

Transparency at CBO: Future Plans and a Review of 2022

Working Paper Series
 Congressional Budget Office
 Washington, D.C.

The Welfare Effects of Debt: Crowding Out and Risk Shifting
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 Working Paper 2022-10
 December 2022

THE FEDERAL BUDGET IN FISCAL YEAR 2021
 Mandatory \$4.8 Trillion 14.6% of GDP
 Discretionary \$1.6 Trillion 4.9% of GDP
 Net Interest \$392 billion 1.6% of GDP
Total Outlays \$6.8 Trillion 30.5% of GDP
 Social Security \$2.1 Trillion 9.7% of GDP
 Medicare \$2.0 Trillion 9.3% of GDP
 Medicaid \$1.7 Trillion 7.9% of GDP
 Other \$1.0 Trillion 4.6% of GDP

How CBO Analyzes Risk Sharing in Insurance Markets
 Michael Falkenheim
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 Working Paper 2022-10
 December 2022

CBO's 2022 Long-Term Projections for Social Security

Spending for Medicaid by Eligibility Category

Percentage of Gross Domestic Product
 Revenues
 Outlays
 Outlays With Scheduled Benefits
 Outlays With Unscheduled Benefits

Highlights of CBO's Recent Transparency Efforts
 Congressional Budget Office
 Nonpartisan Analysis for the U.S. Congress
 March 10, 2022

Estimates of Carbon Dioxide Emissions From Transportation Under Three Scenarios for Economic Growth, 2021 to 2032
 Higher Growth
 Medium Growth
 Lower Growth

A Single-Payer Health Care System That Is Based on Medicare's Fee-for-Service Program
 Phillip L. Swagel
 Director
 Before the Committee on the Budget
 United States Senate

Changes in CBO's Baseline Projections of the 10-Year Deficit Since July 2021

At a Glance

Transparency is a top priority for the Congressional Budget Office, and the agency continues to bolster its efforts to be transparent. Those efforts are intended to promote a thorough understanding of its work, help people gauge how estimates might change if policies or circumstances differed, and enhance the credibility of its analyses and processes. This report fulfills CBO's requirement to report on its plans for such efforts.

In 2023, the agency will undertake many activities aimed at fostering transparency, such as the following:

- Providing additional information to help people understand the federal budget process and CBO's role in that process; and
- Explaining the methods it uses for its analyses in several topic areas, including national security, climate change, and economic projections.

Those efforts will build on CBO's activities in 2022, which included testifying before Congressional committees and answering Members' questions, releasing data, evaluating the accuracy of the agency's estimates, comparing current estimates with previous ones, estimating the effects of policy alternatives, characterizing the uncertainty surrounding estimates, creating data visualizations, and conducting outreach.

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Transparency at CBO: Future Plans and a Review of 2022

Summary

Transparency is a top priority for the Congressional Budget Office, and the agency continues to bolster its efforts to be transparent.

When CBO says it strives to be transparent, it has three specific goals in mind:

- To promote a thorough understanding of the agency's analyses through accessible, clear, and detailed communication;
- To help people gauge how estimates might change if policies or circumstances differed; and
- To enhance the credibility of the agency's analyses and processes by showing that they are grounded in data and high-quality professional research and are informed by feedback from a range of subject-matter experts.

In response to ongoing interest expressed by the Congress in CBO's efforts to be transparent, CBO provides an annual report updating the Congress on its transparency activities.¹ This edition reviews CBO's transparency activities in 2022 and forecasts future work. A continually updated list of the agency's most recent activities is available at www.cbo.gov/about/transparency.

Future Plans

This year, CBO will undertake many different transparency activities. They include testifying before Congressional committees and answering Members' questions, explaining CBO's analytic methods, releasing data, analyzing the accuracy of the agency's estimates, comparing current estimates with previous ones, estimating the effects of policy alternatives, characterizing the uncertainty surrounding estimates, creating data visualizations, and conducting outreach. In particular,

the outreach will include continued interaction on a daily basis with the Congress to explain the agency's estimates and obtain feedback and with outside experts to obtain advice. Projects for which the scope has been fully developed—including those providing information about the federal budget process and explaining methods used in analyses of national security, climate change, and the economy—are described in this report. Other projects will be initiated as well.

Review of 2022

In 2022, as CBO pursued its goals for transparency, it undertook these 10 types of activities:

- **Testifying and publishing answers to questions.** CBO testified at four Congressional hearings and responded to requests from the Congress for public answers to specific questions. In addition to presenting written statements, making oral remarks, and answering questions at the hearings, the agency published answers to eight written questions that Members submitted after the hearings.
- **Explaining its analytic methods.** CBO published various reports explaining its analyses and made supporting documents and some computer code available. Also, in many cost estimates, CBO included a section describing the basis of the estimate.
- **Releasing data.** CBO began publishing estimates for legislation expected to be considered in the House of Representatives under expedited processes. *The Budget and Economic Outlook: 2022 to 2032, An Analysis of the President's 2023 Budget*, and several other reports were supplemented with comprehensive sets of data files. In total, 43 reports were accompanied by files providing the data underlying their figures.
- **Analyzing the accuracy of its estimates.** CBO released a comprehensive report about the accuracy of its budget projections for fiscal year 2021.

1. For CBO's 2022 transparency update, see Congressional Budget Office, *Transparency at CBO: Future Plans and a Review of 2021* (March 2022), www.cbo.gov/publication/57701.

