the government assumes. Fair-value estimates approximate the market value of an obligation. As such, they account for the time value of money and incorporate market risk,

thereby providing a more comprehensive measure of expected costs.

This report looks at how an accrual treatment might differ from the current cash treatment for several federal insurance programs, including programs of the Federal Deposit Insurance Corporation (FDIC) to resolve troubled financial firms, flood insurance, and pension insurance.<sup>1</sup> Besides the fundamental choice between cash and accrual measures, this analysis highlights two separate issues that policymakers could consider about the information provided by those measures: whether the measures should reflect limits on the amount of budgetary resources that insurance programs have available to pay claims and whether those measures should reflect the government's exposure to market risk.

## What Are the Key Advantages and Disadvantages of Accrual Measures for Federal Insurance Programs?

Accrual measures, whether prepared on a FCRA or a fair-value basis, offer several advantages over cash measures for federal insurance programs:

- Accrual measures accelerate the recognition of long-term costs and could clearly display the net costs of the new insurance commitments that the government makes each year at the point when they are most controllable. By focusing on the net costs of new commitments and accounting for the time value of money, accrual estimates could help policymakers make more meaningful comparisons of the costs of competing programs that differ in the timing of their cash flows.

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1. For more information about the current and potential uses of cash and accrual measures in the budget as a whole, see Congressional Budget Office, *Cash and Accrual Measures in Federal Budgeting* (January 2018), [www.cbo.gov/publication/53461](http://www.cbo.gov/publication/53461).

- Accrual measures would avoid mixing the costs of new and existing insurance commitments and thus could help to identify whether a program's costs are rising or falling over time.
- Accrual measures summarize long-term net costs; that information could lead to a greater focus on risk when setting prices and reserve requirements in programs that insure against potentially large losses that have a small probability of occurring.
- Accrual measures can more readily incorporate market risk, using fair-value methods, than cash measures can.
- Accrual measures make it harder to alter estimates of the budget deficit by shifting the timing of federal payments or receipts without actually changing the inflation-adjusted value of those cash flows.

Accrual measures have several disadvantages, however:

- Accrual measures are less transparent and verifiable than cash measures because they are more methodologically complex.
- Accrual measures require judgments about appropriate methodology that could spark disagreements among analysts and policymakers, such as about what time horizon to cover and whether a federal commitment is certain enough to include in accrual estimates.
- Accrual estimates have a wider range of uncertainty and are more subject to change than cash-based estimates.
- Moving from cash to accrual measures in the budget would widen the difference that generally exists between the reported budget deficit and the actual change in outstanding federal debt in a given year. Such a change would also complicate budget reporting.

### How Does CBO Assess Information Provided by Cash and Accrual Measures?

CBO uses three criteria to assess the trade-offs between accrual measures and the 10-year cash measures now

used for insurance programs in the federal budget process:<sup>2</sup>

- **Do accrual measures convey more complete and relevant information about a program's budgetary effects?** One key advantage of accrual measures is their ability to avoid timing-related distortions—particularly when a significant share of a program's cash flows are expected to occur outside the 10-year budget window or when the timing of cash inflows and outflows does not coincide.
- **Can a program's underlying long-term cash flows be projected and discounted with enough accuracy and practicality to allow accrual measures to be used reliably in the budget process?** All estimating is uncertain, but projecting insurance-related costs can be particularly challenging regardless of the basis of accounting used.
- **Is the nature of the government's commitment to provide future resources firm enough to justify recording future cash flows before they occur?** Accrual measures may be most useful for commitments that are legally binding or otherwise firm and that do not require further Congressional action to ensure that programs have enough resources to pay claims.

### Why Might Accrual Estimates for Federal Insurance Programs Include Market Risk?

Federal insurance programs expose the government to market risk if their claims are likely to be higher (or their income lower) than usual when the economy as a whole is performing poorly. For programs that face a significant amount of market risk, such as pension and deposit insurance, accounting for that risk would result in more comprehensive estimates of federal costs. However, including market risk might involve considerable analytical judgment and would cause those estimates to be more difficult to understand.

2. In this report, references to "accrual measures" apply to both FCRA-based and fair-value estimates unless specified otherwise. In the federal budget, fair-value measures are generally a subset of accrual measures; see Congressional Budget Office, *Cash and Accrual Measures in Federal Budgeting* (January 2018), p. 8, Figure 1, [www.cbo.gov/publication/53461](http://www.cbo.gov/publication/53461).

### How Might Accrual Measures Be Useful for Certain Federal Insurance Programs?

Relative to 10-year cash estimates, accrual measures may be particularly useful for some insurance programs:

- For the FDIC’s resolutions of troubled financial firms, carried out through the Orderly Liquidation Fund (OLF) and the Deposit Insurance Fund (DIF), annual cash flows may not be a good indicator of the net costs of a given year’s transactions—especially during or after a financial crisis, when losses are large. For any particular year or 10-year period, a snapshot of cash flows may not capture all of the up-front costs of resolving troubled institutions (if those resolutions occurred before the projection period) or all of the offsetting income from fees assessed on the financial industry (particularly if those receipts are expected to occur after the projection period). Accrual measures would largely eliminate timing-related distortions for resolution activities and, if calculated on a fair-value basis, would provide a more complete estimate of expected costs. Alternatively, some of the drawbacks of cash measures for OLF and DIF could be lessened by keeping the cash budgetary treatment of losses and income but excluding transactions that involve working capital from estimates of the budget deficit.<sup>3</sup>
- For federal flood insurance, 10-year cash estimates may be dominated (particularly in the near term) by costs that stem from past events. By focusing instead on expected losses and income related to the insurance commitments made during a given period, accrual measures might help to highlight the program’s structural imbalances. In addition, CBO’s current projections reflect legal constraints on the amount of budgetary resources that the program has available to pay claims and other expenses—and thus may understate the full amount due to policyholders. Projections that did not reflect resource constraints, whether prepared on a cash or an accrual basis, would provide more information about the full extent of programs’ costs.
- For the Pension Benefit Guaranty Corporation (PBGC), 10-year cash measures fail to convey the size of the imbalance between the agency’s resources and

its liabilities for future claims. Because of the long timing lags that typically occur between inflows and outflows in PBGC’s pension insurance programs, cash-based projections currently show net savings from those programs. Accrual measures would present a more accurate measure of PBGC’s long-term commitments.

### How Could the Government Increase the Use of Accrual Measures in the Budget Process?

A range of options exist for expanding the use of accrual measures for federal insurance programs. In all cases, policymakers would need to determine how such measures would factor into the framework of statutory requirements and Congressional rules that make up the federal budget process.<sup>4</sup>

- Shifting fully to an accrual-based treatment for some insurance programs in the federal budget would change how those programs affect the budget and potentially alter how statutory mechanisms to enforce budget targets—namely, required cuts to budgetary resources—would affect different programs. Such measures would provide the most additional information for decisionmaking. However, such a change would require new account structures and periodic revisions to estimates.
- Using accrual measures only for enforcing Congressional budget rules, but not in the budget itself, would be less burdensome. Employing such measures in legislative cost estimates might be helpful for decisions about the allocation of resources, but it would create an inconsistency between the estimates used by the Congress and those used by the Administration.
- Using accrual measures as supplemental information, without changing budget enforcement procedures or budget execution, would be the least disruptive option but would give accrual estimates less prominence in Congressional deliberations.

3. “Working capital” refers to that portion of up-front spending used to acquire assets of insolvent institutions that is expected to be offset in future years by receipts from the sale of those assets.

4. For an overview of that process, including information on the mechanisms that lawmakers and the Administration use to enforce budgetary goals, see Congressional Budget Office, *Cash and Accrual Measures in Federal Budgeting* (January 2018), Box 1, pp. 4–5, [www.cbo.gov/publication/53461](http://www.cbo.gov/publication/53461).

## Measures of the Cost of Federal Insurance Programs

The federal government offers insurance against a range of risks, including floods, crop failures, terrorist attacks, and failures of financial institutions and private-sector pension plans.<sup>5</sup> In many cases, those insurance programs were created to cover risks for which private-sector insurance was limited or nonexistent. As with most federal activities, the effects of insurance programs on the federal budget are recorded on a cash basis. In other words, an insurance program's net impact on the budget deficit is generally calculated as the difference between its cash inflows (from premiums, fees, and other income) and its cash outflows (primarily to pay claims for covered losses) in a given year.<sup>6</sup>

Recognizing the full cost of decisions up front is a key pillar of informed budgeting. To make well-informed choices about federal insurance programs, policymakers need accurate measures of the extent to which a program's income is expected to cover the costs stemming from the risk assumed by the government. In the federal budget process, however, legislative decisions are based mainly on cash estimates of how activities would affect the deficit over 10 years. That period may not be long enough to cover the full extent of budgetary effects attributable to some insurance programs.

For programs that involve long lags between when commitments are made and when the resulting inflows and outflows of cash occur, 10-year cash estimates may reflect only a truncated portion of the anticipated effects and might provide incomplete information about net costs. That problem may be exacerbated for programs in which the timing of cash inflows does not coincide closely with the timing of outflows.

In such cases, accrual measures that summarize anticipated cash flows over many years in net-present-value terms may help to highlight potential fiscal imbalances

and options for addressing them.<sup>7</sup> Accrual estimates translate 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 a single equivalent amount at a given point in time.<sup>8</sup> Accrual measures are currently used in the federal budget for a limited set of activities—mainly for 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.<sup>9</sup>

To develop accrual estimates, analysts start by projecting the stream of cash flows expected to result from a particular activity under current law. In making such projections for a federal insurance program, CBO considers the magnitude of potential losses, the probability that losses of various sizes will occur, the likelihood of subsequent recoveries on anticipated claims, and projected income

5. This analysis does not include the government's social insurance and health insurance programs (such as Social Security, Medicare, and unemployment insurance). For a more detailed list of federal insurance programs, see Government Accountability Office, *Catalogue of Federal Insurance Activities*, GAO-05-265R (March 4, 2005), [www.gao.gov/products/A18878](http://www.gao.gov/products/A18878).

6. In some cases, estimates of insurance programs' net impact on the budget deficit take into account the programs' indirect effects on other federal cash flows, such as revenues from payroll and income taxes.

7. See Marvin Phaup and David F. Torregrosa, "Budgeting for Contingent Losses," in Roy T. Meyers, ed., *Handbook of Government Budgeting* (Jossey-Bass Publishers, 1999), pp. 699–719; 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), [www.gao.gov/products/GAO-08-206](http://www.gao.gov/products/GAO-08-206).

8. A present value depends on the rate of interest (known as the discount rate) that is used to translate past or 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.

9. In the past, policymakers have considered adopting FCRA-like accrual-based measures for federal insurance programs and similar activities for which 10-year cash estimates may provide incomplete information. Although FCRA explicitly excluded insurance from its noncash treatment, it required that CBO and the Office of Management and Budget study the issue. In 1993, the Administration proposed switching to accrual budgeting for deposit and pension insurance; see Office of Management and Budget, *Budget of the U.S. Government, Fiscal Year 1993* (January 1992), pp. 261–262, 273–277, <https://tinyurl.com/ychhrt5c> (PDF, 25 MB). The Comprehensive Budget Process Reform Act of 1999 proposed an accrual treatment for the cost of federal insurance programs modeled on FCRA accounting. More recently, the House Budget Committee proposed using fair-value accrual budgeting for federal insurance programs; see House Committee on the Budget, *Proposed Rewrite of the Congressional Budget Process* (discussion draft, November 30, 2016), p. 22, <https://tinyurl.com/y8jtmck9> (PDF, 429 KB).

from fees, premiums, or other collections that would offset the program's costs.

For programs that typically experience a high volume of cash flows (such as crop, flood, deposit, and pension insurance), historical net costs offer some guidance. For programs whose cash flows stem from events that have a small chance of occurring—such as terrorism insurance and the Orderly Liquidation Fund—CBO creates a wide range of scenarios with different frequencies and magnitudes of possible losses (including potentially catastrophic losses with a very small likelihood of occurring) and then calculates a weighted average of the outcomes of the scenarios, accounting for the estimated probability of each scenario. The resulting cash-based projections of net costs represent expected values based on those weighted averages. For all insurance programs, projections reflect anticipated cash flows in the years when those flows are expected to occur, taking into account each program's unique features and statutory framework.

To translate such cash projections into accrual estimates, analysts would calculate the present value of the stream of cash flows by discounting each amount to current dollars and summing the results. Thus, both cash and accrual measures rely on a similar set of underlying projections of cash flows. However, those projections may differ in two key respects—the length of time they cover and the treatment of past events:

- For cash estimates used in the Congressional budget process, the projection period is generally limited to 10 years. When developing accrual estimates, by contrast, analysts would project cash flows over the entire period in which those flows were expected to occur (such as the remaining lifetime of a federally insured pension plan) to the extent practicable.
- Cash-based projections of net costs for a given period often include residual cash flows that stem from events that have already occurred. The accrual measures currently used in the federal budget process, by contrast, separate budgetary effects related to past events from those related to events expected to occur in the future.

The two types of accrual measures that CBO typically prepares for federal credit programs—FCRA and fair-value estimates—are net-present-value measures that correct for the timing-related problems that cash measures

pose. But the two types of accrual measures differ in their treatment of market risk by using different discount rates to translate future cash flows into present values. In general, FCRA-based estimates use as a discount rate the government's borrowing cost over a given period (the interest rate on Treasury securities that mature in that amount of time).<sup>10</sup> Fair-value measures seek to use or estimate market values that incorporate the cost of market risk, generally by using the same discount rate on expected future cash flows that private financial institutions would use, in CBO's judgment. Thus, whereas FCRA-based estimates merely adjust future projections for the time value of money, fair-value estimates reflect more comprehensive assessments of the cost of financial risk that the government assumes. As a result, fair-value estimates will usually show higher costs or lower savings for federal insurance programs than FCRA estimates will.

### **Advantages and Disadvantages of Accrual Measures for Federal Insurance Programs**

In considering whether to switch from cash to accrual measures, policymakers would need to determine whether accrual estimates, on balance, offer enough additional useful information to warrant their added complexity and whether they should incorporate the cost of market risk. Policymakers also would need to consider how to incorporate such measures into the existing framework of statutory and procedural rules for budget enforcement.

Using accrual measures for insurance programs could help policymakers more directly compare alternative means of providing federal assistance and more fully

10. Some analysts have examined the idea of having the budget reflect the difference between what the government charges for insurance and what an actuarially sound premium would be when the insurance was issued. Under that approach, if the actuarially sound premium would be \$100 but the government charged \$90, the budget would report a cost of \$10. Such an approach is similar to the subsidy cost reported for federal credit programs. See the testimony of Susan J. Irving, Associate Director, Budget Issues, General Accounting Office (now the Government Accountability Office), before the Budget Task Force of the House Committee on the Budget, *Budget Issues: Budgeting for Federal Insurance Programs*, AIMD-98-147 (April 23, 1998), [www.gao.gov/products/T-AIMD-98-147](http://www.gao.gov/products/T-AIMD-98-147); and General Accounting Office, *Budget Issues: Budgeting for Federal Insurance Programs*, GAO/AIMD-97-16 (September 1997), [www.gao.gov/products/AIMD-97-16](http://www.gao.gov/products/AIMD-97-16).

assess trade-offs within the budget. Such measures offer several other potential advantages:

- Accrual measures would recognize the cost of decisions up front and account for the time value of money, thus providing a clear display of net costs for each year of new insurance commitments and better illuminating whether a program's income is expected to cover its costs.
- Accrual measures would avoid mixing the costs of new and existing insurance commitments, which occurs with cash measures. Thus, accrual estimates could help to identify whether a program's costs are rising or falling over time.
- Accrual measures might lead to a greater focus on risk when determining prices for federal insurance and when setting reserve requirements in programs whose costs are driven by large but infrequent losses. For some federal insurance programs, the link between premiums and expected costs (losses, administrative costs, and risk premiums) is not as strong as in the private sector.<sup>11</sup> As a result, the average premiums set by those programs are frequently lower than what a private firm would charge. Greater use of fully risk-based pricing for federal insurance might provide more opportunities for private insurers to compete with federal programs. It would also eliminate the budgetary disincentive for federal insurance programs to reinsure risks by purchasing coverage from private reinsurers, whose premiums are more expensive than the charges currently reflected in federal insurance programs.<sup>12</sup> Such changes would reduce the government's risk of losses.
- Accrual measures prepared on a fair-value basis can more readily indicate the cost of market risk than

cash measures can.<sup>13</sup> Including the cost of market risk would be particularly informative for programs that insure against risks that are highly correlated with changes in the prices of stocks and securities and the state of the economy, such as pension and deposit insurance.

- Accrual measures make it harder to affect estimates of the budget deficit by shifting the timing of payments or receipts without actually changing the inflation-adjusted value of those cash flows. Federal crop insurance, for example, is sometimes a target for legislative proposals intended to produce near-term budgetary savings simply by shifting the timing of certain payments into the following fiscal year.<sup>14</sup> Accrual accounting would report little or no savings from such proposals.

Using accrual measures for federal insurance programs would have some drawbacks, however:

- Accrual estimates are more complex to produce than cash estimates and involve judgments—about

11. The risk premium is the additional compensation that insurers and other investors require for bearing market risk. They expect to earn returns that are higher than Treasury interest rates as a reward for the risk they bear.

12. Despite the additional budgetary cost, the National Flood Insurance Program recently started purchasing reinsurance (insurance for insurers), which covered \$1 billion of losses from Hurricane Harvey in 2017. The amount of the premiums charged for that reinsurance provides market-based information about expected costs that could be used to help set premiums for federal flood insurance.

13. Cash-based estimates of federal insurance programs could also incorporate the cost of market risk, as illustrated by the concept of "certainty equivalent" cash flows. A certainty-equivalent cash flow (also known as a "risk-neutral cash flow") is the certain amount that an investor would willingly exchange for the uncertain cash flow of a risky asset. Certainty-equivalent cash costs, such as those associated with payments of insurance claims, tend to be higher than the statistical mean of cash costs because of market risk. Certainty equivalence offers an alternative way to summarize a set of possible cash flows at a point in time as a single number. A useful way to estimate certainty-equivalent cash flows is the options-pricing approach. For an example of that approach applied to federal insurance programs, see Michael Falkenheim and George Pennacchi, "The Cost of Deposit Insurance for Privately Held Banks: A Market Comparable Approach," *Journal of Financial Services Research*, vol. 24, no. 2/3 (October 2003), pp. 121–148, <https://doi.org/10.1023/B:FINA.0000003320.95646.5f>.

14. An example of such a change was a provision in the Food, Conservation, and Energy Act of 2008 (Public Law 110-246) that modified the crop insurance program to effectively delay federal payments for insured losses and other expenses until the fiscal year after farmers' premiums were collected. That change created near-term savings of \$2.8 billion by shifting one year's worth of payments beyond the 10-year period covered by the cost estimate for the legislation. See Congressional Budget Office, cost estimate for S. 2302, the Food and Energy Security Act of 2007 (November 1, 2007), [www.cbo.gov/publication/19296](http://www.cbo.gov/publication/19296), and cost estimate for H.R. 2419, the Food, Conservation, and Energy Act of 2008 (May 13, 2008), [www.cbo.gov/publication/41696](http://www.cbo.gov/publication/41696).

appropriate methodology, the time horizon, and the firmness of federal commitments—that might be the subject of disagreement among analysts and policymakers.

- Accrual measures, like other present-value estimates, are sensitive to the choice of discount rates used and are potentially harder for policymakers and the public to understand than cash estimates. Thus, explaining the meaning of accrual estimates can be challenging.
- Accrual estimates generally have a wider range of uncertainty than cash estimates because they cover longer time frames and rely on the technical assumptions used to discount the value of future cash flows.<sup>15</sup> Thus, accrual estimates are typically subject to larger revisions from year to year than cash estimates. As a result, if accrual measures of insurance costs were used in the budget, changes in the projected deficit to reflect those revisions could be greater (particularly if market risk was included).
- If used in the budget, accrual measures for insurance programs would widen the gap that typically exists between the budget deficit reported for a given year and the change in outstanding federal debt—as the accrual estimates used for federal credit programs do.<sup>16</sup> As a result, accrual measures would diminish the budget’s usefulness as an indicator of changes in federal debt held by the public. They would also pose significant challenges during the transition to their use, such as the need to establish new budget

accounts to reconcile accrual estimates with actual cash flows and the need to decide how to report the costs of existing insurance commitments.

### Assessing the Information That Cash and Accrual Measures Provide About Insurance Programs

Do the 10-year cash measures used for insurance programs in the federal budget process provide appropriate information? The key issues for answering that question are whether cash measures accurately indicate whether a federal activity involves net costs or savings and whether such measures provide a reasonable sense of the size of an activity’s total budgetary effects (see Figure 1). When cash-based estimates provide misleading information, the main reasons are generally that budgetary effects extend over many years and that the 10-year budget window is truncating those effects.

In cases in which cash-based measures have shortcomings, accrual-based measures might provide useful information, but they would also present trade-offs. In such cases, key considerations for policymakers include the following:

- Do accrual measures convey more complete and relevant information about a program’s overall budgetary effects?
- Are accrual measures practical enough to be worth developing and reliable enough to be used 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 to Understanding Overall Budgetary Effects

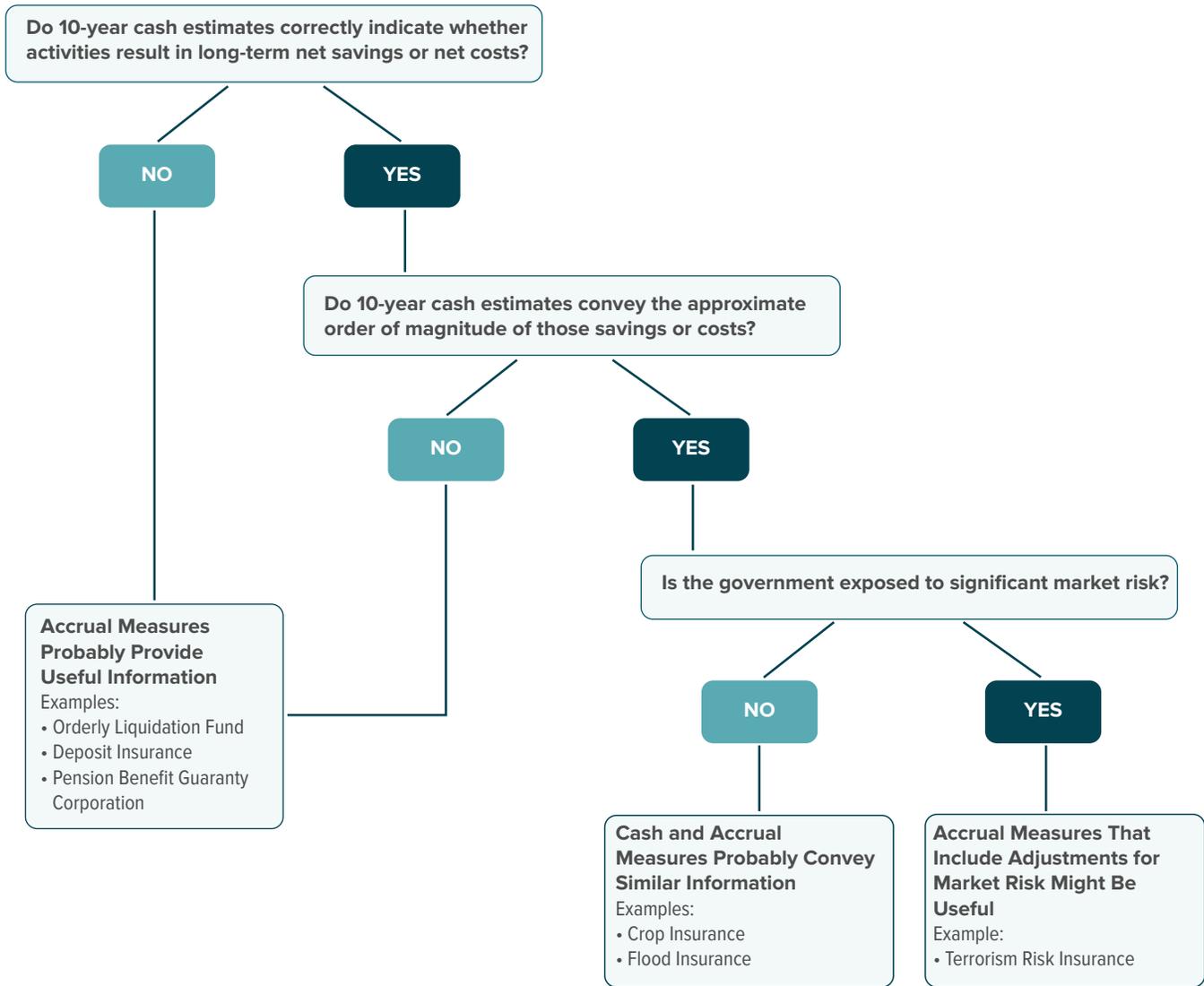
Accrual measures are most relevant for insurance programs that involve long lags between the timing of federal commitments and the timing of the resulting cash flows. The limitations of 10-year cash estimates for such activities were evident with the Community Living Assistance Services and Supports (CLASS) program, which was proposed in the 2010 Patient Protection and Affordable Care Act. That voluntary program would have offered federal long-term care insurance to employed people age 18 or older. In contrast to most health insurance, in which participants pay premiums and receive

15. As an example of that wider range of uncertainty, CBO projected the likely range of net claims on PBGC’s multiemployer pension insurance program over the 2017–2036 period as \$10 billion to \$44 billion (with a mean of \$36 billion) on a cash basis, compared with \$31 billion to \$157 billion (with a mean of \$101 billion) on a fair-value accrual basis. See Congressional Budget Office, *Options to Improve the Financial Condition of the Pension Benefit Guaranty Corporation’s Multiemployer Program* (August 2016), p. 29, [www.cbo.gov/publication/51536](http://www.cbo.gov/publication/51536).

16. The net amount that the Treasury borrows by selling securities is determined mainly by the annual budget deficit. But other factors that are not directly included in budget totals also affect the government’s need to borrow from the public. Those factors include the cash flows associated with federal credit programs, because budget totals reflect only present-value estimates of the federal subsidy costs of those programs, not their cash flows. See Congressional Budget Office, *The Budget and Economic Outlook: 2018 to 2028* (April 2018), pp. 87–88, [www.cbo.gov/publication/53651](http://www.cbo.gov/publication/53651).

Figure 1.

**Cash and Accrual Measures for Federal Insurance Programs: Weighing the Decision Factors**



Source: Congressional Budget Office.

Market risk is the element of financial risk that investors cannot protect themselves against by diversifying their portfolios. It results from shifts in macroeconomic conditions, such as productivity and employment, and from changes in expectations about future macroeconomic conditions. Federal insurance programs expose the government to market risk if they incur more claims or receive less income when the economy as a whole is performing poorly.

coverage on an annual basis, CLASS participants were to pay premiums over the duration of the policy to cover health care costs that would probably be incurred far in the future. Premiums were to be credited to an interest-bearing trust fund and adjusted, as necessary, so that balances in the fund (including intragovernmental transfers of interest earned on federal securities held by

the fund) would be sufficient to keep the program in actuarial balance over a 75-year period.<sup>17</sup> The program

17. Actuarial balance means that expected income (in this case, insurance premiums and intragovernmental interest) would equal or exceed expected costs (cash payments for future benefits and the administrative costs of running the program).

was never implemented because of concerns about its sustainability.

On the required cash basis, CBO estimated that premiums collected in the program's early years would more than offset costs in those years, producing net savings over the 10-year budget horizon.<sup>18</sup> By contrast, an accrual estimate, prepared on either a FCRA or a fair-value basis, would have presented more complete information and would not have shown savings.

The extent of timing lags in existing federal insurance programs varies:

- For resolutions of troubled financial institutions through the Orderly Liquidation Fund, timing lags have two sources: Cash measures can include large initial outlays for resolution activities that will be partly offset by later recoveries from asset sales. In addition, assessments imposed on healthy financial institutions to recover OLF's losses occur after initial resolution activities and thus may not be completely accounted for in 10-year cash projections.
- For deposit insurance, timing lags generally have significant budgetary effects only during and after a financial crisis, when the time needed to resolve bank failures is usually longer than under normal economic conditions. During such a crisis, cash transactions can include large initial outlays to pay deposit insurance claims, which are followed later by recoveries from asset sales and by additional income from assessments on solvent banks.
- For flood and crop insurance, in which claims are typically resolved within a few years of a covered flood or crop failure, 10-year cash measures capture

most of the budgetary effects expected to occur over the budget horizon.

- For terrorism insurance offered under the Terrorism Risk Insurance Act (TRIA), which has moderate timing lags, annual cash and accrual measures may diverge. However, 10-year cash measures probably convey the approximate size of anticipated long-term budgetary effects.
- For pension insurance, which has long timing lags, 10-year cash measures provide misleading and incomplete information about long-term costs because they fail to reflect the significant portion of cash flows that are expected to occur after the 10-year budget window. For example, more than 20 years may be needed to realize the full costs of resolving or providing financial assistance to a distressed or terminated private pension plan.

Even when timing lags are not significant, accrual measures may give a more complete indication of whether new insurance commitments made in a given year are expected to result in net costs or savings. Cash projections, particularly for the near term, may be dominated by transactions that result from past events, making it difficult to assess the net effects of new commitments.

### Practicality and Reliability

Accrual measures are standard in financial accounting in the private sector and much of the public sector worldwide, but they are more methodologically complex than cash measures. Policymakers might want to consider whether such measures are useful enough for the federal budget to be worth the added difficulty to develop. For many programs, cash estimates already incorporate most of the information needed to produce accrual estimates, but accrual estimates may be more practical to produce for some programs than for others.

**Tracking Cohorts 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. FCRA prescribes an accounting treatment for credit programs that relies on identifying and tracking discrete cohorts of commitments. (A credit cohort consists of all the loans or loan guarantees that a program obligates in a given fiscal year.) Analysts prepare

18. CBO estimated that the difference between premiums and costs in the initial years of the CLASS program would result in net savings of \$70 billion. (No benefits were to be paid out in the first 5 years of the program.) That amount helped to reduce CBO's estimate of the overall net cost of the Affordable Care Act. CBO also reported that the CLASS program would increase budget deficits in later decades by far more than the savings in the first 10 years. See Congressional Budget Office, letter to the Honorable Tom Harkin providing additional information on CLASS program proposals (November 25, 2009), [www.cbo.gov/publication/41833](http://www.cbo.gov/publication/41833).

initial estimates of the net costs attributable to a particular cohort for the year when that cohort's commitments are made. In later years, analysts track cash flows stemming from each cohort's commitments and, as necessary, produce revised estimates for each cohort to account for differences between expected and actual results.<sup>19</sup>

Under FCRA, if a cohort's estimated costs turn out to be larger than initially expected, additional budgetary resources are automatically provided, without further legislation, to cover them. Conversely, if costs end up being smaller than expected, some of the funding originally obligated to cover anticipated costs is credited back to the Treasury as a receipt. Thus, accounting for and executing credit programs on a cohort basis ensures that the budgetary resources for a given cohort are aligned with the estimated costs of those credit commitments. However, that practice relies on a more complicated accounting structure than may be feasible for some federal insurance programs.

Similar distinctions between cohorts of commitments could probably be made for insurance programs. Analysts would begin by defining the cohort as a set of commitments that occur over a particular period—such as a fiscal year—and then estimate the full extent of budgetary effects attributable to that cohort. That approach would ensure a proper alignment between costs stemming from the risk assumed for a given cohort and income from premiums or other fees charged to offset the expected costs for that cohort.

Defining cohorts and the relevant time horizon might be more practical for some insurance programs than for others and would require judgment. For example, a cohort style of accounting might be most feasible for programs (such as flood and crop insurance) that have specific, contractually governed, time-limited commitments and a direct connection between the coverage sold and the premiums charged for that coverage. For programs (such as TRIA and OLF) whose costs are driven by infrequent

and readily identifiable events and recovered through compulsory fees assessed after those events, the events themselves could effectively define cohorts. For programs (such as pension and deposit insurance) that have open-ended commitments to provide benefits in case of certain events, it would be possible to determine an appropriate definition of a cohort, but judgment might be needed to decide among alternative approaches.

If insurance cohorts were readily identified and tracked over time, analysts could develop forward-looking projections of budgetary effects that would summarize, in net-present-value terms, the lifetime costs stemming from risk that the government assumed over a specific period or from proposed changes to the scope of the government's risk exposure. Such projections might help policymakers by offering more focused assessments of whether new commitments would be expected to involve net costs and, if so, how big those costs might be. For past commitments, however, tracking ongoing budgetary effects on a net-present-value basis and updating the initial estimates might be less practical because of the additional complexity.

**Accuracy of Estimates.** A related question that policymakers might want to consider is whether accrual measures are reliably accurate enough to be used for budget enforcement. For most federal insurance programs, the accuracy of budget projections has more to do with the quality of underlying estimates of expected losses than with whether the budget projections are presented on a cash or an accrual basis. In that sense, accrual and cash measures require some of the same information to project the anticipated cash flows that underlie budget projections and estimates of the net budgetary impact of proposed policy changes.

Whether cash or accrual estimates are used, insurance programs' ultimate realized costs will probably differ from projections because of the uncertainty surrounding the events that those programs insure against. Among the many challenges that analysts may face in producing estimates for federal insurance programs are lack of sufficient historical data, the uncertainty inherent in scenarios of future events and losses, and the uncertain effectiveness of methods to prevent or mitigate the risks covered by those programs. Historical costs offer some guidance, but they may be more helpful for projecting the expected net costs of programs (such as crop, flood, deposit, and pension insurance) that experience a high

19. The Administration's Office of Management and Budget is responsible for producing the revised estimates (called credit subsidy reestimates) and implementing all other budget execution procedures. Reestimates start once a cohort of commitments has been significantly disbursed and continue until all of the cohort's cash flows are complete. Reestimates are generally prepared on an annual basis. See Congressional Budget Office, *Credit Subsidy Reestimates, 1993–1999* (September 2000), [www.cbo.gov/publication/12645](http://www.cbo.gov/publication/12645).

volume of cash flows in a typical year than for programs (such as TRIA and OLF) whose cash flows are driven primarily by events with a very low probability of occurring. For all programs, however, atypical years of concentrated losses sometimes occur.

All told, actual cash flows will often vary significantly from projected amounts. Consequently, the resulting net budgetary effects of a program are likely to be greater or smaller than the expected value that CBO estimates for a given year.<sup>20</sup> Although that uncertainty applies to all estimates, accrual measures involve added uncertainty because they stretch farther into the future and rely on judgments about the interest rate used to discount future cash flows. For those reasons, some policymakers might question the validity of using accrual estimates for insurance programs to enforce Congressional and statutory targets for the federal budget.