- **Comparing its current estimates with its previous estimates.** In several of its recurring publications released in 2022, CBO explained the differences between its current projections and those the agency had previously published. In addition, cost estimates explained the extent to which the provisions being analyzed and the resulting estimates were similar to or different from those in earlier cost estimates published during the same Congressional session.
- **Comparing its estimates with those of others.** CBO regularly compared its estimates with outside estimates—including the budget projections of the Administration, the economic projections of private-sector forecasters and other government agencies, and the policy analyses of various organizations. (In addition, when time did not allow for a written publication, CBO often discussed comparisons with Congressional staff.)
- **Estimating the effects of policy alternatives.** CBO prepared reports and created interactive products to estimate the effects that alternative assumptions about future policies would have on economic and budgetary outcomes. In the two volumes of *Options for Reducing the Deficit, 2023 to 2032*, the agency described 76 policy options that would decrease federal spending or increase federal revenues over the next decade. Other products examined the effects of policies that would change the prices insurers pay for hospitals' and physicians' services, work requirements for recipients of means-tested benefits, the age of eligibility for Medicare, and the minimum wage.
- **Describing the uncertainty surrounding its estimates.** In cost estimates and several major reports—including those on the budget and economic outlook—the agency discussed the uncertainty surrounding its estimates.
- **Creating data visualizations.** To make CBO's projections and analyses easier to understand, the agency published visual reports, chartbooks, slide decks, interactive tools, and infographics. In addition, CBO published visual summaries—short summaries that use figures to highlight the main points of a report—for several of its major reports.
- **Conducting outreach.** The most important form of outreach the agency performed in 2022 was the direct communication (in person, by videoconference, by phone, and by email) between CBO and the Congress. In addition, CBO solicited input from a range of

policy experts through its Panel of Economic Advisers and Panel of Health Advisers and obtained many external reviews of its work. CBO's staff also made presentations about the agency's processes and recently completed work. Finally, the agency also worked to make the information it provides more accessible.

Background

CBO's transparency efforts are built on a strong foundation that has been laid over many years. Recently, the agency has allocated additional resources to do even more. For 2022, the Congress increased CBO's budget, in part to allow the agency to continue hiring staff to contribute to transparency and responsiveness, building on the agency's expansion since 2018. Almost all staff members contribute to the agency's transparency efforts by spending at least some of their time on such activities.

As CBO continues efforts to improve its transparency, it must constantly balance those efforts with its commitment to respond quickly to the Congress's needs and with its professional responsibility to release reports and estimates only when they reach sufficient quality. Being transparent has costs, and CBO must weigh the benefits and costs of devoting resources to different activities. The agency welcomes feedback about what people find most useful and suggestions about other ways in which it can provide more information about its work.

CBO's efforts to be transparent enhance its long-standing commitment to providing information that is objective, insightful, timely, and clearly presented and explained. Those efforts support the agency's dedication to maintaining a level playing field regarding access to the information and analysis that it provides, thus ensuring that its work is made widely available to the Congress and the public. (Work on proposals that have not been made public remains confidential to facilitate the development of legislation.)

CBO's transparency efforts complement its process for publicly releasing all of its cost estimates and analytic reports. Through that process, CBO delivers its work to interested Members of Congress and their staff, including the sponsor of legislation or the requester of the report; the Chairman and Ranking Member of the committees with jurisdiction over the subject at hand; and the budget committees. At about the same time, the agency posts the work on its website. In addition, an email service and Twitter announcements notify subscribers when the agency publishes its work.

CBO's Transparency Plans for 2023

In 2023, CBO plans to continue its efforts to undertake the 10 types of transparency activities discussed above.

Testifying and Publishing Answers to Questions

CBO expects to testify about its budget and economic outlook and other topics as requested by the Congress in 2023. Testifying involves presenting written statements, making oral remarks, and answering questions at hearings, as well as publishing answers to questions that Members submit for the record after the hearings. CBO will also continue to respond to matters raised as part of the oversight provided by the budget committees and by the Congress more broadly. In addition, the agency expects that Members of Congress will ask other questions to which it will publish responses.

Explaining Analytic Methods

This year, CBO has already released 16 products that include explanations of the agency's analytic methods. The agency will continue to release products that explain models and methods that it uses to create cost estimates and support the analysis in its reports. Those products will cover a wide range of topics—health care, macroeconomic issues, taxation, national defense, and other topics.

CBO has already produced the following in 2023:

- A [report](#) that describes the size and nature of the federal government's credit and insurance portfolio (released on March 21, 2023);
- A [working paper](#) examining how Alabama's recent expansion of its work requirement for participants in the Temporary Assistance for Needy Families program affects their employment and income (released on March 9, 2023);
- A [slide deck](#) explaining how CBO estimated the budgetary impact of prescription drug provisions in the 2022 reconciliation act (released on February 17, 2023);
- A [slide deck](#) providing additional information about CBO's most recent projections of remittances to the Treasury from the Federal Reserve (released on February 15, 2023);
- A [slide deck](#) explaining how CBO projects realized capital gains (released on February 15, 2023);