### The Nature of the Government's Insurance Commitments

Another important consideration with accrual measures is whether the federal government's insurance-related commitments are sufficiently firm to justify accounting for cash flows that are expected to occur far in the future. Although they differ in various ways, all of the government's insurance commitments seem certain enough to include in budget projections and estimates.

Some commitments—such as those related to crop or flood insurance—involve explicit, contractual obligations with specified terms. In general, those contractual commitments are legally binding; once incurred, obligations to claimants are owed in full. Other insurance commitments—such as those related to the risk of terrorist attacks or the failure of banks, financial institutions, or private pension plans—are governed by laws and policies that spell out eligibility criteria and formulas for claims and benefits. Some analysts view those statutory commitments as less binding than commitments that are contractual obligations. (In the case of pension and

deposit insurance, judgment would also be required to determine the timing of the government's obligation: Does it occur when a loss is incurred or when the insurance is extended?)

Measuring the net cost of the government's insurance-related commitments is complicated if lawmakers control the amount of resources available to pay claims. Hence, in measuring the magnitude of budgetary effects, key factors to consider are the extent to which lawmakers retain control over future spending stemming from those commitments and whether the programs have sufficient resources, under current law, to pay all claims that arise. The means by which insurance claims are financed varies, but some programs—including crop insurance and TRIA—have access to unlimited amounts of budget authority to pay the full extent of claims. Other programs—such as deposit, flood, and pension insurance and OLF—face limits on the amount of budgetary resources that are legally available to pay claims. If such limits are reached, lawmakers have to decide whether to enact new legislation to enable the programs to continue to pay claims as they arise.<sup>21</sup>

Estimates prepared on either a cash or an accrual basis could differ depending on how they reflected such important factors as how large a program's claims could be, what would happen if resources were constrained, and how much it would cost to satisfy all of the program's commitments. For such a program, the Congress would need to consider whether the budget process should be based on accounting measures that reflect or ignore potential resource constraints. That choice involves trade-offs, particularly if analysts expect that the resource constraints could be reached under current law—as is now the case for flood and pension insurance. For those programs, estimates prepared on either a cash or an accrual basis might understate the full cost of insurance commitments if they reflected the limits on resources. Such estimates would indicate the amount of claims expected to be *paid* over a given

20. See the testimony of Douglas W. Elmendorf, Director, Congressional Budget Office, before the Subcommittee on Oversight and Investigations of the House Committee on Financial Services, *Review of CBO's Cost Estimate for the Dodd-Frank Wall Street Reform and Consumer Protection Act* (March 30, 2011), [www.cbo.gov/publication/22078](http://www.cbo.gov/publication/22078); and Congressional Budget Office, cost estimate for H.R. 4173, the Restoring American Financial Stability Act of 2010 (June 9, 2010), [www.cbo.gov/publication/21527](http://www.cbo.gov/publication/21527).

21. For example, after the flooding that accompanied Hurricane Katrina in 2005, lawmakers increased the National Flood Insurance Program's ability to borrow from the Treasury so that claims could be paid in a timely fashion. After Hurricanes Harvey, Irma, and Maria in 2017, lawmakers forgave about \$16 billion of the program's debt.

period, which might be less than the amount *owed* to policyholders.<sup>22</sup>

Currently, CBO's cash baseline budget projections and legislative cost estimates for most federal activities—including flood and pension insurance—reflect legal limits on agencies' authority to obligate federal resources.<sup>23</sup> The reason is that lawmakers can then apply Congressional budget enforcement mechanisms to new laws that would increase or decrease the amount of legally available resources. The Administration's Office of Management and Budget (OMB), by contrast, does not take resource constraints into account when producing baseline projections and cost estimates for pension and flood insurance.<sup>24</sup>

Some analysts argue that it is appropriate for estimates used in the budget process to reflect the amount of claims on federal insurance programs regardless of a program's resource constraints because those claims involve "implicit exposures"—an expectation that all commitments will eventually be met—particularly if lawmakers have enacted legislation in the past to enable agencies to pay claims that might otherwise have been delayed or not been paid.<sup>25</sup> Alternative measures that

ignore resource constraints, whether prepared on a cash or an accrual basis, might illuminate programs' fiscal imbalances more comprehensively. But compared with CBO's resource-constrained projections, they might imply a change in the nature of the federal obligation—specifically, by reflecting spending that might not result unless existing laws were changed. Thus, unconstrained measures, whether cash- or accrual-based, might prematurely recognize costs stemming from commitments whose fulfillment might be delayed (in the case of flood insurance) or that possibly might go unpaid (in the case of pension insurance).

### The Role of Market Risk in Federal Insurance Programs

Federal insurance programs expose the government to market risk if they incur more claims or receive less income when the economy as a whole is performing poorly. That risk is effectively passed along to taxpayers, who bear the consequences of the government's financial losses.

Market risk can be incorporated into either cash or accrual measures.<sup>26</sup> In practice, however, most adjustments for market risk in the federal budget have been made using accrual measures—specifically, fair-value estimates that attempt to use market prices to measure net costs to the public. Fair-value estimates generally discount expected future cash flows using the discount rates that private financial institutions would use.<sup>27</sup>

22. The federal balance sheet (part of an annual financial report by the Treasury) reports the unpaid claims on federal insurance programs related to foreseeable losses that have already been triggered by past events and claims related to losses that are likely to occur in the future, without regard to statutory limits on the resources available to pay claims. See Congressional Budget Office, *Measures of the U.S. Government's Fiscal Position Under Current Law* (August 2004), pp. 11–16, [www.cbo.gov/publication/15943](http://www.cbo.gov/publication/15943). Also see Federal Accounting Standards Advisory Board, *Statement of Federal Financial Accounting Standards 51: Insurance Programs* (January 18, 2017), [http://files.fasab.gov/pdf/files/handbook\\_sffas\\_51.pdf](http://files.fasab.gov/pdf/files/handbook_sffas_51.pdf) (658 KB).

23. Incorporating those limits into accrual measures could be problematic because the budgetary constraints are not based on cohorts, as accrual measures are. One possible method is to have the estimates show no costs once the budgetary resources are projected to be exhausted, which is how cash projections for those programs are prepared.

24. Neither CBO's nor OMB's estimates reflect constraints on the resources available for entitlement programs, such as those legally imposed by the balances of the trust funds for Medicare and Social Security.

25. For an analysis of explicit and implicit exposures, see Government Accountability Office, *Fiscal Exposures: Improving Cost Recognition in the Federal Budget*, GAO-14-28 (October 2013), [www.gao.gov/products/GAO-14-28](http://www.gao.gov/products/GAO-14-28).

26. For example, OMB and CBO make an adjustment for market risk when projecting the cash flows that the Railroad Retirement Board's National Railroad Retirement Investment Trust earns from investments in private securities. OMB and CBO make that adjustment to cash measures by projecting the trust's earnings using the interest rate on Treasury securities rather than the higher mean rate of return expected for the trust's assets. Adjusting for market risk has the advantage of avoiding the appearance that the budget could benefit if the government purchased risky private-sector securities. See Congressional Budget Office, *Evaluating and Accounting for Federal Investment in Corporate Stocks and Other Private Securities* (January 2003), pp. 19–24, [www.cbo.gov/publication/14245](http://www.cbo.gov/publication/14245).

27. The fair value of an asset is the price that would be paid for that asset in an orderly transaction (one that occurs under competitive market conditions between willing participants and that does not involve forced liquidation or a distressed sale). For an analysis of market risk and how it can be incorporated into cost estimates and baseline budget projections, see Congressional Budget Office, *How CBO Produces Fair-Value Estimates of Federal Credit Programs: A Primer* (July 2018), [www.cbo.gov/publication/53886](http://www.cbo.gov/publication/53886); and the testimony of Douglas

When market risk is present, those private discount rates are generally higher than interest rates on Treasury securities.<sup>28</sup>

Incorporating the cost of market risk would increase the estimated costs or reduce the estimated savings of federal insurance programs and would provide policymakers with more comprehensive information. That information could be particularly important for understanding the net costs of certain programs, such as those that insure against risks that are financial in nature:

- The Pension Benefit Guaranty Corporation is exposed to market risk because claims on its pension insurance programs are very sensitive to the performance of the economy.<sup>29</sup> Companies that offer pension plans are more likely to fail when the economy is doing poorly. In addition, the underfunding of pension plans is more likely to increase during economic downturns because the value of plans' stock portfolios is highly correlated with the state of the economy. During the most recent financial crisis, the deficit of PBGC's single-employer pension program (the difference between the program's assets and liabilities) increased from \$13 billion in 2007 to \$21 billion in 2009, and PBGC's net claims from terminated plans soared from about \$300 million in 2007 to \$6.8 billion in 2009.<sup>30</sup>
- The Federal Deposit Insurance Corporation's Orderly Liquidation Fund and deposit insurance program

are exposed to market risk because failures of financial institutions are concentrated in economic downturns. For instance, although no banks failed in 2005 or 2006 and only three failed in 2007, more than 300 failed between 2008 and 2010 (during the financial crisis), with estimated losses of about \$60 billion to the Deposit Insurance Fund.<sup>31</sup> Reporting the fair value of the costs of OLF and deposit insurance would result in higher estimates of federal subsidy costs, and that information might affect policy decisions about the pricing and scope of insurance coverage.<sup>32</sup>

The degree of market risk for other federal insurance programs varies. The TRIA program is exposed to some market risk because terrorist attacks could be large enough to disrupt the economy and reduce asset values.<sup>33</sup> Federal flood and crop insurance, however, expose taxpayers to relatively little market risk because their claims are not correlated with the state of the overall economy.

Incorporating market risk into estimates of federal costs raises some concerns and is controversial.<sup>34</sup> Some analysts dispute the degree to which market prices represent

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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), [www.cbo.gov/publication/45468](http://www.cbo.gov/publication/45468).

28. For a technical discussion of discounting for federal loan guarantees, which are similar in some respects to federal insurance, see Congressional Budget Office, *Estimating the Value of Subsidies for Federal Loans and Loan Guarantees* (August 2004), pp. 23–24, [www.cbo.gov/publication/15923](http://www.cbo.gov/publication/15923).
29. See Wendy Kiska, Jason Levine, and Damien Moore, *Modeling the Costs of the Pension Benefit Guaranty Corporation's Multiemployer Program*, Working Paper 2017-04 (Congressional Budget Office, June 2017), [www.cbo.gov/publication/52749](http://www.cbo.gov/publication/52749); as well as Congressional Budget Office, *Options to Improve the Financial Condition of the Pension Benefit Guaranty Corporation's Multiemployer Program* (August 2016), [www.cbo.gov/publication/51536](http://www.cbo.gov/publication/51536), and *The Risk Exposure of the Pension Benefit Guaranty Corporation* (September 2005), [www.cbo.gov/publication/17160](http://www.cbo.gov/publication/17160).
30. See Pension Benefit Guaranty Corporation, "2015 Pension Insurance Data Tables," Tables S-1 and S-3 (accessed March 19, 2018), <https://tinyurl.com/y96em8m6> (PDF, 572 KB).

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31. See Federal Deposit Insurance Corporation, "Statistics at a Glance: Historical Trends as of March 31, 2017" (accessed March 19, 2018), <https://tinyurl.com/yawsqesd> (PDF, 43 KB), and *2016 Annual Report* (February 2017), p. 148, <https://tinyurl.com/y8clumdd> (PDF, 3.5 MB).

32. For more information about the fair-value approach for deposit insurance, see Judy Ruud, *The Fair Value of the Federal Deposit Insurance Guarantee*, Working Paper 2007-13 (Congressional Budget Office, November 2007), [www.cbo.gov/publication/19355](http://www.cbo.gov/publication/19355).

33. See David Torregrosa, Perry Beider, and Susan Willie, *Federal Reinsurance for Terrorism Risk in 2015 and Beyond*, Working Paper 2015-04 (Congressional Budget Office, June 2015), [www.cbo.gov/publication/50171](http://www.cbo.gov/publication/50171).

34. For example, 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), [www.gao.gov/products/GAO-16-41](http://www.gao.gov/products/GAO-16-41). In GAO's view: "The additional market risk recognized under the fair value approach does not reflect additional cash costs beyond those already recognized by FCRA. The introduction of market risk into subsidy costs under the fair value approach would (1) be inconsistent with long-standing federal budgeting practices primarily based on cash outlays; (2) be inconsistent with the budgetary treatment of similarly risky programs; (3) introduce transparency and verification issues with respect to inclusion of a noncash cost in budget totals; and (4) involve significant implementation issues, such as the need for additional agency resources" ("Highlights," p. 2).

market risks that are actually borne by taxpayers and beneficiaries of government programs. In particular, they argue that market risk is not a cash cost.<sup>35</sup> Another complication involves the ways in which some federal insurance programs are financed. In the case of the FDIC, some analysts have argued that because the costs of financial resolutions are covered in the long run by fees paid by banks and financial institutions, taxpayers bear little market risk for such resolutions. Critics of incorporating market risk into federal estimates also point to implementation issues, the possibility of significant reestimates because of fluctuations in market risk premiums, and the challenges of communicating the basis of fair-value estimates.<sup>36</sup>

### Comparing the Information Conveyed by Cash and Accrual Measures for Selected Insurance Programs

CBO analyzed several large federal insurance programs by comparing key factors that affect the information provided by cash and accrual measures of their costs. Those factors are the lag between the timing of a program's insurance commitments and the resulting cash flows, any constraints on the program's budgetary resources, and the program's exposure to market risk (see Table 1). The analysis focuses on programs for which accrual measures could provide particularly useful information not available from 10-year cash measures:

- The Federal Deposit Insurance Corporation's activities to resolve troubled financial institutions through the Orderly Liquidation Fund and deposit insurance,
- Federal flood insurance, and

- Federal pension insurance.

In addition, CBO concluded that accrual measures might be helpful in conveying information about the costs of the terrorism risk insurance program.<sup>37</sup> (For an illustration of how accrual accounting would affect cost estimates for the most recent legislation reauthorizing that program, see the appendix.) However, CBO concluded that accrual measures would not necessarily provide more useful information than 10-year cash measures for federal crop insurance. That program typically experiences short lags between the timing of budgetary commitments and resulting cash flows and does not expose the government to much market risk (see Figure 2).<sup>38</sup>

In making the fundamental choice between cash and accrual estimates, policymakers would need to consider how estimates would factor into the statutory framework and procedural rules that govern the federal budget process. In addition, this analysis highlights several separate decisions that policymakers could make about the information contained in those estimates. First, policymakers could use cash or accrual measures to report either the cost of only those claims that programs would have the budgetary resources to pay under current law or the cost of all of a program's projected claims. Second, for programs that do not involve time-limited commitments, such as deposit and pension insurance, policymakers would need to consider the relevant time horizon that accrual measures should cover. Third, policymakers could incorporate the cost of market risk using either cash or accrual measures, although the methods for doing so are more straightforward and better understood with accrual accounting than with cash accounting.

35. Fair-value estimates are higher than the costs that the federal government would incur if actual cash flows turned out to match their statistical averages. Rather than rely on reestimates to address that difference, one analyst has suggested an "expected returns" approach for federal credit programs that combines features of fair value and FCRA; a similar approach could be used to account for federal insurance programs. Under that approach, budget projections would report a fair-value estimate when credit was first extended and then, for subsequent years, would report estimated market risk premiums on an annual basis as inflows were expected to occur. See Donald Marron, *The \$300 Billion Question: How Should We Budget for Federal Lending Programs?* (Urban Institute, September 2014), <https://tinyurl.com/yaf77y>.

36. Reestimates adjust for the difference between actual and projected costs, including risk premiums. Ultimately, accrual estimates must be reconciled with actual cash flows whether or not an adjustment for market risk is made.

37. For more details about that program, see Congressional Budget Office, *Federal Reinsurance for Terrorism Risk: An Update* (January 2015), [www.cbo.gov/publication/49866](http://www.cbo.gov/publication/49866); and David Torregrosa, Perry Beider, and Susan Willie, *Federal Reinsurance for Terrorism Risk in 2015 and Beyond*, Working Paper 2015-04 (Congressional Budget Office, June 2015), [www.cbo.gov/publication/50171](http://www.cbo.gov/publication/50171).

38. For more information about that program, see Congressional Budget Office, *Options to Reduce the Budgetary Costs of the Federal Crop Insurance Program* (December 2017), [www.cbo.gov/publication/53375](http://www.cbo.gov/publication/53375); and Dennis A. Shields, *Federal Crop Insurance: Background*, Report for Congress R40532 (Congressional Research Service, August 13, 2015).

Figure 2.

**Key Factors That Affect the Usefulness of Cash or Accrual Measures for Insurance Programs**



Source: Congressional Budget Office.

Market risk is the element of financial risk that investors cannot protect themselves against by diversifying their portfolios. It results from shifts in macroeconomic conditions, such as productivity and employment, and from changes in expectations about future macroeconomic conditions. Federal insurance programs expose the government to market risk if they incur more claims or receive less income when the economy as a whole is performing poorly.

\*Lags between the timing of commitments and cash flows may be exacerbated when programs face limits on the amount of resources legally available to pay claims in a timely fashion.

**Financial Resolution Activities of the Federal Deposit Insurance Corporation**

The FDIC was created by the Banking Act of 1933 to maintain stability and public confidence in the nation’s financial system. It is an independent agency that helps to manage the risk of major financial crises by insuring deposits in most U.S. banks, regulating the safety and soundness of financial institutions, and, when necessary, resolving insolvent institutions and managing them while

they are in receivership. Those activities help to deter runs on banks and stabilize the financial system.

The savings and loan crisis of the 1980s and early 1990s raised questions about the budgetary treatment of federal activities to resolve failing or insolvent financial institutions. In particular, the cash measures used in the budget may have given lawmakers and regulators a budgetary incentive to delay resolving such institutions in order to

Table 1.

### Factors That Affect Whether Accrual Measures Provide Helpful Information for Selected Federal Insurance Programs

	Key Factors That Affect Measures of Costs			Summary of Information Conveyed by CBO's Current Cash-Based Budget Projections	Summary of Information Conveyed by Accrual Measures
	Lag Between Timing of Insurance Commitments and Resulting Cash Flows	Constraints on Budgetary Resources	Exposure to Market Risk		
<b>Orderly Liquidation Fund</b>	Moderate to long. Assessments on healthy institutions to recoup costs would lag significantly behind up-front spending for liquidation activities.	Unlikely to bind. The FDIC can borrow money to liquidate important firms (subject to limits that are unlikely to be reached), and it is required to offset costs through fees from other large financial firms.	High. Any losses would most likely occur during a financial crisis.	Ten-year cash projections may overstate the expected net costs of certain types of liquidations.	Accrual measures would eliminate timing-related distortions and show smaller net costs.
<b>Federal Deposit Insurance Program</b>	Sometimes long. Timing lags generally have significant budgetary effects only during and after a financial crisis. Although fees are set to ensure full cost recovery in the long run, near-term cash projections during such times may reflect longer delays between cash outflows and inflows than during periods of normal market conditions.	Unlikely to bind. If the program has insufficient reserves, it can borrow up to \$100 billion from the Treasury, and additional funds are available from the Federal Financing Bank. The FDIC has mechanisms to offset its costs (and repay borrowing) with income from healthy financial institutions.	High. Bank failures are concentrated during recessions and financial crises.	Cash projections convey helpful information about expected net budgetary effects under normal market conditions but might be less informative during financial crises, when losses are large. Because financial cycles can be long, a snapshot of any 10-year period may not capture all of the offsetting transactions stemming from financial resolutions and may overstate or understate long-term costs.	Accrual measures would largely eliminate timing-related distortions of resolution activities and, if estimated on a fair-value basis, would provide a more comprehensive estimate of expected costs.
<b>National Flood Insurance Program</b>	Short. In the absence of constraints on available resources, most claims are paid within a few years of a flood.	Binding constraints exist. If the program exhausts its accumulated reserves and borrowing authority, it is required under current law to spend no more than its current income allows.	Low. Losses from floods are independent of the state of the economy.	Cash projections for the near term may be dominated by events that have already occurred. Ten-year projections indicate the amount of claims payable over that period, which may be less than the full amount owed to policyholders.	Accrual measures would indicate more clearly the expected net costs of each year's commitments.

Continued

reduce reported outlays. Delaying the closing of those institutions raised the ultimate resolution costs.<sup>39</sup>

39. See Congressional Budget Office, *Budgetary Treatment of Deposit Insurance: A Framework for Reform* (May 1991), [www.cbo.gov/publication/18530](http://www.cbo.gov/publication/18530), and *The Cost of Forbearance During the Thrift*

*Crisis* (June 1991), [www.cbo.gov/publication/20417](http://www.cbo.gov/publication/20417). Other analysts reached similar conclusions; see, for example, F. Stevens Redburn, "How Should the Government Measure Spending? The Uses of Accrual Accounting," *Public Administration Review*, vol. 53, no. 3 (May/June 1993), pp. 228–236, [www.jstor.org/stable/3110127](http://www.jstor.org/stable/3110127).

Table 1.

Continued

**Factors That Affect Whether Accrual Measures Provide Helpful Information for Selected Federal Insurance Programs**

	Key Factors That Affect Measures of Costs			Summary of Information Conveyed by CBO's Current Cash-Based Budget Projections	Summary of Information Conveyed by Accrual Measures
	Lag Between Timing of Insurance Commitments and Resulting Cash Flows	Constraints on Budgetary Resources	Exposure to Market Risk		
<b>Pension Benefit Guaranty Corporation</b>	Long. Failures generally occur long after insurance commitments and result in claims for financial assistance that are paid over many years.	Binding constraints exist. Payments are limited to PBGC's resources from accumulated reserves and current income. The program that insures multiemployer plans is projected to become insolvent in 2025.	High. Insolvencies are concentrated during recessions and are exacerbated by the fact that the underlying assets of insured plans include risky securities.	Ten-year cash projections provide misleading information by indicating that PBGC's combined activities for the single- and multiemployer programs will reduce projected deficits.	Accrual measures would eliminate timing-related distortions, provide succinct measures of the net costs of new commitments, and indicate that pension insurance is not a source of long-term savings.
<b>Terrorism Risk Insurance Program</b>	Moderate. Even if most claims were paid quickly, full payment could take several years. However, assessments charged to offset projected federal costs would begin soon after losses occurred.	None. The program has permanent indefinite budget authority to pay the full federal share of losses for events with total claims of up to \$100 billion. No federal liability would exist for losses above that ceiling because policyholders would not be compensated for such losses.	Moderate. A major terrorist attack could hurt the economy.	Ten-year cash projections may miss some effects expected to occur outside that period, but they generally indicate expected long-term effects.	Accrual measures would eliminate timing-related distortions and provide more accurate indications of net budgetary effects.
<b>Federal Crop Insurance Program</b>	Short. Most claims are paid within a year of a loss.	None. The program has permanent indefinite budget authority to pay all claims.	Low. Most claims, especially those related to weather, are not strongly correlated with the state of the economy.	Ten-year cash projections provide accurate information about the net costs stemming from commitments made during that period.	Accrual measures would provide information similar to that of cash measures.

Source: Congressional Budget Office.

FDIC = Federal Deposit Insurance Corporation; PBGC = Pension Benefit Guaranty Corporation.

**Background.** The FDIC insures deposits in banks and thrift institutions up to \$250,000 per account. Banks rather than taxpayers are expected to cover the cost of deposit insurance over time. Under current law, premiums and fees are set—and periodically adjusted—to achieve a targeted ratio between balances in the Deposit Insurance Fund (the accounting mechanism used to record cash flows related to deposit insurance) and insured deposits. The FDIC expects that targeted reserve

ratio to be large enough to cover the fund's losses over the long term. (For more information about DIF's reserve ratio, see Box 1.)

If, in the short run, the FDIC's reserves and current income are insufficient to cover its costs, the agency can borrow from the Treasury (up to statutorily specified

## Box 1.

**Building Up Reserves in the Deposit Insurance Fund**

Deposit insurance is managed differently than most other federal insurance programs. By law, any costs associated with insurance losses must be recovered through assessments on solvent insured depository institutions. Income from such assessments, and annual premiums paid by insured institutions, are credited to the Deposit Insurance Fund (DIF), an accounting mechanism used to record cash flows related to the deposit insurance program.

Current law directs the Federal Deposit Insurance Corporation (FDIC) to build and maintain a balance of reserves in the insurance fund to help prefund potential losses, which tend to be highly concentrated in periods of market stress. Under the Dodd-Frank Wall Street Reform and Consumer Protection Act, DIF's balance (including interest paid by the Treasury on the fund's reserves) must, by September 30, 2020, be equivalent to at least 1.35 percent of the amount of deposits insured by the FDIC. That law also gives the agency flexibility to set a higher target for that reserve ratio. Currently, the FDIC has set a target ratio of 2.0 percent to withstand a future crisis.<sup>1</sup> As of

June 30, 2018, the fund held a total of \$98 billion, which was equivalent to 1.3 percent of the \$7.4 trillion in deposits insured by the FDIC.<sup>2</sup>

For the foreseeable future, the Congressional Budget Office expects the FDIC to continue building up reserves in the Deposit Insurance Fund to ensure that the fund's balance is likely to be sufficient to cover long-term losses for the deposit insurance program. CBO expects that the fund's cumulative balance will reach the 2.0 percent target sometime long after 2028. The FDIC plans to reduce assessment rates when the reserve ratio exceeds 2.0 percent.<sup>3</sup>

economic cycle. (A reserve ratio greater than 2.0 percent would have been necessary to maintain a positive balance for thrift institutions during the savings and loan crisis of the late 1980s and early 1990s, but those costs were not borne by DIF.) See Lee K. Davison and Ashley M. Carreon, "Toward a Long-Term Strategy for Deposit Insurance Fund Management," *FDIC Quarterly*, vol. 4, no. 4 (2010), pp. 29–39, <https://tinyurl.com/y7p3p8f8> (PDF, 761 KB).

1. The 2.0 percent designated reserve ratio is a long-term goal to restore and maintain a positive fund balance even during a financial crisis and to allow the FDIC to charge steady assessment rates across an

2. See Federal Deposit Insurance Corporation, *Quarterly Banking Profile: Second Quarter 2018*, vol. 12, no. 3 (August 2018), pp. 23–24, [www.fdic.gov/bank/analytical/qbp/2018jun](http://www.fdic.gov/bank/analytical/qbp/2018jun).

3. See Federal Deposit Insurance Corporation, *Annual Report 2017* (February 2018), pp. 23, 107, and 181, <https://tinyurl.com/ybzxw8s2>.

limits) to cover those costs.<sup>40</sup> The FDIC also has broad authority to impose assessments or raise premiums on banks to recover losses, replenish its reserves, and repay any amounts it has borrowed from the Treasury. For example, after incurring historically large losses in 2008 and 2009, the FDIC imposed a special assessment on all insured banks rather than borrow from the Treasury.

In the years following the savings and loan crisis, lawmakers enacted legislation aimed at improving the long-term solvency of the deposit insurance program. For instance, the Federal Deposit Insurance Corporation Improvement Act of 1991 required regulators to intervene promptly and push banks to restore capital levels

when they fall below regulatory requirements. Further significant changes were made in 2010 in the Dodd-Frank Wall Street Reform and Consumer Protection Act. For example, that law required the FDIC to slowly increase its reserves, which resulted in additional collections of premiums.

The Dodd-Frank Act also gave the FDIC the authority—and a source of funding, through the Orderly Liquidation Fund—to liquidate large, systemically important financial firms that become, or are in danger of becoming, insolvent. That legal authority is not technically considered insurance, but it is an important tool to help the government manage risk from major financial crises, particularly its exposure to losses from deposit insurance.

**Shortcomings of Ten-Year Cash Estimates for OLF and Deposit Insurance.** In most years, few banks are resolved through the Deposit Insurance Fund, and the probability of OLF-related liquidations is small. As a result, the

40. The FDIC is allowed to borrow up to \$100 billion from the Treasury and additional amounts from the Federal Financing Bank under a statutory formula. The maximum obligation limitation for the Deposit Insurance Fund was \$191.5 billion as of December 31, 2017. See Federal Deposit Insurance Corporation, *Annual Report 2017* (February 2018), p. 95, <https://tinyurl.com/ybzxw8s2>.

FDIC's costs to resolve financial institutions are usually expected to be modest. However, periods of highly concentrated losses sometimes occur, especially during economic downturns. The timing and severity of such losses are inherently unpredictable. Thus, projections of the FDIC's future costs are highly uncertain, regardless of the accounting method used to prepare them.

Despite that uncertainty, CBO generally expects that OLF and the deposit insurance program will be self-financing over the long run because of their requirements to recover costs through fees paid by solvent banks and (in the case of OLF) solvent large financial firms.<sup>41</sup> However, cash flows for those programs may show different trends for particular 10-year periods and pose shortcomings:

- Cash flows may convey incomplete information about the long-term costs of resolution activities and may fail to indicate that the programs are designed to ensure that, over the long run, the FDIC's income will offset its costs.<sup>42</sup> Particularly during times of financial stress, cash flows may reflect large transactions involving working capital—near-term outlays to acquire assets of insolvent institutions, which will be offset in later years by income from the sale of such assets. After a crisis, income may reflect assessments levied on healthy institutions to recover losses. Depending on the severity of the crisis and the amount of time required to complete resolution activities, estimated cash flows over a given 10-year period may not be indicative of the activities' net budgetary effects.
- Cash-based projections do not take into account the full cost of the government's significant exposure to market risk from those programs.

41. Broadly speaking, although both programs are designed to remain financially solvent, measures of their impact on the budget deficit may reflect additional costs stemming from indirect effects on other federal cash flows—namely, revenues from payroll and income taxes.

42. Some analysts argue that during a particularly severe financial crisis or depression, the financial industry might not have the capacity to generate enough resources to fulfill the FDIC's cost-recovery requirements. Under such circumstances, although the FDIC has flexibility in setting fees, a change in law would be needed to permit the agency to relax those requirements and shift costs to taxpayers.

The FDIC's pattern of cash flows from resolutions—short-term outlays followed by longer-term recoveries from asset sales or assessments—is similar to that of federal direct loan programs, which are treated in the budget on an accrual basis. Thus, a long-term perspective on the FDIC's resolution activities that accounts for all of those inflows and outflows could be more informative about the costs of those activities than a short-term view.<sup>43</sup> Relative to 10-year cash estimates, accrual estimates could provide a clearer picture of the expected net costs of resolution activities by eliminating distortions stemming from timing lags, which are often longer in periods of financial stress than in normal times.

Developing consistent accrual measures for OLF and deposit insurance would be complex, however, for reasons described below. Thus, policymakers might want to consider other alternatives to current cash measures, such as modified cash estimates. For example, because some of the timing-related distortions of 10-year cash measures result from largely offsetting transactions to acquire and sell assets of troubled firms, cash-based estimates of net costs might be more useful if the cash flows associated with working capital were excluded from measures of the budget deficit.

**Operational and Budgetary Differences Between OLF and Deposit Insurance.** Developing consistent accrual measures of the budgetary effects of the FDIC's programs would require judgment because of key differences in how OLF and deposit insurance operate. In particular, the timing of income for the programs differs. OLF does not maintain reserves to cover its losses; rather, it is required by law to recover any losses by assessing fees only *after* an event. In that sense, identifying cohorts of OLF-related transactions—which are expected to stem from relatively discrete and particularly severe events—might be fairly straightforward. With the Deposit Insurance Fund, by contrast, the FDIC effectively recovers losses through a combination of assessments made *before and after* an event, which adds complexity to the task

43. The FDIC's current financial reporting takes a short-run view of deposit insurance premiums. The agency follows private-sector accounting standards, and in its financial statements, it recognizes revenues from assessments for the quarterly period of insurance coverage. See Federal Deposit Insurance Corporation, *Annual Report 2017* (February 2018), p. 100, <https://tinyurl.com/ybzxw8s2>. Because timing lags between the billing and payment cycles are short, differences in estimates of earned income and anticipated collections are small.

of identifying cohorts. In essence, deposit insurance involves a large volume of potentially highly variable cash inflows and outflows from ongoing activities that occur every year.

Another challenge in developing consistent measures for OLF and deposit insurance stems from the fact that the budget records income for the two programs differently, which in turn affects estimates of their impact on the deficit. Receipts to DIF are recorded as offsets to spending (which generally result from businesslike or market-oriented transactions), whereas OLF-related collections are recorded as revenues (because they arise from the government's exercise of its sovereign power).<sup>44</sup> By longstanding convention, baseline projections and legislative cost estimates for activities that involve revenues incorporate the assumption that income from business fees and other indirect taxes would be partly offset by reduced payments of income and payroll taxes. No such assumption is made for collections that are classified as offsets to spending, including those related to deposit insurance.<sup>45</sup>

More broadly, within the federal budget process, accrual measures for OLF and other programs that involve revenues (such as TRIA) could pose additional challenges. Specifically, the framework of statutory and procedural rules that governs the enforcement of budgetary targets recognizes the fundamental distinction that the budget has historically drawn between revenues and spending. As a result, the budget and CBO's estimates report revenues and spending separately. To date, the use of

accrual measures within the federal budget process has been limited to activities that are recorded entirely on the spending side of the budget. If policymakers judged that accrual measures for OLF (or other programs that involve both a spending and a revenue component) were useful enough to incorporate into the budget process, they would need to consider whether to modify the existing framework of budget enforcement rules or the budgetary treatment of some income flows now categorized as revenues.

**CBO's Cash Baseline Projections for the Orderly Liquidation Fund.** The probability that the FDIC will need to liquidate a systemically important firm in a given year is small, but the potential cash flows associated with doing so are large and are most likely to occur during times of maximum economic stress.<sup>46</sup> In general, resolution costs increase with the size of the institution.

If the FDIC's liquidation authority was invoked sometime in the next decade, it could result in cash flows that extended well beyond the 10-year budget horizon, especially if the event occurred during a period of financial stress. The FDIC would borrow necessary amounts from the Treasury to cover the cost of resolution activities in the early years of a liquidation.<sup>47</sup> Because of the mismatch between the timing of up-front cash outflows to liquidate an institution and later cash inflows from asset sales and assessments, net cash flows of OLF-related transactions—in individual years or over a 10-year period—might misrepresent the expected net costs of certain types of liquidations. Moreover, because assessments on healthy institutions would reduce payments of

44. For an explanation of the rationale for different budgetary treatments of revenues (OLF assessments) and offsetting receipts (deposit insurance premiums), see President's Commission on Budget Concepts, *Report of the President's Commission on Budget Concepts* (October 1967), pp. 36–46, 64–72, <http://tinyurl.com/y7lxv3gp>.