- A [report](#) explaining the debt limit and projecting how long the Treasury will be able to continue using "extraordinary measures" to borrow additional funds without breaching that limit (released on February 15, 2023);
- A [report](#) reexamining the availability and use of the Department of Defense's F-35 fighter aircraft (released on February 13, 2023);
- A [working paper](#) examining how changes in retirement wealth, including those stemming from the shift from defined benefit to defined contribution plans, affect measures of wealth concentration (released on February 10, 2023);
- A [visual report](#) describing the Super Hornet fighter aircraft (released on February 9, 2023);
- A [report](#) on the issues and budgetary choices involved in the procurement of hypersonic weapons (released on January 31, 2023);
- A [slide deck](#) outlining the models CBO uses to assess the budgetary effects of alternative economic scenarios such as those presented in *CBO's Current View of the Economy in 2023 and 2024 and the Budgetary Implications* (released on January 19, 2023);
- A [slide deck](#) describing how CBO used a Bayesian vector autoregression model to assess the uncertainty of the economic forecast presented in *CBO's Current View of the Economy in 2023 and 2024 and the Budgetary Implications* (released on January 19, 2023);
- A [slide deck](#) describing how CBO used a Markov-switching model to assess the uncertainty of the economic forecast presented in *CBO's Current View of the Economy in 2023 and 2024 and the Budgetary Implications* (released on January 19, 2023);
- A [working paper](#) examining the effects of reductions in physician payments on the use of physicians' services by dual-eligible beneficiaries—people enrolled in both Medicare and Medicaid—over the 1999–2012 period (released on January 6, 2023); and
- A [report](#) describing CBO, its work, and its processes in an introduction to the agency that is typically updated at the start of each Congress (released on January 3, 2023).

Forthcoming publications will provide more information on the **budget process**:

- A report that describes how CBO prepares cost estimates;
- A report on how CBO prepares its baseline budget projections;
- A report describing the principles that underlie the agency's estimates of the budgetary costs of federal mandates;
- A report explaining how statutes affect the agency's baseline construction process; and
- An explanation of the budgetary treatment of rescissions.

Explanatory products on **other topics** scheduled to be completed this year include the following:

- A report analyzing the effects of federal policies that would lift or relax the exclusion of federal Medicaid payments for institutions for mental disease, or IMDs;
- A working paper examining the role of the U.S. dollar as an international currency;
- A visual report examining low-altitude satellites;
- A report that assesses how flood risk varies by income and demographic characteristics and how that risk is expected to evolve over time because of climate change;
- A visual report that describes student loan repayment over time; and
- A report examining the federal government's exposure to flood risk through residential mortgage guarantee programs.

Releasing Data

Whenever possible, CBO publishes extensive sets of data in conjunction with its major recurring reports. Those data sets include detailed information on the agency's 10-year budget projections; historical budget data; 10-year trust fund projections; revenue projections, by category; spending projections, by budget account; estimates of automatic stabilizers; tax parameters and effective marginal tax rates on labor and capital; long-term budget projections; 10-year projections of economic variables (including data about the economy's maximum

sustainable output); and historical data and economic projections.

The agency will also provide details—both in spreadsheets and in PDFs—about its baseline projections for these specific programs: the Federal Pell Grant Program, student loan programs, the Children's Health Insurance Program, federal subsidies for health insurance, Medicaid, Medicare, the military retirement program, the Pension Benefit Guaranty Corporation, the Social Security Disability Insurance program, the Social Security Old-Age and Survivors Insurance program, the trust funds for Social Security, child nutrition programs, child support enforcement and collections, foster care and adoption assistance programs, the Supplemental Nutrition Assistance Program, the Supplemental Security Income program, the Temporary Assistance for Needy Families program, the unemployment compensation program, the Department of Agriculture's mandatory farm programs, federal programs that guarantee mortgages, programs funded by the Highway Trust Fund, benefits for veterans and military personnel stemming from the Post-9/11 GI Bill, and veterans' disability compensation and pension program.

In addition, when CBO publishes its analysis of the distribution of household income in 2020, it will release a table builder that allows people to explore CBO's database on the distribution of household income and federal taxes and transfers. When the agency analyzes the President's budget request for 2024, it will post a set of files providing estimates of the budgetary effects of specific proposals. CBO has already published detailed data on expired or expiring authorizations of appropriations. Throughout the year, the agency will post the data underlying the figures in various reports. Also, CBO will continue to publish information about its estimates for appropriation bills in the more accessible format that it began using in 2019.

Analyzing the Accuracy of CBO's Estimates

CBO will continue its series of publications that review the accuracy of its outlay and revenue projections for the previous year. (One report, examining the accuracy of CBO's budget projections for fiscal year 2022, has already been released.) In addition, the agency will seek to identify opportunities to review the accuracy of its previous forecasts and cost estimates.

Comparing Current Estimates With Previous Estimates

In several of its recurring reports—about the budget and economic outlook, federal subsidies for health insurance, the costs of the Navy’s shipbuilding plan, and the distribution of household income—CBO will continue to explain the differences between the current year’s projections and those from the previous year. In its cost estimates, CBO will continue to identify related legislative provisions for which it has provided estimates during the current Congressional session and explain the extent to which the provisions and estimates at hand are similar or different.

Comparing CBO’s Estimates With Those of Other Organizations

The agency will continue to regularly publish analysis comparing its budget projections with the Administration’s and its economic projections with those of private forecasters and other government agencies. The agency will also include comparisons of estimates in various other reports. In addition, when time does not allow for publication but interest in a comparison of CBO’s estimates with others’ is high, analysts will discuss such comparisons with Congressional staff.

Estimating the Effects of Policy Alternatives

CBO will publish reports that illustrate the potential effects of policy proposals across a range of topics. This year, CBO has already published an interactive [workbook](#) that allows users to see how revenues and outlays that differed from those in CBO’s February 2023 baseline budget projections would increase or decrease net interest costs and thus affect deficits and debt. The agency also published a [report](#) examining the issues and budgetary choices involved in the procurement of hypersonic weapons. CBO will also publish an analysis of the effects of federal policy options to lift or relax the exclusion of federal Medicaid payments for IMDs.