45. The staff of the Joint Committee on Taxation and CBO estimate that for indirect taxes, such as compulsory assessments on healthy financial institutions levied to offset up-front resolution costs, the offsetting change in income and payroll tax revenues over the 2019–2028 period will, on average, equal roughly 23 percent of the gross change in revenues. Similar adjustments do not apply to deposit insurance premiums because those premiums are not considered indirect taxes. The tax offsets also do not apply to recoveries from the sale of distressed assets, which are classified as offsets to spending. For background on the revenue offset, see Congressional Budget Office, *The Role of the 25 Percent Revenue Offset in Estimating the Budgetary Effects of Legislation* (January 2009), [www.cbo.gov/publication/20110](http://www.cbo.gov/publication/20110).

46. See the testimony of Douglas W. Elmendorf, Director, Congressional Budget Office, before the Subcommittee on Oversight and Investigations of the House Committee on Financial Services, *Review of CBO's Cost Estimate for the Dodd-Frank Wall Street Reform and Consumer Protection Act* (March 30, 2011), [www.cbo.gov/publication/22078](http://www.cbo.gov/publication/22078); and Congressional Budget Office, cost estimate for H.R. 4173, the Restoring American Financial Stability Act of 2010 (June 9, 2010), [www.cbo.gov/publication/21527](http://www.cbo.gov/publication/21527).

47. During the first 30 days of the receivership, the FDIC's obligations, including borrowing from the Treasury, are limited to an amount that is equal to 10 percent of the total consolidated assets of the institution placed into receivership, based on the most recent financial statement available. After that period (or earlier if necessary, to the extent that the fair value of the institution's assets has been calculated), the FDIC's obligations cannot exceed an amount equal to 90 percent of the fair value of the total consolidated assets available for repayment.

income and payroll taxes, the net federal revenues attributable to the use of OLF would be significantly less than the gross amount of the assessments. Thus, if a severe economic event occurred, OLF itself would recover its costs in the long run, but OLF-related transactions would probably increase the deficit, CBO expects.

CBO estimated in April 2018 that net cash flows stemming from OLF-related resolutions projected to begin during the 2019–2028 period would increase budget deficits by a total of \$14.2 billion over that period, based on the possibility that the FDIC’s liquidation authority would be used at some point during those years (see Table 2).<sup>48</sup> However, those 10-year cash projections truncate a significant portion of the budgetary effects of resolutions begun during that period, including most of the assessments expected to be collected from healthy firms to help offset the FDIC’s up-front costs.

Proposals to eliminate OLF have been made in the Congress (most recently in H.R. 10, the Financial CHOICE Act of 2017). Some analysts are concerned that 10-year cash estimates of such a repeal would overstate savings to the government because they would miss a significant portion of forgone recoveries and fees in later years.<sup>49</sup>

48. CBO’s estimates reflect the difference between the expected values of the net costs to OLF to resolve insolvent firms and the additional assessments collected by OLF (net of indirect effects on income and payroll taxes). Those expected values represent weighted averages of the outcomes of various scenarios regarding the frequency and magnitude of systemic financial problems, taking into account an estimated probability of each scenario. Although such estimates reflect CBO’s best judgment based on past outcomes, the cost of OLF will depend on future economic and financial events that are inherently unpredictable. In addition, the timing of cash flows associated with resolving insolvent firms is difficult to predict.

49. See, for example, Lawrence H. Summers, “Congress Is Considering an Extremely Dangerous Idea Almost Nobody Has Heard of,” *Washington Post* (January 18, 2017), <https://tinyurl.com/y73l8qyl>. In its cost estimate for H.R. 10, CBO projected that ending OLF would reduce deficits over the 2018–2027 period by a total of \$14.5 billion. (That amount includes about \$1 billion in net costs that the deposit insurance program would realize without OLF.) See Congressional Budget Office, cost estimate for H.R. 10, the Financial CHOICE Act of 2017 (May 18, 2017), [www.cbo.gov/publication/52738](http://www.cbo.gov/publication/52738). That estimate did not account for any economic impact, but eliminating OLF would probably affect the economy in ways that would in turn affect the federal budget.

**CBO’s Cash Baseline Projections for Deposit Insurance.** CBO generally expects the deposit insurance program, as currently structured, to remain solvent over the long run, although cash baseline projections may show different trends for particular 10-year periods. In April 2018, CBO projected that the Deposit Insurance Fund would record net savings over the 2019–2028 period because it is still building up reserves to achieve the FDIC’s target reserve ratio (see Box 1 on page 18).

Specifically, DIF is projected to have net negative outlays of \$90 billion over the next 10 years, for two main reasons: Projected income (from premiums and from selling assets of insolvent banks) exceeds projected costs (insured losses and outlays to acquire troubled banks’ assets) by \$45 billion over that period; and the Treasury is projected to pay an additional \$45 billion in interest on the fund’s balances, which are invested in Treasury securities (see Figure 3).<sup>50</sup> Those projections of net outlays reflect a small probability in any year of a banking crisis that produces large losses for the Deposit Insurance Fund.

**An Approach to Using Accrual Measures for OLF and Deposit Insurance.** For this analysis, CBO examined an approach to accrual measures that would implicitly allocate all premiums and assessments to losses over the indefinite lifetime of OLF and the deposit insurance program. Such measures would indicate the present value of losses from failures when they were incurred by OLF or DIF and would recognize that, under current law, such losses will eventually be offset by past or future income from the financial industry.

On that basis, with all future cash flows discounted at Treasury rates to the year of the event that triggers them, CBO estimates the following:

- For OLF-related transactions, accrual measures would show relatively small net costs (increasing the deficit by roughly \$100 million to \$350 million per year) because payments of assessments by large financial institutions would be partly offset by decreases in income and payroll tax revenues (see Table 2). The large difference for CBO’s baseline between cash and accrual projections for OLF—an increase of \$14.2 billion in the deficit over 10 years versus \$2.5 billion—would affect cost estimates for

50. Interest payments by the Treasury to DIF are intragovernmental transfers that have no net effect on the budget deficit.

Table 2.

**Cash and Accrual Projections for the Orderly Liquidation Fund, 2019 to 2028**

Millions of Dollars

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total, 2019–2028
<b>Cash Basis</b>											
<i>CBO's Baseline</i>											
Net Revenues <sup>a</sup>	0	*	100	200	400	650	800	1,000	1,100	1,200	5,450
Outlays	650	1,300	2,000	2,800	2,300	2,100	2,000	2,100	2,150	2,250	19,650
<b>Net Increase in the Deficit</b>	<b>650</b>	<b>1,300</b>	<b>1,900</b>	<b>2,600</b>	<b>1,900</b>	<b>1,450</b>	<b>1,200</b>	<b>1,100</b>	<b>1,050</b>	<b>1,050</b>	<b>14,200</b>
<i>Modified Cash Basis<sup>b</sup></i>											
Net Revenues <sup>a</sup>	0	*	100	200	400	650	800	1,000	1,100	1,200	5,450
Outlays	*	200	400	700	900	1,000	1,000	1,100	1,100	1,200	7,600
<b>Net Increase in the Deficit</b>	<b>*</b>	<b>200</b>	<b>300</b>	<b>500</b>	<b>500</b>	<b>350</b>	<b>200</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>2,150</b>
<b>Accrual Basis<sup>c</sup></b>											
Net Revenues <sup>a</sup>	450	500	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	11,350
Outlays	600	600	1,500	1,500	1,500	1,550	1,600	1,650	1,650	1,650	13,800
<b>Net Increase in the Deficit</b>	<b>150</b>	<b>100</b>	<b>200</b>	<b>200</b>	<b>200</b>	<b>250</b>	<b>300</b>	<b>350</b>	<b>350</b>	<b>350</b>	<b>2,450</b>

Source: Congressional Budget Office.

\* = between zero and \$50 million.

The baseline cash estimates are part of the baseline budget projections that CBO released in April 2018. The accrual-based estimates discount the baseline projections using Treasury interest rates and using procedures similar to those required by the Federal Credit Reform Act to estimate subsidies for federal credit programs.

Estimates include a small amount of administrative costs.

- a. Revenues are net of tax offsets. Assessments for the Orderly Liquidation Fund are recorded in the budget as revenues because they arise from the government's exercise of its sovereign power. By longstanding convention, CBO's baseline projections and legislative cost estimates for activities involving revenues incorporate the assumption that business fees and other tax-like collections would be partially offset by reduced payments of income and payroll taxes. Over the 2019–2028 period, the staff of the Joint Committee on Taxation and CBO estimate that for indirect taxes, such as assessments, the offsetting change in income and payroll tax revenues will average roughly 23 percent of the gross change in revenues.
- b. These cash estimates exclude near-term outlays to acquire assets of insolvent institutions and subsequent income from the sale of such assets.
- c. These accrual estimates do not reflect any adjustments for market risk.

legislation to repeal or change OLF.<sup>51</sup> Estimates of the budgetary effects of eliminating the fund would show net savings on an accrual basis, but those savings would be smaller than in 10-year cash estimates.

- For deposit insurance, accrual measures would show no net cost and possibly savings, indicating that when the time value of money is taken into consideration, past and future income from the financial industry should at least offset the FDIC's costs, reflecting the program's statutory obligation to maintain reserves equivalent to at least 1.35 percent of the deposits insured by the FDIC.

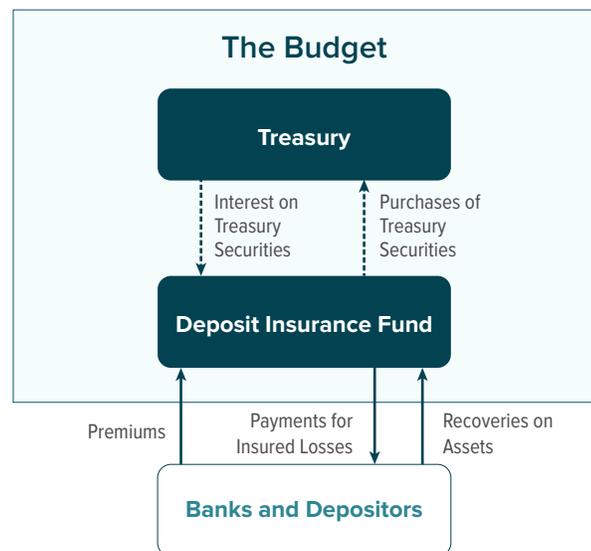
Using such accrual measures would capture the long-term net effects of those programs, potentially providing succinct information about how proposals to modify the programs might shift costs from the financial sector to taxpayers.

However, the potential usefulness of accrual measures to lawmakers—and the extent to which they would differ from cash estimates—would depend on market conditions. For example, under normal conditions, cash and accrual measures for OLF (including indirect effects on income and payroll taxes) would differ by an average of roughly \$1 billion a year, CBO estimates, reflecting a small probability of resolutions and a long lag in the collection of assessments to cover resolution costs. Differences between cash and accrual measures would be

51. Cost estimates for legislation affecting OLF would also show indirect effects on revenues from income and payroll taxes.

Figure 3.

### Current Budgetary Treatment of Deposit Insurance



Source: Congressional Budget Office.

Intragovernmental payments (amounts paid by one part of the government to another) are indicated by dashed lines. Administrative costs are not shown.

The Deposit Insurance Fund currently has a positive balance and purchases Treasury securities. If the fund's income was insufficient to pay for insured losses, the fund would sell some or all of its holdings. If the fund's holdings were exhausted in the future, the Federal Deposit Insurance Corporation would have to borrow from the Treasury and would have to repay the amount borrowed with interest.

more pronounced during times of severe economic stress, when cash measures would show larger up-front outlays. During such periods, both assessments and recoveries of working capital would probably continue beyond the 10-year budget horizon.

The effects of market conditions would be similar for the Deposit Insurance Fund. Under normal market conditions, when the FDIC's losses through DIF are likely to be limited and resolutions are expected to be completed fairly quickly, cash projections include most of the anticipated cash flows from bank failures that are projected to occur within the 10-year budget window. During such times, measures of annual cash flows would generally show net savings from deposit insurance because reserves are expected to accumulate in the insurance fund. On an accrual basis (with cash flows discounted at Treasury

rates), net annual savings would be smaller, CBO expects, because the future losses reflected in accrual estimates would probably offset most of the income used to build reserves.

Under market conditions that led to unusually large losses, however, differences between cash and accrual measures for deposit insurance would be more pronounced. For instance, periods of severe financial stress could occur that would weaken the entire financial industry, which might require large cash outlays and lengthen the time needed for the FDIC to recover losses through higher assessments. During such periods of financial stress, accrual measures would not readily identify near-term changes in cash flows for deposit insurance—which could be substantial—and thus might not help policymakers assess the full scope of the FDIC's activities. In the 1980s and 1990s, for example, cash estimates of the deposit insurance losses for banks and savings and loans differed widely from accrual estimates, in part because of the large outlays and subsequent recoveries of working capital.<sup>52</sup>

If accrual estimates included adjustments for market risk, cash and accrual measures for the FDIC's activities might differ significantly regardless of whether they reflected the expectation of normal or stressed market conditions. CBO has not analyzed the fair-value cost of the FDIC's programs, but it expects that fair-value measures would indicate larger net costs for OLF and smaller net savings (or possibly net costs) for deposit insurance. Such measures would help policymakers understand the cost of the programs' significant exposure to market risk.

As a practical matter, if policymakers chose to expand the use of accrual measures for the FDIC's activities, they would need to consider how those measures might affect rules and mechanisms related to budget enforcement. For example, because the budget currently does not use accrual estimates for any activities that involve revenues, using such measures to account for OLF, which involves both spending and revenues, would be unprecedented. One option for that program would be to develop separate accrual measures for OLF-related spending and

52. During that period, the conventional treatment of deposit insurance on a cash basis in the budget did not accurately indicate the magnitude and timing of the program's effects on the economy. See Congressional Budget Office, *The Economic Effects of the Savings & Loan Crisis* (January 1992), pp. xiii–xiv, 14–15, 32, 44–45, and 47, [www.cbo.gov/publication/20559](http://www.cbo.gov/publication/20559).

revenues, as shown in Table 2 on page 22.<sup>53</sup> Taken together, those measures could be readily compared with accrual measures for deposit insurance, which would help policymakers make consistent comparisons between the two programs. If such measures were used in the budget, annual cash transactions would be tracked in nonbudgetary financing accounts, like those used for federal credit programs. That treatment would require later reestimates to account for differences between estimated and actual losses.

**An Alternative Approach Using Modified Cash Measures for OLF and Deposit Insurance.** Rather than using accrual measures, a different option for presenting the net budgetary effects of the FDIC's activities would be to maintain a cash budgetary treatment for both losses and income but exclude working-capital transactions from budget outlays that are factored into measures of the deficit. Under this approach, cash flows involving working capital would mostly be reflected in “below-the-line” accounts that show transactions involved in financing the federal deficit (like the financing accounts used for federal credit programs). Those transactions have little or no permanent effect on either the allocation of resources or the economy. They are exchanges of financial assets between the government and the private sector.<sup>54</sup>

By setting aside temporary transactions involving working capital, such budget estimates would provide more accurate information about the government's costs to resolve failed financial institutions and would indicate how annual income compares with those costs. Under this approach, CBO estimates that OLF-related transactions would cost \$2.2 billion over the

2019–2028 period—\$12.1 billion less than estimates that include projected net outlays related to purchases and sales of assets from liquidated institutions. For CBO's baseline projections, that total cost would be similar to the amount estimated on an accrual basis.

Like fully adopting an accrual budgetary treatment, this approach would require additional effort—for example, to set up financing accounts to track cash flows involving working capital and to reconcile initial estimates of those transactions with actual cash flows. More data on past working-capital flows might be required too.

The utility of this approach as an alternative to current cash measures may be less meaningful in the future than it might have been in the past, because of a shift in the way the FDIC typically resolves failed banks through the Deposit Insurance Fund. The FDIC has moved toward relying more heavily on assistance through shared-loss agreements, in which a separate financial institution assumes and manages a failed bank's assets and shares future losses and recoveries on those assets with the FDIC. Under such agreements, the FDIC spends less up front than it would if it assumed and managed the failed bank's assets itself.

### Flood Insurance

The National Flood Insurance Program (NFIP), administered by the Federal Emergency Management Agency (FEMA), aims to offer affordable flood insurance for properties at significant risk of flooding and to promote floodplain management. Cash projections of the budgetary effects of the NFIP potentially obscure the net costs of the program, for two main reasons:

- Near-term cash projections can be dominated by events that have already occurred, making it hard to assess the anticipated net costs of risk assumed under current policies.
- CBO's projections reflect legal constraints on the amount of budgetary resources that the program has available to pay claims and other expenses. Thus, those projections show the amount of payments expected to be made during the 10-year budget window, which may be less than the total amount of claims owed to policyholders during that period if analysts expect those constraints to limit spending at any point during the period.

53. Reporting payments of assessments, which are tax revenues, ahead of time on an accrual basis would be a departure from the current budgetary practice of reporting revenues as they are received. An alternative would be to reclassify OLF assessments as offsets to spending; such a reclassification would probably occur only if a new law required that budgetary treatment.

54. During the banking and savings and loan crisis of the late 1980s and early 1990s, economists typically focused on the deficit excluding deposit insurance, recognizing that cash outlays overstated the size and timing of deposit insurance's economic effects. (During the crisis, in order to fully reflect the government's deposit insurance obligations, both CBO and OMB presented budget estimates for deposit insurance on an unconstrained basis, even though there was a periodic need to obtain additional funding from the Congress.) See Congressional Budget Office, *The Economic and Budget Outlook: An Update* (August 1991), pp. 63–69, [www.cbo.gov/publication/20569](http://www.cbo.gov/publication/20569).

If such constraints are expected to be binding, projections that did not reflect resource constraints, whether prepared on a cash or an accrual basis, would provide more information about the full extent of costs related to flood insurance. However, accrual measures might be particularly helpful in highlighting structural imbalances in the program.

**Background.** In 2018, the NFIP sold more than 5 million flood insurance policies with more than \$1 trillion of coverage. Flood insurance coverage is mandatory for most homeowners with mortgages who live in areas at high risk of flooding. The insurance contracts are generally subject to annual renewal.

Under current law, the NFIP relies on premiums charged to policyholders to cover payments of claims and other expenses. In addition, when reserves and current income are insufficient to cover costs, the program can borrow from the Treasury up to a statutory limit (currently \$30.4 billion).

If the NFIP exhausted both its reserves and borrowing authority, the total amount of claims that could be paid would be limited to the amount of income available from premiums. In those circumstances, payments of claims might be significantly delayed, unless lawmakers enacted legislation to increase the amount of budgetary resources available to the program. For example, the program exhausted its available borrowing authority after Hurricane Harvey in August 2017, thus limiting its ability to pay claims to the amount of its current income. Two months later, lawmakers enacted legislation that forgave \$16 billion of the NFIP's outstanding debt, effectively increasing the amount of budgetary resources available to the program so that it could continue to pay claims on a timely basis.

Since 1968, when the NFIP began, total claims paid by the program have far surpassed total premium income.<sup>55</sup> One reason is that for certain properties, FEMA has long charged premiums that are not actuarially sound,

causing overall income to fall short of expected costs.<sup>56</sup> Another reason is that some catastrophic events, such as Hurricane Katrina in 2005 and Superstorm Sandy in 2012, resulted in claims that far exceeded the average losses on which premiums are based. As a result, on multiple occasions, FEMA has exercised—and lawmakers have increased—the program's authority to borrow money from the Treasury.<sup>57</sup>

As the NFIP is currently structured, any measure of its budgetary effects would probably show net costs, at least in the near term, because of the actuarially unsound premiums charged for some policies. Projections of the program's future net costs are uncertain—most of the costs will depend on the frequency, timing, and severity of future floods, which are inherently difficult to predict. Expected net costs may be lower in the future because lawmakers have taken steps in recent years to gradually phase out the program's discounted premiums.<sup>58</sup>

55. See the testimony of Donald B. Marron, Acting Director, Congressional Budget Office, before the Senate Committee on Banking, Housing, and Urban Affairs, *The Budgetary Treatment of Subsidies in the National Flood Insurance Program* (January 25, 2006), [www.cbo.gov/publication/17600](http://www.cbo.gov/publication/17600).

56. In this case, actuarial soundness means the adequacy of the NFIP's premiums to cover both the expected costs of flood claims and the administrative costs associated with issuing and servicing flood insurance policies. When income from premiums is too low to cover those costs, an actuarial shortfall is said to exist. Since the NFIP's inception, lawmakers have struggled to find the appropriate balance between applying actuarial principles (more closely linking premium rates to expected costs) and keeping premiums low. To balance those goals, the NFIP includes a mix of premium rates: full-risk rates that FEMA considers sufficient, on average, to cover or exceed administrative costs and expected claims, and discounted rates that are not offset by higher rates charged to other policyholders. See Congressional Budget Office, *The National Flood Insurance Program: Financial Soundness and Affordability* (September 2017), [www.cbo.gov/publication/53028](http://www.cbo.gov/publication/53028); and Government Accountability Office, *Flood Insurance: Comprehensive Reform Could Improve Solvency and Enhance Resilience*, GAO-17-425 (April 2017), [www.gao.gov/products/GAO-17-425](http://www.gao.gov/products/GAO-17-425).

57. See Diane P. Horn, *National Flood Insurance Program Borrowing Authority*, CRS Insight IN10784 (Congressional Research Service, January 23, 2018).

58. See the statement of Roy E. Wright, Deputy Associate Administrator, Federal Insurance and Mitigation Administration, Federal Emergency Management Agency, before the Housing and Insurance Subcommittee of the House Financial Services Committee, *Flood Insurance Reform: FEMA's Perspective* (March 9, 2017), <https://tinyurl.com/y9ky2qaj> (PDF, 182 KB); and Diane P. Horn and Jared T. Brown, *Introduction to FEMA's National Flood Insurance Program (NFIP)*, Report for Congress R44593 (Congressional Research Service, August 16, 2016).

However, projections of net costs may increase if floods become more frequent or severe.<sup>59</sup>

**CBO's Cash Baseline Projections for Flood Insurance.** Claims submitted to the NFIP may be paid out over a period of two or more fiscal years. As a result, CBO's current cash-based projections for the program in the near term are dominated by the effects of past floods. Projections of costs in later years reflect CBO's best assessment of expected losses (including those stemming from low-probability, high-cost floods) as well as anticipated spending for administrative expenses, interest payments on outstanding borrowing from the Treasury, and activities related to floodplain management.<sup>60</sup> CBO's cash projections reflect the constraints on the NFIP's spending that would occur if the program exhausted its accumulated reserves and borrowing authority.

On that basis, CBO projected in April 2018 that the NFIP's receipts would fall short of expected claims and other costs by about \$13 billion in 2018 and by a total of \$2 billion over the 2019–2028 period. (The relatively large net cost in 2018 reflects substantial claim payments for Hurricane Harvey and, to a lesser extent, for Hurricanes Irma and Maria. Although Hurricane Maria caused substantial flooding in Puerto Rico, most of the losses from those floods were uninsured.) Those projections of costs reflect lawmakers' decision to relax, in October 2017, constraints on funding available to the program by forgiving a portion of debt owed to the Treasury, thus enabling more spending for claims in the near term. Had that change not occurred, spending in CBO's projections would probably have been limited in some years to the amount of income expected to be received in those years, reducing projected expenditures for paying claims.

**Alternative Measures for Flood Insurance.** Broadly speaking, during periods when constraints on the resources available to pay claims were not expected to limit spending, 10-year cash and accrual measures for

flood insurance would probably convey similar information about the program's overall budgetary effects, unless cash measures included unusually large outlays for significant flooding events in prior years. If constraints on the program's resources were expected to be reached, however, unconstrained measures of costs—whether prepared on a cash or an accrual basis—would provide helpful information about the full extent of anticipated spending related to flood insurance.

Some analysts argue that unconstrained measures would provide more accurate information about budgetary effects given that lawmakers have taken steps in the past to loosen constraints on the resources available to the flood insurance program.<sup>61</sup> To that end, CBO's cost estimates for legislative proposals related to flood insurance sometimes include additional information about how anticipated resource constraints might affect NFIP's policyholders.<sup>62</sup>

Accrual measures of unconstrained costs might be particularly helpful in indicating the difference between the expected losses and income related to the insurance commitments made over a given period. Depending on which costs were considered, such estimates could highlight different aspects of the NFIP's overall fiscal sustainability. For example, in an analysis of the policies in force on August 31, 2016, CBO concluded that the NFIP faced an expected annual shortfall of \$1.4 billion (if all expenses were taken into account, including interest costs and spending related to floodplain management) as well as an actuarial shortfall of \$0.7 billion (the difference between premium income and the subset of costs associated with paying claims for existing policies and with writing and servicing those policies).<sup>63</sup> The actuarial shortfall is effectively an accrual estimate that reflects CBO's assessment of budgetary effects for a snapshot of policies in effect at a specific point in time.

59. For example, stronger hurricanes could result in greater flood insurance claims. See Congressional Budget Office, *Potential Increases in Hurricane Damage in the United States: Implications for the Federal Budget* (June 2016), [www.cbo.gov/publication/51518](http://www.cbo.gov/publication/51518).

60. Although the flood insurance program's interest payments to the Treasury are intragovernmental and do not affect the budget as a whole, they are important to an analysis of the program's long-term solvency.

61. For an analysis, see Government Accountability Office, *Fiscal Exposures: Improving Cost Recognition in the Federal Budget*, GAO-14-28 (October 2013), [www.gao.gov/products/GAO-14-28](http://www.gao.gov/products/GAO-14-28).

62. For example, see Congressional Budget Office, cost estimate for the Flood Insurance Reform and Modernization Act of 2011 (October 13, 2011), [www.cbo.gov/publication/42649](http://www.cbo.gov/publication/42649).

63. See Congressional Budget Office, *The National Flood Insurance Program: Financial Soundness and Affordability* (September 2017), [www.cbo.gov/publication/53028](http://www.cbo.gov/publication/53028).

Accrual-based projections of net budgetary effects, like cash projections, would reflect anticipated changes in factors that might affect the NFIP's income and expenses, including the existing requirement that FEMA gradually phase out the program's discounted premiums. If everything else stays the same, that change will reduce both accrual-based and cash-based projections of shortfalls for the NFIP in future years.

### Pension Insurance

The Pension Benefit Guaranty Corporation insures the pension benefits of nearly 40 million people who participate in defined benefit pension plans operated by private-sector employers. That insurance coverage ensures that participants receive the guaranteed portion of their benefits if their pension plan is terminated or becomes insolvent.<sup>64</sup> CBO's 10-year cash projections of the budgetary effects of pension insurance provide incomplete information about the long-term financial condition of PBGC, for several reasons:

- Pension insurance involves long timing lags. Firms begin paying premiums when their plans are established, and decades may pass before a plan becomes insolvent. In addition, on a cash basis, it may take more than 20 years to realize the full costs of resolving or providing financial assistance to a distressed or terminated plan. Thus, the 10-year budget horizon truncates a significant portion of the budgetary effects of federal pension insurance.
- CBO's projections reflect constraints on the budgetary resources available to PBGC to pay claims, which can be less than the total claims submitted by plans.
- CBO's projections do not account for PBGC's considerable exposure to market risk.

64. The maximum portion of a participant's pension benefits that PBGC guarantees differs for single-employer plans and multiemployer plans because of different statutory formulas. In 2019, the maximum monthly amount guaranteed for a 65-year-old in the single-employer program is about \$5,600. See Pension Benefit Guaranty Corporation, "Maximum Monthly Guarantee Tables" (accessed November 20, 2018), [www.pbgc.gov/wr/benefits/guaranteed-benefits/maximum-guarantee](http://www.pbgc.gov/wr/benefits/guaranteed-benefits/maximum-guarantee); and "Multiemployer Insurance Program Facts," [www.pbgc.gov/about/factsheets/page/multi-facts](http://www.pbgc.gov/about/factsheets/page/multi-facts).

Although federal commitments for pension insurance are not expected to produce budgetary savings over the long term, CBO's cash-based projections indicate that PBGC's activities, taken as a whole, will have the net effect of reducing the deficit over the next 10 years.

**Background.** PBGC runs two financially separate programs that insure different types of defined benefit pensions: those offered by a single employer and those offered by groups of employers. The single-employer and multiemployer programs differ in the amount of benefits they insure, in what triggers claims for federal assistance, and in the sources of income available to the programs to pay claims.<sup>65</sup> PBGC's insurance coverage has no fixed maturity; plans are required to pay insurance premiums if they are subject to federal regulation and are covered by PBGC.

Under current law, PBGC's authority to pay claims under either program is limited by the amount of resources available to the program. (The resources of one program cannot be used to cover the claims of the other.) If a single-employer pension plan is terminated with insufficient assets to pay its promised benefits, PBGC immediately assumes the failed plan's liabilities and assets, which are placed in a trust fund that is not part of the federal budget (see Figure 4).<sup>66</sup> PBGC draws down those assets and also relies on insurance premiums from other single-employer plans to make monthly annuity payments to the plan's qualified retirees and their beneficiaries.

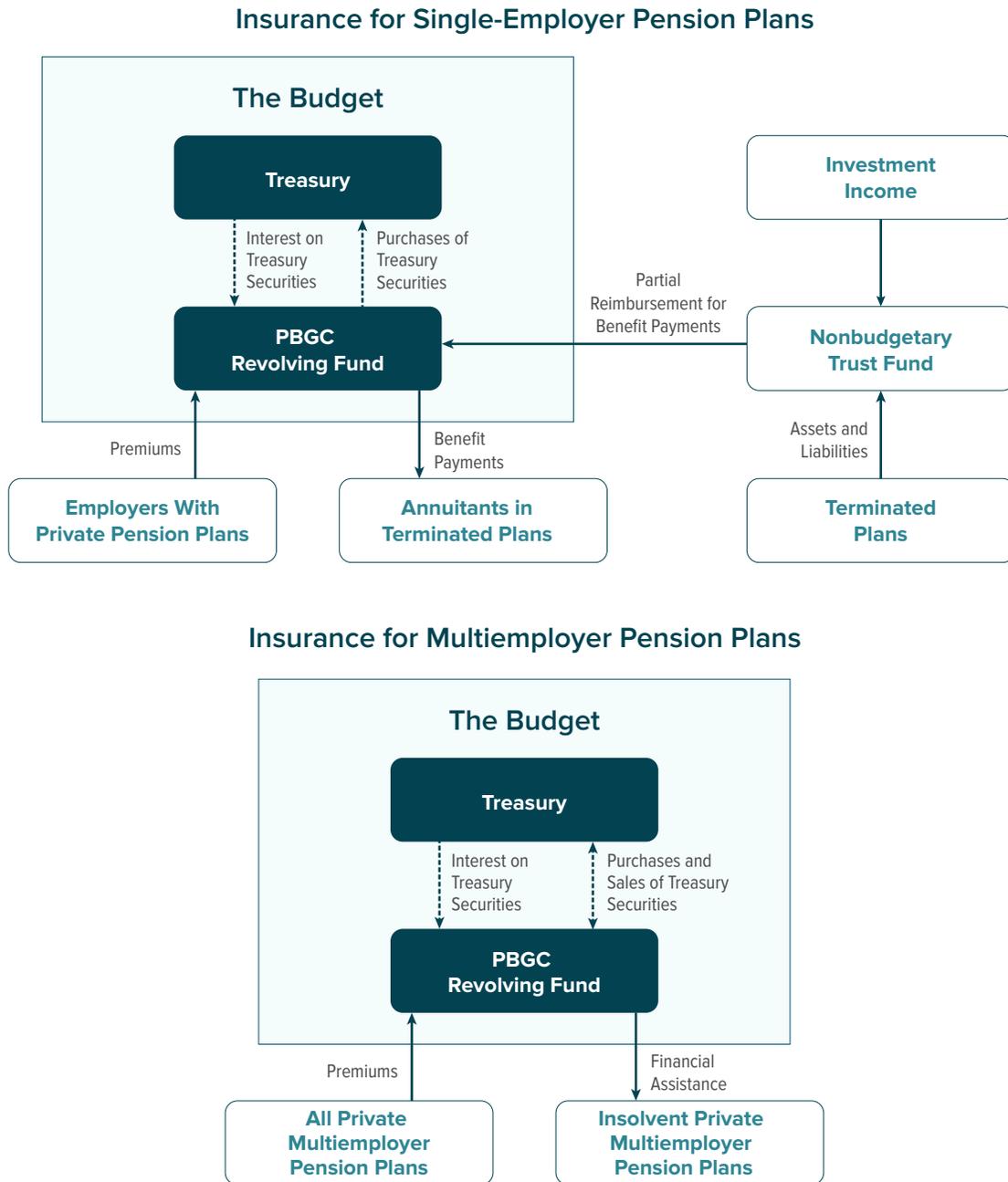
If a multiemployer plan becomes insolvent, by contrast, PBGC does not take over its assets or liabilities. Instead, the agency relies solely on the income of the multiemployer program (premiums paid by plans and interest paid by the Treasury on accumulated premiums) to cover the cost of providing financial assistance to an insolvent

65. For more information about defined benefit pension plans and the multiemployer program, see Congressional Budget Office, *Options to Improve the Financial Condition of the Pension Benefit Guaranty Corporation's Multiemployer Program* (August 2016), [www.cbo.gov/publication/51536](http://www.cbo.gov/publication/51536).

66. When PBGC takes over underfunded single-employer plans (or recognizes that an underfunded plan is likely to be taken over), PBGC's financial statements show a worsening of the agency's net financial position through changes in liabilities and assets related to the single-employer program. Cash-based budget projections are largely unaffected because the resulting changes in federal cash flows related to the single-employer program are gradual.

Figure 4.

**Current Budgetary Treatment of the Pension Benefit Guaranty Corporation’s Pension Insurance**



Source: Congressional Budget Office.

Intragovernmental payments (amounts paid by one part of the government to another) are indicated by dashed lines. Administrative costs are not shown.

Currently, both revolving funds for pension insurance programs have positive balances and purchase Treasury securities. However, CBO projects that the multiemployer program will become insolvent in 2025 and thus will have to sell its holdings to provide financial assistance to pension plans.

PBGC = Pension Benefit Guaranty Corporation.

plan, so the plan can continue to make payments to its beneficiaries.