Characterizing the Uncertainty of CBO’s Estimates

CBO’s budget and economic estimates reflect the middle of a range of outcomes under a given set of policies. In its publications, CBO will discuss the sources of uncertainty in its analyses, such as those in the *Budget and Economic Outlook*, to help make clear the factors that might cause estimates or outcomes to differ in the future. In addition, cost estimates will continue to feature, when

necessary, a section on specific areas of uncertainty in the estimate.

Creating Data Visualizations

CBO has already published three visual reports this year: [one](#) on its 10-year economic projections (released on February 21, 2023), [one](#) that describes the Super Hornet fighter aircraft (released on February 9, 2023), and [one](#) on the demographic outlook from 2023 to 2053 (released on January 24, 2023). The agency has also published two interactive tools: a [waterfall model](#) that simulates the agency’s process for projecting discretionary budget authority and outlays for different types of spending over the course of 10 years (released on March 1, 2023) and a [workbook](#) that allows users to see how revenues and outlays that differed from those in CBO’s February 2023 baseline budget projections would increase or decrease net interest costs and thus affect deficits and debt (released on February 16, 2023). In addition, CBO published a [chartbook](#) on financial exposures of the federal government (released on March 21, 2023).

CBO will also publish a visual report that examines low-altitude satellites. In addition, the agency will create infographics and an interactive tool about the 2022 federal budget. The agency will continue to look for opportunities to include graphics to enhance the explanations in some of its cost estimates.

Conducting Outreach

CBO will continue to communicate daily with people outside the agency to explain its findings and methods, respond to questions, and obtain feedback. The agency’s Director will meet regularly with Members of Congress to do the same. In March 2023, CBO’s Director [briefed](#) the House of Representatives as a whole on the budget, the economy, and the budgetary effects of legislative changes.

After CBO’s baseline is published, the agency’s staff will discuss the new projections with Congressional staff and answer their questions.

CBO will also continue to obtain and respond to input from its Panel of Economic Advisers and Panel of Health Advisers.

The agency will continue to turn to other experts as well. Many reports will benefit from written comments made by outside experts on early drafts. For some recurring

reports produced on compressed timetables, the agency will solicit comments on previous editions and on selected technical issues and use that feedback to improve future editions.

CBO staff will continue to give presentations on Capitol Hill—some in collaboration with the Congressional Research Service—on its budget and economic projections and on other topics. Those presentations allow CBO to explain its work and answer questions. The agency will also give presentations about its findings and about work in progress in a variety of other venues to offer explanations and gather feedback. In addition, CBO will publish HTML versions of all reports to make them more accessible.

A Review of CBO's Transparency Efforts in 2022

In 2022, CBO's publications—including reports, working papers, presentations, interactive tools, data sets, and computer code—contributed to transparency activities that can be grouped into 10 categories.

Testifying and Publishing Answers to Questions

In 2022, representatives of CBO appeared as witnesses at four Congressional hearings. In addition to presenting written statements, making oral remarks, and answering questions at the hearings, the agency published answers to written questions that Members submitted after the hearings. These are the venues and topics (along with CBO's answers to Members' questions):

- Before the House Budget Committee about the [budget and economic outlook](#) (followed by [responses to three questions for the record](#) about the fiscal effects of inflation and other aspects of CBO's budget projections);
- Before the Senate Budget Committee about the [effects of a single-payer health care system based on Medicare's fee-for-service program](#) (followed by [answers to two questions for the record](#) about how compensation to medical providers and spending on prescription drugs would change under a single-payer system);
- Before the Senate Appropriations Committee's Subcommittee on the Legislative Branch about [CBO's budget request for fiscal year 2023](#) (followed by [answers to two questions for the record](#) about when the agency's report on expired and expiring authorizations would be completed and how

additional resources could improve the agency's timeliness in producing reports); and

- Before the House Appropriations Committee's Subcommittee on the Legislative Branch about [CBO's appropriation request for fiscal year 2023](#) (followed by an [answer to a question for the record](#) about how the agency could provide information on the debt-service costs of legislation).

In addition, in December 2022, CBO published a [statement for the record](#) explaining how CBO would estimate the effects of future authorizing legislation on spending from the Toxic Exposures Fund.

Explaining Analytic Methods

CBO's estimates are produced by teams of people who use information obtained from experts, data, and research to determine which analytic methods to use. The agency aims to explain its methods, sometimes for a general audience and sometimes by providing technical information.

General Information. In 2022, CBO published the following material providing details about methods underlying particular analyses and offering additional detail on issues:

- A [report](#) describing how CBO analyzes public-private risk sharing in insurance markets and how that risk sharing affects the federal budget;
- A [report](#) on trends in funding and spending for the Army Corps of Engineers and explaining how CBO treats that agency's activities in its baseline and cost estimates;
- A [report](#) that provides information about how CBO treats the Federal Emergency Management Agency's Disaster Relief Fund in its baseline and cost estimates;
- A [visual report](#) that presents estimates of the Army's cost to eliminate its deferred maintenance backlog and to renovate and modernize its buildings;
- A [report](#) about the distribution of household income, means-tested transfers, and federal taxes between 1979 and 2019;
- A [report](#) that analyzes the Navy's fiscal year 2023 shipbuilding plan;
- A [report](#) about the income, spending, and budgetary effects of the Housing Trust Fund (managed by the Department of Housing and Urban Development) and the Capital Magnet Fund (managed by the