### CBO's Cash Baseline Projections for Pension Insurance.

To date, PBGC has tended to collect more in premiums and other income for both the single-employer and multiemployer programs than it has paid in pension benefits and administrative expenses. Thus, PBGC has generally shown net budgetary savings, a trend that is expected to continue for most of the next decade. CBO projected in April 2018 that over the 2019–2028 period, the two programs' total income from premiums (\$104 billion) would more than cover their total outlays (\$97 billion), resulting in net budgetary savings of about \$7 billion on a cash basis under current law.<sup>67</sup>

Those projections reflect the constraints imposed by the budgetary resources available to PBGC under current law; as a result, they may understate the total amount of claims made on the two programs. Specifically, CBO projected in April 2018 that if current laws remained unchanged, the multiemployer program would exhaust its assets and become insolvent for the first time in its history in 2025. If that occurred, PBGC would not have sufficient resources to fully pay the claims that CBO estimates it will receive from multiemployer plans. As a result, the multiemployer program would need to reduce its claim payments to amounts that could be supported by its premium income. Accordingly, CBO's baseline projections of outlays for the multiemployer program incorporate the assumption that a portion of insured benefits—about 5 percent in 2028—would be unpayable under current law. The unpayable portion of benefits is projected to be larger beyond the 10-year budget window because of the expected distress and insolvency of some plans as well as the insolvency of the multiemployer program (see Figure 5).<sup>68</sup>

67. Those outlays include \$6 billion in administrative costs. PBGC is also projected to receive about \$31 billion in interest from the Treasury during that period, but those intragovernmental transfers do not affect the budget deficit. See Congressional Budget Office, "Pension Benefit Guaranty Corporation—CBO's April 2018 Baseline" (April 2018), [www.cbo.gov/sites/default/files/recurringdata/51305-2018-04-pbgc.pdf](http://www.cbo.gov/sites/default/files/recurringdata/51305-2018-04-pbgc.pdf) (77 KB).

68. In April 2018, CBO projected that the multiemployer program would receive \$3.6 billion in income (from premiums and intragovernmental interest) during the 2019–2028 period—\$2.3 billion less than the \$5.9 billion in claims and administrative expenses that the program is projected to pay during that period. CBO expects the projected insolvency of the

**Alternative Measures for Pension Insurance.** A variety of alternative measures, prepared on either a cash or an accrual basis, could provide helpful information about the budgetary effects of federal pension insurance. The usefulness of different approaches for constructing estimates depends on the purpose for which the estimates are used.<sup>69</sup>

Relative to the 10-year cash measures now used in the federal budget, accrual measures, with their net-present-value basis, would have a clear advantage in resolving pronounced timing-related distortions caused by the 10-year budget window. Thus, accrual measures would give lawmakers more complete information about the long-term effects of PBGC's insurance as well as information about how to set premiums to avoid underfunding. Cash projections that covered periods longer than 10 years would also be useful in highlighting long-term trends, but net-present-value measures for pension insurance would more clearly indicate PBGC's total anticipated budgetary effects. (As with deposit insurance, judgment would be required to define annual cohorts of pension insurance commitments because the coverage is permanent and has no fixed maturity.)<sup>70</sup>

multiemployer program in 2025 to cause \$9.6 billion in claims for insured benefits through 2028 to be unpayable in addition to any reductions in benefits that failing plans make themselves. See Congressional Budget Office, "Pension Benefit Guaranty Corporation—CBO's April 2018 Baseline" (April 2018), [www.cbo.gov/sites/default/files/recurringdata/51305-2018-04-pbgc.pdf](http://www.cbo.gov/sites/default/files/recurringdata/51305-2018-04-pbgc.pdf) (77 KB).

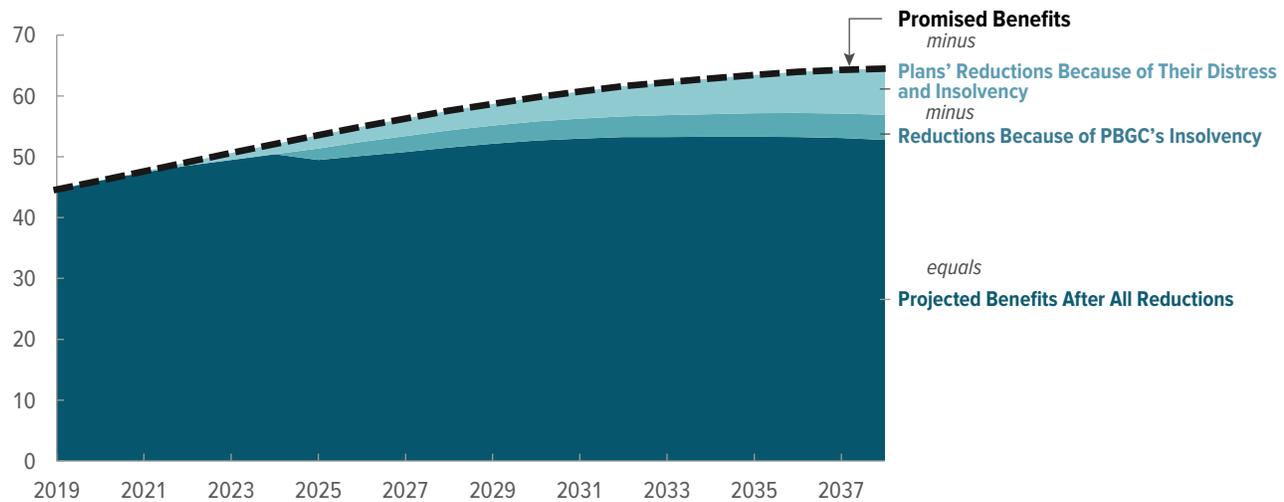
69. See Congressional Budget Office, *Comparing Budget and Accounting Measures of the Federal Government's Fiscal Condition* (December 2006), [www.cbo.gov/publication/18262](http://www.cbo.gov/publication/18262).

70. If accrual measures had been in place when PBGC was established in 1974, policymakers could have chosen to report in the first year the present value of the net cost of a program's expected obligations over some period, such as 20 years. That practice would have recognized the obligations before they were incurred. However, that approach would be less useful today, even though it would be consistent with the way in which private firms accrue their pension costs. PBGC's current obligations are largely the result of past policy decisions (though employees in covered plans are accruing additional benefits), and most new companies offer defined contribution plans, which are not insured by PBGC. The government's financial reports for PBGC recognize a liability for past failures of pension plans and accrue the cost of new failures in the current year. Essentially, that is the approach that CBO took in this analysis and in the past when measuring the cost of pension insurance. See Congressional Budget Office, *The Risk Exposure of the Pension Benefit Guaranty Corporation* (September 2005), [www.cbo.gov/publication/17160](http://www.cbo.gov/publication/17160).

Figure 5.

### Projected Annual Benefits Under Pension Insurance for Multiemployer Defined Benefit Pension Plans, 2019 to 2038

Billions of Dollars



Source: Congressional Budget Office.

PBGC = Pension Benefit Guaranty Corporation.

Both cash-based and accrual-based measures of PBGC's budgetary effects would depend on whether estimates of future costs stemming from the agency's commitments reflected or ignored potential resource constraints. Compared with CBO's current cash projections, which highlight the amount of claims projected to actually be paid under current law, measures that ignored budgetary constraints would help lawmakers track all claims for financial assistance, not just those that can be paid under current law. To that end, CBO supplements the information in its baseline projections for pension insurance with cash-based estimates of the total amount of claims anticipated during the 10-year budget window.<sup>71</sup>

In addition, CBO occasionally prepares accrual measures for PBGC's activities that ignore potential constraints on the programs' resources. CBO usually prepares those unconstrained accrual measures on a fair-value basis, which takes into account PBGC's significant exposure to market risk. (For more details about such measures, see Box 2.) Those fair-value estimates can be viewed as the

amount that a private investor would charge to assume PBGC's obligations to pay all of the future claims related to plans that become insolvent over a given period, such as the next 20 years.

In CBO's view, accrual estimates would be particularly useful in highlighting the effects of any proposed legislative changes to pension insurance. For example, a change that would reduce the amount of benefits that PBGC insures under the multiemployer program could significantly reduce claims for financial assistance and thereby improve PBGC's financial position. Relative to CBO's cash baseline projections, that proposal might have little effect on the deficit during the 10-year budget window because it would simply delay the insolvency of the multiemployer program farther beyond that window. In contrast, accrual estimates for such a proposal, whether prepared on a FCRA or a fair-value basis, would show savings and thus would be more helpful than cash estimates in illuminating the full effects of potential changes to pension insurance. In general, however, fair-value estimates would be more comprehensive than FCRA-based accrual estimates, given PBGC's significant exposure to market risk.

71. See Congressional Budget Office, "Pension Benefit Guaranty Corporation—CBO's April 2018 Baseline" (April 2018), [www.cbo.gov/sites/default/files/recurringdata/51305-2018-04-pbgc.pdf](http://www.cbo.gov/sites/default/files/recurringdata/51305-2018-04-pbgc.pdf) (77 KB).

### Three Approaches for Using Accrual Measures in the Federal Budget Process

To improve decisionmaking about the allocation of resources among and within federal insurance programs, policymakers could incorporate information about the long-term budgetary effects of those programs in various ways. This analysis focuses on three options:

- Adopting an accrual-based treatment for insurance programs in the federal budget,
- Using accrual measures only for purposes of Congressional budget enforcement, or
- Providing accrual estimates as supplemental information.

Which of those approaches might be preferable does not depend on whether the accrual measures incorporate the cost of market risk. In addition, the decision to implement any of those options might vary for different insurance programs, depending on the perceived value of the information that accrual measures would provide for a given program.

The more that accrual-based measures are formally incorporated into the budget process, the greater their potential to ensure that the long-term effects of programs are taken into account. Such changes would affect measures of programs' impact on the deficit, though possibly in varying ways. Such changes could also alter how statutory mechanisms to enforce budget targets—namely, required cuts to budgetary resources—would affect different programs.

#### Adopting an Accrual-Based Treatment in the Budget

Under this approach, accrual estimates for federal insurance programs would be reported in the budget and used for purposes of budget enforcement, as accrual estimates are now for federal credit programs. Such an approach would ensure that policymakers' decisions would be based on estimates of the net cost of federal commitments that captured cash flows beyond the 10-year budget window.

**Creating a New Account Structure.** Budgeting for insurance programs on an accrual basis would require a new account structure, which could be modeled on FCRA budgeting for credit programs. The key step would be to create an insurance fund (which would function like a

financing account for a credit program) that would serve as a nonbudgetary accounting mechanism for tracking a program's cash flows. For programs such as deposit and flood insurance, the existing accounting mechanisms used to track cash flows would serve that purpose. Premiums and other income would be credited to the insurance fund, which would disburse payments for claims and other expenses (see Figure 6).

Those cash flows would not be recorded in the budget. Instead, an on-budget accounting mechanism (similar to a program account under FCRA) would record the estimated subsidy cost of each year's cohort of insurance commitments. That cost would be the net present value of all of the future cash flows expected to stem from insurance commitments included in that cohort. If the FCRA model was followed, analysts would need to make periodic reestimates to reconcile the accrual estimates with actual cash flows for each insurance cohort.

If a program's commitments had net costs on an accrual basis—that is, positive subsidy costs—the on-budget program account would make payments to the insurance fund, provided it had legal authority to do so. If the program's commitments generated net savings—that is, negative subsidy costs—the insurance fund would make a payment to the Treasury that would be recorded as a receipt in budget totals. (Like a financing account for a credit program, the nonbudgetary insurance fund would account for its side of those transactions, but that aspect of the transactions would not be reflected in the budget totals.)

In the transition to an accrual budgetary treatment, policymakers would need to create a clear one-time separation between costs related to past commitments in existence at the time of the transition and costs related to new commitments. Following the approach used when FCRA was adopted, lawmakers could create liquidating accounts to report the cash flows of existing insurance policies and claims. That separation would be particularly important for pension insurance because payouts related to past commitments (single-employer plans that have already been taken over and multiemployer plans that are currently insolvent) could continue for decades.

**Other Considerations.** Besides making those changes to accounting mechanisms, policymakers would have to address several other issues in applying an accrual-based budgetary treatment to insurance programs.

## Box 2.

**Estimating the Fair-Value Cost of Federal Pension Insurance**

The rules that govern how pension plans are funded expose the Pension Benefit Guaranty Corporation (PBGC) to the risk of large losses—losses that far exceed PBGC’s ability to absorb them. In particular, the rules that specify how plans’ assets and liabilities are valued for purposes of determining the minimum amount of funding that employers must provide to pension plans create an incentive for plans’ managers to invest in risky securities, such as common stocks. The value of those assets can fluctuate considerably over time, whereas the benefits promised by plans remain fairly fixed.<sup>1</sup> Thus, a drop in the value of those assets can lead to major underfunding of plans, which makes their insolvency more likely. The fact that most pension plans use risky investment portfolios to fund their benefit liabilities exposes PBGC’s insurance to a great deal of market risk—in that PBGC is vulnerable to the risk that many plans will become significantly underfunded when returns on those investments are low, particularly during economic downturns.

Because of PBGC’s significant exposure to market risk, the Congressional Budget Office sometimes estimates the cost of pension insurance not only on the cash basis required for the federal budget but also on a fair-value basis.<sup>2</sup> That type

1. Stated differently, PBGC’s exposure to risk depends in part on the mismatch between the market risk exposure of a pension plan’s benefits (which is comparable to that of long-term corporate debt) and the market risk exposure of the plan’s assets. See Zvi Bodie, “What the Pension Benefit Guaranty Corporation Can Learn From the Federal Savings and Loan Insurance Corporation,” *Journal of Financial Services Research*, vol. 10, no. 1 (March 1996), pp. 83–100, <https://link.springer.com/article/10.1007/BF00120147>.

2. See, for example, Congressional Budget Office, *Options to Improve the Financial Condition of the Pension Benefit Guaranty Corporation’s*

of accrual measure approximates the market value of the insurance claims made on PBGC, net of premiums and other income. In CBO’s view, fair-value estimates provide a more comprehensive measure of PBGC’s net costs than either cash-based estimates or accrual measures prepared using the methodology prescribed in the Federal Credit Reform Act (FCRA).

Whether estimated on a fair-value or a FCRA basis, accrual measures are more inclusive than cash-based estimates because they incorporate the full lifetime of financial assistance claims from pension plans that are projected to become insolvent over a specific period. Accounting for the lifetime costs of plans’ insolvencies is important for PBGC’s multi-employer pension insurance because the structure of that program defers financial assistance payments until all other sources of funding have been exhausted. (Accrual measures include the entirety of PBGC’s obligations without regard to potential constraints on the resources available to pay claims, because a constrained accrual estimate would simply equal the current value of the assets available to the multiemployer program.)

Among accrual measures, however, fair-value estimates are more comprehensive than FCRA-based estimates because they account for market risk. CBO uses market prices to estimate the fair values of the assets and liabilities that PBGC assumes from failed plans. The difference between those two fair values

*Multiemployer Program* (August 2016), [www.cbo.gov/publication/51536](http://www.cbo.gov/publication/51536); and Wendy Kiska, Jason Levine, and Damien Moore, *Modeling the Costs of the Pension Benefit Guaranty Corporation’s Multiemployer Program*, Working Paper 2017-04 (Congressional Budget Office, June 2017), [www.cbo.gov/publication/52749](http://www.cbo.gov/publication/52749).

Continued

First, lawmakers would need to consider the extent to which reestimates of initial accrual estimates could be adopted and implemented automatically, without further legislation (as under FCRA), or would require new legislation. Under FCRA, reestimates align initial accrual estimates for cohorts of loans with actual results and automatically adjust the amount of budgetary resources legally available to agencies without triggering budget enforcement procedures. One virtue of automatic

reestimates is that they would provide a way to fully recognize the unanticipated budgetary effects of insurance commitments to policyholders.

For programs whose commitments are already fully funded under current law, such a change would merely alter when costs are recognized. However, for programs that face resource constraints (as could be the case for flood and pension insurance), providing permanent

Box 2.

Continued

### Estimating the Fair-Value Cost of Federal Pension Insurance

represents the amount that the government would have to pay a private-sector entity to take responsibility for covering any shortfall between the claims and income of PBGC's insurance programs. CBO's fair-value estimates are similar in concept to estimates of PBGC's net financial position presented in federal financial statements, which also use an accrual basis. However, PBGC's estimates do not include an adjustment for market risk. Instead, the agency simply discounts expected claims for financial assistance and premium income using the yield on Treasury securities—similar to the methodology prescribed in FCRA for estimating the accrual cost of federal credit programs.<sup>3</sup>

To illustrate the magnitude of the differences between alternative measures of the cost of pension insurance, CBO prepared three estimates based on the net claims that PBGC's multiemployer program is projected to face from insolvencies over the next 20 years:<sup>4</sup>

3. PBGC's financial reports present its actuarial imbalance, ignoring the constraints on the agency's budgetary resources. In 2017, PBGC's single-employer program had assets of \$106 billion and reported total liabilities of \$117 billion. Nearly all of those liabilities were for plans that PBGC had already taken over. The multiemployer program had assets of \$2 billion and reported total liabilities of \$67 billion, mostly for projected future assistance to plans that are likely to become insolvent in the next 10 years. (None of those figures reflect PBGC's exposure to market risk.) See Pension Benefit Guaranty Corporation, *Annual Report 2017* (November 15, 2017), pp. 29, 57–58, 95–97, [www.pbgc.gov/about/annual-reports/pbgc-annual-report-2017](http://www.pbgc.gov/about/annual-reports/pbgc-annual-report-2017).
4. These estimates update ones that CBO previously reported for the 2017–2036 period. See Wendy Kiska, Jason Levine, and Damien Moore, *Modeling the Costs of the Pension Benefit Guaranty Corporation's Multiemployer Program*, Working Paper 2017-04 (Congressional Budget Office, June 2017), [www.cbo.gov/publication/52749](http://www.cbo.gov/publication/52749); and Congressional

- On a cash basis, CBO projected that claims for financial assistance from multiemployer plans would total \$54 billion over the 2019–2038 period. But the multiemployer program's projected resources during that period (\$7 billion in premiums and interest) would limit the amount of claims that could be paid to \$7 billion, resulting in unpaid claims of \$47 billion.
- On a FCRA basis, CBO estimated that total projected lifetime claims from multiemployer plans expected to become insolvent during the 2019–2038 period have a present value of \$77 billion. The multiemployer program's projected income from premiums and interest over that period has a present value of \$5 billion, resulting in a net-present-value cost of \$72 billion.
- On a fair-value basis, CBO estimated that total projected lifetime claims from multiemployer plans expected to become insolvent during the 2019–2038 period have a present value of \$114 billion. That figure is much larger than the FCRA-based estimate because of the significant amount of market risk that the multiemployer program is exposed to. The net present value of income from premiums and interest is the same, \$5 billion, resulting in a net-present-value cost of \$109 billion. That fair-value estimate approximates the amount that a private insurer would need to be paid to assume PBGC's obligations to pay all claims from multiemployer plans expected to face insolvency over the next 20 years.