Department of the Treasury), how their grants are used in the production of low-income housing, and how the funds compare with other support for affordable housing;

- A [report](#) describing CBO’s projections of the budgetary effects of automatic stabilizers and historical estimates of the stabilizers’ effects since 1972;
- A [report](#) explaining why CBO applies a revenue offset to estimates of changes in excise taxes and certain other taxes;
- A [report](#) providing an overview of the federal response to the abuse of opioids;
- A [report](#) about how inflation has affected households at different income levels since 2019;
- A [report](#) examining the mechanisms by which quantitative easing—large asset-purchasing programs conducted by the Federal Reserve—affects the federal budget deficit;
- A [report](#) on the issues involved in pricing emissions of methane from oil and gas;
- A [report](#) providing estimates of the budgetary effects of federal credit programs in 2023;
- A [report](#) about wildfires and their effects on the federal budget, the environment, people’s health, and the economy;
- A [report](#) on the economic effects of waiting to stabilize the federal debt;
- An [interactive tool](#) that allows users to see how revenues and outlays that differed from those in CBO’s May 2022 baseline budget projections would increase or decrease deficits and debt;
- An [update](#) to the interactive tool for analyzing the force structure of the U.S. military and understanding how that structure influences defense spending;
- A [visual report](#) on the availability and use of F-35 aircraft;
- A [report](#) analyzing funding for public transportation;
- A [report](#) on nationwide trends in prescription drug spending, use, and prices;
- A [report](#) on the securitization programs of the Government National Mortgage Association (Ginnie Mae); and

- A [report](#) on the availability and use of aircraft in the Air Force and Navy.

Technical Information. CBO also published details intended to help analysts outside the agency understand its work.

On **macroeconomic issues**, CBO published the following:

- A [working paper](#) analyzing the welfare effects of debt, along with [computer code and data](#) that allow users to replicate the paper’s results and figures;
- A [working paper](#) describing CBO’s small-scale model for analyzing the macroeconomic effects of policy changes;
- A [working paper](#) presenting a method for assessing uncertainty in long-term economic projections;
- A [working paper](#) on the Markov-switching model that CBO developed to analyze unemployment;
- A [working paper](#) about how expectations of inflation affect the economy; and
- A [working paper](#) assessing the macroeconomic effects of five illustrative single-payer health care systems.

On **tax and transfer policies**, CBO published the following analyses:

- A [working paper](#) describing the methods CBO is developing to analyze policies’ different effects on people with different income; and
- A [working paper](#) that describes a model CBO developed to estimate the effect that federal taxes have on capital income from new investment, along with [computer code](#) for the model used in that analysis.

Publications on **other topics** included the following:

- A [report](#) presenting CBO’s revenue and outlay projections for 2022 to 2032 translated to the receipts and expenditures used in the framework for the national income and product accounts (maintained by the Bureau of Economic Analysis).
- An [interactive tool](#) that allows users to explore the effects of policies that would increase the federal minimum wage, as well as [additional computer code and data](#) used to estimate the employment elasticities used in that analysis.

- A [working paper](#) providing a technical description of a model for estimating what is termed the fair value of mortgage guarantees, using prices from private mortgage insurers; and
- A [working paper](#) on the effects of interest rates on the budget.

Releasing Data

In 2022, CBO continued publishing weekly tables that include estimates for legislation expected to be considered in the House of Representatives under the suspension of the rules (the process by which the House can pass a bill in an expedited manner). Those tables provide the bill number and name, a summary of the effects on mandatory spending and revenues, and links to the bill text and a published estimate, if available.

In 2022, CBO also provided many files of data underlying the analyses for its major reports and a number of other studies. The agency maintains a page on its website with links to current and past releases of the [budget and economic data](#) underlying its key projections.

New files on the following topics were posted on the website at least once, and in some cases twice, related to updates the agency made to its budget and economic baseline in May 2022:

- [10-year budget projections](#), including projections of federal spending, revenues, deficits, and debt held by the public;
- [Historical budget data](#), showing revenues, outlays, and the deficit or surplus since 1965;
- [10-year trust fund projections](#), showing the balances and the deficits or surpluses for Social Security, Medicare, military retirement, civilian retirement, and other trust funds;
- [Revenue projections, by category](#), with additional details about adjusted gross income, taxable income, and income tax liability;
- [Spending projections, by budget account](#), which show budget authority and outlays organized by Treasury identification number;
- The [tax parameters and effective marginal tax rates](#) on labor and capital used in CBO’s microsimulation tax model and economic forecast, respectively;
- [Long-term budget projections](#), showing estimates of CBO’s key projections in a 30-year budget window;
- [10-year economic projections](#), showing estimates of output, prices, labor market measures, interest rates, income, and other economic factors; and
- [Historical economic data](#), including estimates of output, prices, labor market measures, interest rates, income, and other economic factors.

CBO also maintains a page on its website with details about many of its past and current [10-year baseline projections for selected programs](#). In all, the agency publishes 25 files with information on different programs.

Some of those files provide information on health and education programs:

- [Data on the Federal Pell Grant Program](#) include projections of the program’s three sources of funding—discretionary budget authority, which provides the largest portion and supports a maximum award that is set in an annual appropriation act; mandatory budget authority, which is specified in the Higher Education Act of 1965; and a “mandatory add-on,” which is automatically added (on the basis of a formula) to the discretionary portion of each award.
- [Data on student loan programs](#) provide details on the agency’s projections of the cost for each associated budget account (estimated using the procedures established in the Federal Credit Reform Act, or FCRA), projections of loan volume and subsidy rates for the direct student loans made using those procedures, estimates of administrative costs, projections of interest rates for borrowers, and projections of the cost of the programs made using fair-value estimating procedures.
- [Data on the Children’s Health Insurance Program](#) include projections of federal funding, average monthly enrollment in the program by age, average annual federal spending per enrollee, and details on the total funding available based on budget authority and other factors.
- [Data on federal subsidies for health insurance](#) (including the effects of the Affordable Care Act) provide details about the agency’s projections of health insurance coverage and its projections of net

federal subsidies associated with each type of insurance coverage.

- **Medicaid data** provide details about the agency's projections of federal payments by type of Medicaid benefit, including acute care, fee-for-service, managed care, Medicare premiums, long-term care, and vaccines for children. Also included in the files are details on enrollment, total payments, and payments per enrollee by Medicaid eligibility category (aged, blind or disabled, children, and adults).
- **Medicare data** include detailed projections of mandatory outlays, benefit payments, annual growth rates, payment updates and changes in price indexes, enrollment, the status of the Hospital Insurance Trust Fund, and offsetting receipts.

Other program-specific files relate to pensions and Social Security:

- **Data about the military retirement program** include projections of the number of beneficiaries and average annual benefits for retirees and for surviving spouses and dependents of deceased service members.
- **Data about the Pension Benefit Guaranty Corporation** provide details on CBO's projections of premiums, interest receipts, and outlays for the single-employer program, the multiemployer plan, and administrative costs.
- **Data on the Social Security Disability Insurance program** include projections of the number of beneficiaries, the average monthly benefit, the average wage for indexing, the maximum amount of taxable earnings, the cost-of-living adjustment, and other factors.
- **Data about the Social Security Old-Age and Survivors Insurance program** include projections of the number of beneficiaries and the average monthly benefit for retired workers and families and for surviving spouses and dependents. Projections of the average wage for indexing, the maximum amount of earnings that can be taxed, the cost-of-living adjustment, and other factors are also provided.
- **Data on the Social Security trust funds** provide details about CBO's projections of outflows for benefits and other costs and of income from payroll taxes, interest, and other sources.

The program-specific files also cover other income security programs:

- **Data on child nutrition programs** provide details about CBO's projections of the consumer price index for food away from home and of budget authority for the National School Lunch Program, the School Breakfast Program, the Child and Adult Care Food Program, the procurement of commodities, the Summer Food Service Program, state administrative expenses, and other spending.
- **Data on child support enforcement and collections** include projections of administrative costs, incentive payments, and other payments, as well as projections of collection amounts.
- **Data about foster care and adoption assistance programs** include projections of outlays for maintenance, administration, training, and other costs, as well as projections of average monthly caseloads.
- **Data on the Supplemental Nutrition Assistance Program** include projections of total benefit amounts, administrative costs, average monthly participation, average monthly benefits, changes in the cost of the Thrifty Food Plan, and the unemployment rate.
- **Data on the Supplemental Security Income program** include projections of the number of beneficiaries who are aged, blind, or disabled adults and of the number who are blind or disabled children. Projections of the number of awards and average monthly benefits for each of those groups are also provided.
- **Data on the Temporary Assistance for Needy Families program** include projections of budget authority for state family assistance grants, grants related to marriage and fatherhood, and other types of assistance.
- **Data about the unemployment compensation program** include projections of regular benefits, extended benefits, and trade adjustment assistance. Projections of average weekly benefits, the average duration of benefits, the number of people receiving first payments, the number of people in the labor force, and the unemployment rate are also provided.

Data files for some other programs are published as well:

- **Data on the Department of Agriculture's mandatory farm programs** include projections of outlays for crop insurance, conservation programs, disaster assistance, and assistance from the Commodity Credit Corporation account and related accounts.

Projections of the supply of the following crops and of outlays related to them are also provided: corn, soybeans, wheat, upland cotton, rice, peanuts, sorghum, barley, oats, sunflower seed, canola, flaxseed, safflower, mustard seed, inedible rapeseed, extra-long-staple cotton, dry field peas, lentils, dairy, and large and small chickpeas.

- [Data about federal programs that guarantee mortgages](#) include projections of the budgetary effects of the activities of Fannie Mae and Freddie Mac, the Federal Housing Administration’s Mutual Mortgage Insurance Fund, the home loan program for veterans, and Ginnie Mae’s mortgage-backed securities program. Estimates of the value of annual loans and subsidy rates are also provided.
- [Data on programs funded by the Highway Trust Fund](#) include projections of the start-of-year balances, revenues and interest, outlays, and cumulative shortfalls of the fund’s highway and transit accounts.
- [Data on Post-9/11 GI Bill benefits](#) include projections of the number of veterans and military personnel who will receive benefits and the average annual payments.
- [Data on veterans’ disability compensation and pension programs](#) include projections of the number of beneficiaries and the average annual benefits for veterans and for surviving spouses and dependents.

Four files were posted with last year’s report on the long-term budget outlook:

- [Data on the long-term budget projections](#) include the parameters that CBO used in its macroeconomic model, data about demographic and economic factors, labor force participation rates by age group and sex, information about trust funds, and other details.
- [Data underlying CBO’s Social Security estimates](#) include projections of the following variables: the number of covered workers; covered and taxable earnings; the number of Old-Age, Survivors, and Disability Insurance beneficiaries; cost and income rates; the number of immigrants and emigrants; fertility rates; mortality rates; the size of the population; average interest rates; mortality improvements by age group; and labor force participation rates.