Budget Office, *Options to Improve the Financial Condition of the Pension Benefit Guaranty Corporation's Multiemployer Program* (August 2016), [www.cbo.gov/publication/51536](http://www.cbo.gov/publication/51536).

indefinite budget authority would change the nature of the government's commitment by ensuring that future costs would be fully funded rather than be subject to new legislation, as they are under current law.<sup>72</sup> If such permanent authority was provided for programs in

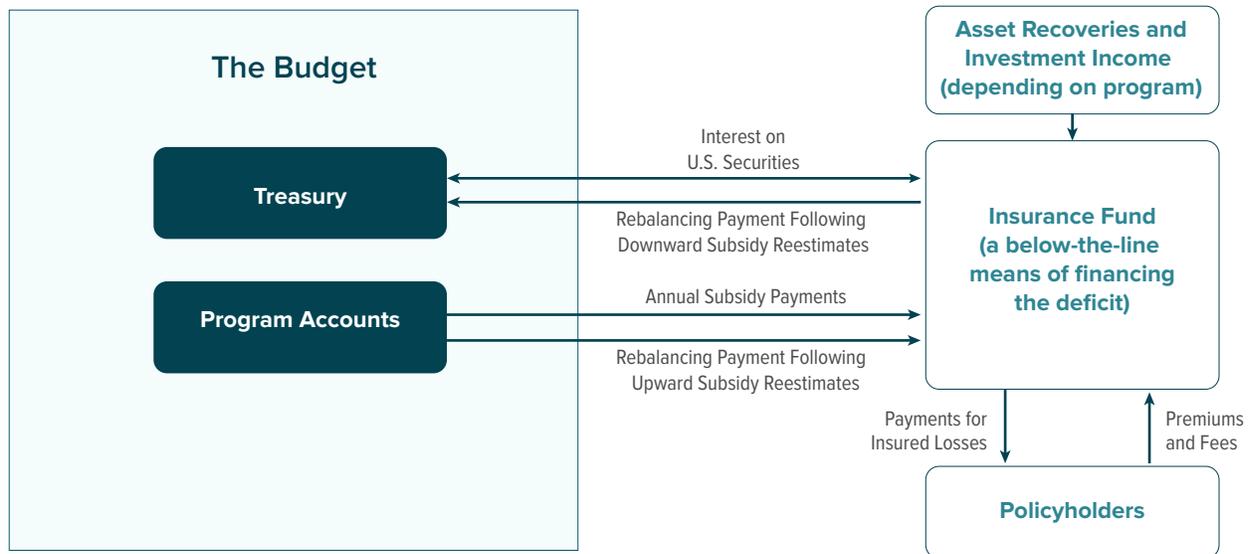
72. Under certain circumstances, the amount of budgetary resources that could be obligated to cover the costs of financial resolutions carried out through the Orderly Liquidation Fund could also be constrained. A formula specified in law caps the FDIC's obligations at amounts that are based on the value of the assets of institutions placed in receivership. In general, however, CBO considers such circumstances very unlikely to occur.

which the government's commitments are not necessarily legally binding, lawmakers would have less control over the amount of budgetary resources that programs would have available to pay claims when actual claims differed from initial estimates. One option would be to allow automatic reestimates but to set a cap on their total amount.

Second, lawmakers would need to decide how to treat the administrative costs associated with operating insurance programs. With federal credit programs, such costs are accounted for separately and are not included in

Figure 6.

### An Accrual Approach to Budgeting for Federal Insurance Programs With Positive Subsidy Costs



Source: Congressional Budget Office.

Administrative costs are not shown.

The cash flows between policyholders and the insurance fund, as well as asset recoveries and any investment income on private securities, would be a means of financing the deficit and would be excluded from calculations of the deficit. (In other words, the insurance fund would be a “below-the-line” account.) That treatment matches how financing accounts for credit programs are treated under credit reform accounting.

If an insurance program is estimated to have a net cost, the program account would make a single payment to the insurance fund for each insurance cohort, as shown in the figure. Alternatively, if an insurance program is expected to result in net savings, the insurance fund would make a payment to a receipt account in the Treasury.

Subsidy reestimates would be made periodically. (For credit programs, subsidy reestimates are generally prepared on an annual basis for each cohort.) A positive (or upward) reestimate would result in a payment from the program account to the insurance fund. A negative (or downward) reestimate would result in a payment from the insurance fund to the receipt account in the Treasury.

Annual interest payments between the Treasury and the insurance fund could flow in either direction. If the insurance fund had been a net borrower, it would pay interest to the Treasury. Alternatively, if the insurance fund held government securities, the Treasury would pay interest to it.

FCRA estimates. However, administrative costs for federal insurance programs are substantial, and accounting for them separately might lead to an artificial distinction between different types of costs that does not currently exist.

#### 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 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.<sup>73</sup>

The Congress could use accrual measures for insurance programs to enforce its budget targets, while the budget continued to report insurance-related costs on a cash basis. That approach would be less burdensome than

73. For more information about the roles that the Congress and OMB play in enforcing budget targets and executing budget-related legislation, see Congressional Budget Office, *Cash and Accrual Measures in Federal Budgeting* (January 2018), Box 1, pp. 4–5, [www.cbo.gov/publication/53461](http://www.cbo.gov/publication/53461).

formally adopting accrual measures for all aspects of federal budgeting and accounting. But it might still improve policymakers' ability to base decisions about allocating resources on the underlying economic substance of a legislative proposal rather than on the proposal's 10-year cash flows.

The major disadvantage of this approach is that the estimates that the Congress would use to consider new legislation might have a different basis than the estimates that the Administration would use to report budget totals and implement sequestrations. Although sequestrations have occurred only rarely, differences in estimates might marginally affect both the overall size of required reductions in federal spending and the distribution of those reductions among affected programs. In addition, 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.

### Providing Supplemental Estimates

Another alternative would be for estimators to provide accrual measures for federal insurance programs on a supplemental basis along with cash measures to highlight differences between the two. Including such information in legislative cost estimates or possibly in reports—as CBO has done on a limited basis—would be useful for insurance programs that involve long lags between the date of an obligation and the dates of claims. Such supplemental measures would not directly affect budget

totals or budget enforcement, so they might not influence budget and policy decisions to the same extent as the other options. However, policymakers would routinely have more information than they do now, and they could judge its usefulness.

A second type of supplemental information—which could be included with either cash-based or accrual-based estimates—would highlight the range of possible outcomes for the income and costs of insurance programs. The central estimates that make up CBO's projections are expected values, which reflect the weighted average of the distribution of possible outcomes. There are many good reasons for official cost estimates to report central estimates. But lawmakers might benefit from having more information about the possible outcomes and their weights and about how sensitive the distribution of outcomes is to changes in assumptions.<sup>74</sup>

For many federal insurance programs, claims are driven by low-probability, high-cost events, such as floods, financial crises, or terrorist attacks. Having more supplemental information about the range of possible outcomes could reduce the extent to which lawmakers were surprised by big losses. For example, supplemental information could highlight the fact that CBO's baseline projections for terrorism risk insurance reflect the judgment—informed by private-sector modelers of terrorism risks—that in most years there will be no acts of terrorism in the United States large enough for the federal program to incur claims, but that when losses do occur, they could be large.

74. See Matt Jensen, "Transparency for Congress's Scorekeepers," *National Affairs*, no. 34 (Winter 2018), <https://tinyurl.com/ydd4zmxh>.





# Appendix:

## Differences Between Cash and Accrual Estimates for the Terrorism Risk Insurance Act

**F**ollowing the terrorist attacks of September 11, 2001, lawmakers enacted the Terrorism Risk Insurance Act (TRIA) to provide catastrophic federal reinsurance for terrorism risks without charging premiums up front.<sup>1</sup> By offering reinsurance—insurance for insurers—the government helps primary insurers spread the risk of loss more widely and strengthens their ability to insure against catastrophes.<sup>2</sup>

TRIA, which is authorized through calendar year 2020, requires all property and casualty insurers to offer terrorism coverage to their commercial policyholders. (Property and casualty insurance covers businesses against losses from property damage, workers' compensation claims, business interruption, and most liability claims.) The federal government provides reinsurance to private insurers by agreeing to reimburse them for a portion of their terrorism-related losses of up to \$100 billion on commercial policies after an attack. Losses above that amount are not covered.<sup>3</sup>

Instead of charging up-front premiums for its reinsurance, the government is required to recover some of the

losses it incurs by taxing all commercial policyholders after an insured event. Specifically, TRIA mandates that the government recoup more than it spent to pay claims, up to a cap (or retention amount) equal to \$35.5 billion in 2018. TRIA's recoupment provisions require that the tax on policyholders be set to collect 140 percent of the difference between the retention amount and the amount that primary insurers paid in deductibles and copayments on their federal terrorism reinsurance. Setting the tax to yield 140 percent of that difference provides some compensation to the government for bearing risk.<sup>4</sup>

The Congressional Budget Office estimates TRIA's effects on the federal budget on an expected-value basis, taking into account the estimated probabilities of losses of all sizes, including the substantial likelihood that losses in any year will be zero. The most recent legislation to reauthorize TRIA (Public Law 114-1) extended the reinsurance program for six years, from calendar year 2015 through 2020. CBO estimated, on a cash basis, that the legislation would have the following effects over the 2015–2025 period:

- Increase federal spending by a total of \$3.1 billion,
- Increase revenues by a net total of about \$3.5 billion, and

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1. For more information about TRIA, see Congressional Budget Office, *Federal Reinsurance for Terrorism Risk: An Update* (January 2015), pp. 5–7, [www.cbo.gov/publication/49866](http://www.cbo.gov/publication/49866). Also see Government Accountability Office, *Terrorism Risk Insurance: Market Challenges May Exist for Current Structure and Alternative Approaches*, GAO-17-62 (January 2017), [www.gao.gov/products/GAO-17-62](http://www.gao.gov/products/GAO-17-62), and *Terrorism Risk Insurance: Comparison of Selected Programs in the United States and Foreign Countries*, GAO-16-316 (April 2016), [www.gao.gov/products/GAO-16-316](http://www.gao.gov/products/GAO-16-316).

2. See Congressional Budget Office, *Federal Reinsurance for Disasters* (September 2002), [www.cbo.gov/publication/14008](http://www.cbo.gov/publication/14008).

3. TRIA caps the combined liability of private insurers and the federal government at \$100 billion per year. When insured losses exceed \$100 billion, claims are supposed to be prorated, although the process for doing that is not specified in the law.

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4. That tax would reduce the base for income and payroll taxes, however, so the net federal revenues attributable to the recoupments would be significantly less than the gross amount of the recoupments. In 2015, the staff of the Joint Committee on Taxation and CBO estimated that the offsetting change in income and payroll tax revenues stemming from increases in business-related charges (such as recoupments under TRIA) equaled roughly 26 percent of the gross amount of revenues; that estimate is reflected in Table A-1.

Table A-1.

### Cash and Accrual Estimates of Legislation Reauthorizing the Terrorism Risk Insurance Program, 2015 to 2025

Millions of Dollars

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total, 2015–2025
<b>Cash Basis</b>												
Net Revenues <sup>a</sup>	0	200	410	520	700	410	400	290	250	310	0	3,490
Outlays	<u>120</u>	<u>280</u>	<u>370</u>	<u>440</u>	<u>480</u>	<u>510</u>	<u>380</u>	<u>230</u>	<u>140</u>	<u>90</u>	<u>70</u>	<u>3,110</u>
<b>Net Increase or Decrease (-) in the Deficit</b>	<b>120</b>	<b>80</b>	<b>-40</b>	<b>-80</b>	<b>-220</b>	<b>100</b>	<b>-20</b>	<b>-60</b>	<b>-110</b>	<b>-220</b>	<b>70</b>	<b>-380</b>
<b>Accrual Basis<sup>b</sup></b>												
Net Revenues <sup>a</sup>	510	540	560	560	560	580	n.a.	n.a.	n.a.	n.a.	n.a.	3,310
Outlays	<u>500</u>	<u>510</u>	<u>520</u>	<u>540</u>	<u>550</u>	<u>560</u>	<u>n.a.</u>	<u>n.a.</u>	<u>n.a.</u>	<u>n.a.</u>	<u>n.a.</u>	<u>3,180</u>
<b>Net Decrease (-) in the Deficit</b>	<b>-20</b>	<b>-30</b>	<b>-30</b>	<b>-20</b>	<b>-10</b>	<b>-20</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>-130</b>

Source: Congressional Budget Office.

The cash-based estimates come from Congressional Budget Office, cost estimate for H.R. 26, the Terrorism Risk Insurance Program Reauthorization Act of 2015 (January 8, 2015), [www.cbo.gov/publication/49888](http://www.cbo.gov/publication/49888). The accrual-based estimates (which are new) discount the cash-based projections using Treasury interest rates and using the same procedures required by the Federal Credit Reform Act to estimate subsidies for federal credit programs.

n.a. = not applicable (because H.R. 26 reauthorized the Terrorism Risk Insurance Program only through December 31, 2020).

a. Assessments charged to offset projected federal costs are recorded in the budget as revenues because they arise from the government's exercise of its sovereign power. Estimates of assessments related to the Terrorism Risk Insurance Program, like estimates for other business fees and tax-like collections, incorporate the assumption that the assessments would be partially offset by reduced payments of income and payroll taxes.

b. These accrual estimates do not reflect any adjustments for market risk.

- Reduce deficits by a net total of \$380 million (see Table A-1).<sup>5</sup>

Although CBO estimated, on an expected-value cash basis, that the program would result in net savings, it also projected that in the unlikely event of attacks comparable to or bigger than those of September 11, 2001, the program could result in significant federal outlays that might not be recouped completely.<sup>6</sup>

5. CBO also estimated that residual claims paid after 2025 on terrorist attacks before that date would total \$260 million, thus resulting in a total net reduction in future deficits of \$120 million on a cash basis. See Congressional Budget Office, cost estimate for H.R. 26, the Terrorism Risk Insurance Program Reauthorization Act of 2015 (January 8, 2015), [www.cbo.gov/publication/49888](http://www.cbo.gov/publication/49888), and cost estimate for H.R. 4871, the TRIA Reform Act of 2014 (July 15, 2014), [www.cbo.gov/publication/45535](http://www.cbo.gov/publication/45535).

6. The Secretary of the Treasury has the discretion to extend recoupments to recover some or all of the federal outlays corresponding to losses above the retention amount.

For this report, to illustrate the difference between cash and accrual measures for terrorism reinsurance, CBO estimated the effect of the 2015 TRIA reauthorization on an accrual basis. It used cash flow projections from the same underlying model used for the cash estimates but discounted those future cash flows to the present using interest rates on Treasury securities. On that net-present-value basis, CBO estimated that the savings attributable to one full year's worth of reinsurance commitments would average more than \$20 million. That amount reflects the difference between the present value of the federal payments for losses incurred in a given year and the present value of the revenues from taxes imposed by the government to recoup its costs for those losses. Over the 2015–2025 period, the TRIA program would produce total savings of \$130 million on an accrual basis, CBO estimates—about one-third of the \$380 million savings projected on a cash basis (see Table A-1).

The difference between cash and accrual measures of net savings is small compared with the program's projected spending and net revenues of more than \$3 billion.

That difference is relatively small for two reasons: The timing lag between the program's inflows and outflows is fairly short, and most of those projected cash flows occur within the 10-year budget window. In addition, the reauthorization law requires that all amounts due under the program's recoupment provisions be collected by September 30, 2024. Nevertheless, CBO expects that a small volume of claims on covered events projected to occur through 2020 would be paid after the 10-year period, causing a modest timing-related divergence between cash and accrual measures.

For this analysis, CBO followed the approach specified for credit programs in the Federal Credit Reform Act by discounting future cash flows using Treasury interest rates. However, because large terrorist attacks like the ones on September 11, 2001, can cause the stock market to drop, the terrorism reinsurance program exposes the government to market risk. Incorporating that risk into an accrual estimate on a fair-value basis would decrease the program's net savings—possibly resulting in net costs—but CBO has not developed such an estimate.



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## About This Document

This report was prepared at the request of the Chairman 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.

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CBO continually seeks feedback to make its work as useful as possible. Please send any feedback to [communications@cbo.gov](mailto:communications@cbo.gov).

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