- [Data on the long-term economic projections](#) include extensions of 10-year economic projections for additional decades.
- [Data on the demographic projections](#) include projections of the size of the population, immigration, emigration, mortality, and fertility.

When CBO published its analysis of the President’s budget request for 2023 in September 2022, it also posted data files that provide projections of the budgetary effects of policy proposals that would affect foster care, adoption assistance and guardianship programs, health programs, and Medicare.

In 2022, supplemental data accompanied several other analyses:

- [Data](#) that describe CBO’s estimates of the effects of automatic stabilizers on the federal budget from 2022 to 2032;
- [Data](#) detailing expired and expiring authorizations of appropriations for fiscal year 2022;
- [Data](#) that translate CBO’s revenue and outlay projections for 2022 to 2032 to the receipts and expenditures used in the national income and product accounts framework;
- [Supplemental data](#) describing CBO’s estimates of the costs of federal credit programs in 2023;
- [Data](#) underlying a working paper by CBO that describes projections of economic and budgetary outcomes under two scenarios with divergent paths for interest rates; and
- [Data](#) underlying the agency’s analysis of the long-term costs of the Administration’s 2022 defense budget.

CBO collects all publications with data files in one location on its website.

Analyzing the Accuracy of CBO’s Estimates

In 2022, in an [update](#) to a recurring report, CBO assessed the accuracy of its budget projections for fiscal year 2021. To do that, CBO focused on its March 2020 baseline projections and updated them to include the estimated effects of subsequently enacted legislation. That analysis indicated that CBO overestimated the federal deficit in 2021—the result of underestimating revenues and overestimating outlays.

Comparing Current Estimates With Previous Estimates

In 2022, CBO explained the differences between the current year's projections and those of the previous year in several of its recurring publications. The explanations provide insight into the agency's methods by indicating why it changed its projections.

In *The Budget and Economic Outlook: 2022 to 2032* (Appendix A) CBO explained the differences between CBO's projections from May 2022 and those that it published in July 2021. Those revisions were separated into three categories: legislative changes, which result from laws enacted since the agency published its previous baseline projections and which generally reflect the budgetary effects reported in CBO's cost estimates when the new laws were enacted; economic changes, which arise from changes the agency has made to its economic forecast (including those made to incorporate the macroeconomic effects of recently enacted legislation); and technical changes, which are revisions to projections that are neither legislative nor economic. In addition, CBO explained the differences between CBO's May 2022 economic projections and those that it published in 2021. In particular, CBO discussed how the agency's projection of inflation for 2022 was substantially higher than was projected in July 2021 (pages 48 to 49).

In November 2022, CBO released a report that provided its current view of the economy in 2023 and 2024 and compared its updated economic outlook for those years with the projections the agency published in May 2022.

In *The 2022 Long-Term Budget Outlook* (Appendix C), CBO explained the differences between the agency's current projections and those it published in 2021. In particular, the agency reviewed the reasons for changes in its projections of spending for Social Security, major health care programs, programs related to pandemic relief, other programs, and interest. CBO also discussed the reasons for changes to its projections of revenues and to its projections of Social Security's long-term finances.

In its annual report on the Troubled Asset Relief Program, CBO updated its estimate of the costs of the program. CBO's 2022 estimate—a net cost of about \$31 billion—was similar to its July 2021 projection and slightly less than the Administration's estimate.

Comparing CBO's Estimates With Those of Other Organizations

CBO regularly makes comparisons with the budget projections of the Administration, but opportunities for comparisons with other organizations are rare, primarily because not many other organizations focus on federal costs. By contrast, the agency always has the opportunity to compare its economic projections with those of private forecasters and other government agencies, and sometimes it can make comparisons with other organizations' policy analyses. (Some of those comparisons are discussed with Congressional staff when time does not allow for preparing a written presentation.) CBO's estimates can differ from others' for a variety of reasons, including differences in the policies considered, the data used, the interpretation of research findings, and analytic approaches. In 2022, CBO compared its budget projections with those of the Administration, private-sector forecasters, and other federal agencies.

In *The Budget and Economic Outlook: 2022 to 2032* (pages 52 to 56), CBO compared its forecast with the range of forecasts from 50 private-sector forecasters surveyed for the *Blue Chip Economic Indicators*, 34 private-sector forecasters participating in the Federal Reserve Bank of Philadelphia's *Survey of Professional Forecasters*, and the Federal Open Market Committee of the Federal Reserve. CBO's projections suggested a slightly stronger outlook for 2022 but a weaker outlook than those of other forecasters for later years for a variety of reasons. Differences in the economic data available when the forecasts were completed may have led to some of the differences in forecasts. In addition, there may be differences in the economic and statistical models used to prepare the forecasts, and other forecasters may assume changes in federal policies, whereas CBO's projections reflect the assumption that current laws generally remain unchanged.

In *CBO's Current View of the Economy in 2023 and 2024 and the Budgetary Implications*, CBO compared its updated view of the economy in 2023 and 2024 with two sets of forecasts. For 2023, CBO expected that the growth of real gross domestic product (GDP)—that is, GDP adjusted to exclude the effects of inflation—was more likely to be below than above the estimates of other forecasters. Namely, CBO's estimates were more likely to be lower than the ranges spanned by the middle two-thirds of projections in the Survey of Professional Forecasters and the central tendency (roughly the middle

two-thirds) of estimates by Federal Reserve officials. For 2024, CBO expected that such growth was more likely to be above the Federal Reserve's central tendency than below it.

In a spreadsheet analyzing certain proposals in the President's budget for 2022 (in Table 1), CBO compared its estimated deficits under current law with the Administration's projections. CBO's forecast deficit was smaller than the Administration's over the 2022–2032 period. CBO and the Administration estimated similar revenues over that window, but CBO's estimate of outlays was lower.

In *An Analysis of the Navy's Fiscal Year 2023 Shipbuilding Plan* (Appendix B), the agency compared its estimates with those of the Navy. CBO's estimates were higher in large part because it estimated higher costs for two classes of ships: the future attack submarine and the future large surface combatant.

Estimating the Effects of Policy Alternatives

CBO's baseline budget projections—which are constructed in accordance with provisions of law—are intended to show what would happen to federal spending, revenues, and deficits if current laws generally remained unchanged. Estimating the effects of policy alternatives promotes understanding of why and how estimates can differ and how large the effects of the alternatives might be; CBO therefore also published many products about specific policies and programs that present projected economic and budgetary outcomes under multiple policy scenarios:

- In two volumes of *Options for Reducing the Deficit, 2023 to 2032*, the agency described 76 policy options that would decrease federal spending or increase federal revenues over the next decade. **Volume I** focused on options that would reduce the deficit by more than \$300 billion over 10 years (or, in the case of Social Security options, have a comparably large effect in later decades), and **Volume II** focused on options that would result in smaller reductions.
- In *Policy Approaches to Reduce What Commercial Insurers Pay for Hospitals' and Physicians' Services*, CBO analyzed three categories of policy approaches that the Congress could consider to reduce the prices paid by commercial health insurers for hospitals' and physicians' services.

- CBO published an update to “How Increasing the Federal Minimum Wage Could Affect Employment and Family Income,” an interactive tool that allows users to adjust the federal minimum wage and the speed of its implementation to estimate the impact on employment and the number of people living in poverty.
- In *Work Requirements and Work Supports for Recipients of Means-Tested Benefits*, the agency assesses how changing work requirements and work supports in those programs would affect the federal budget. In many cases, the size of those effects is highly uncertain.
- In *The Budget and Economic Outlook: 2022 to 2032* (Chapter 5), CBO showed how different assumptions about future legislated policies would affect CBO's budget projections.
- In *Budgetary Effects of a Policy That Would Lower the Age of Eligibility for Medicare to 60*, CBO discussed an estimate of the federal budgetary costs of a policy that would lower the age of eligibility for Medicare, largely reflecting current program rules for people who would be newly eligible. The estimate was prepared in conjunction with the staff of the Joint Committee on Taxation (JCT).
- In *The Economic Effects of Waiting to Stabilize Federal Debt*, the agency examined two simplified policies available to policymakers to stabilize debt as a percentage of GDP: The first would raise federal tax rates on different types of income proportionally, and the second would cut spending for certain government benefit programs—mostly for Social Security, Medicare, and Medicaid.
- In *Economic Effects of Five Illustrative Single-Payer Health Care Systems*, CBO analyzed the economic and distributional implications of five illustrative single-payer health care systems.

Characterizing the Uncertainty of CBO's Estimates

CBO's budget and economic projections reflect the middle of a range of outcomes under a given set of policies. CBO's analysts often test the sensitivity of their projections to identify the range of possible outcomes for those projections and to observe the way that projections change as factors vary. Likewise, in its cost estimates, CBO aims to produce estimates that generally reflect the middle of the likely range of budgetary outcomes that

would result if the legislation was enacted. The agency included discussions of uncertainty in many of its cost estimates. In 2022, CBO provided several explanations regarding sources of uncertainty in its reports to help policymakers understand the factors that might cause outcomes or future estimates to differ from the agency's current estimates:

- In *Emissions of Carbon Dioxide in the Transportation Sector* (page 20), the agency described how projections of carbon dioxide emissions from transportation might differ depending on rates of economic growth and the evolution of oil prices.
- In *Emissions of Carbon Dioxide in the Electric Power Sector* (pages 12 to 14), CBO discusses how uncertainty about the costs of renewable energy and storage and other factors would affect future emissions.
- In *Options for Reducing the Deficit, 2023 to 2032—Volume I: Larger Reductions*, CBO highlighted the major sources of uncertainty for each option's budgetary effects.
- In *CBO's Current View of the Economy in 2023 and 2024 and the Budgetary Implications* (Box 1), the agency described its economic and budgetary projections using ranges to account for uncertainty and explained the analytic methods it used to incorporate uncertainty into those projections.
- In *Policy Approaches to Reduce What Commercial Insurers Pay for Hospitals' and Physicians' Services* (Box 2-1), CBO described the sources of uncertainty about its assessments of how policy approaches would affect prices.
- In *The 2022 Long-Term Budget Outlook* (page 12), the agency discussed the uncertainty in its long-term forecast, focusing on the possibilities of severe economic downturns, major natural disasters or wars, effects of climate change that are more significant than expected, or the development of previously underused natural resources.
- In *How Changes in Economic Conditions Might Affect the Federal Budget: 2022 to 2032* and an accompanying interactive workbook, CBO illustrated how economic scenarios that differed from those in its May 2022 baseline budget projections would affect the federal budget.

- “How Changes in Revenues and Outlays Would Affect Debt Service, Deficits, and Debt” (an interactive workbook) allows users to explore how revenues and outlays that differed from those in CBO's February 2021 baseline budget projections would increase or decrease net interest costs and thus affect deficits and debt.
- In *The Budget and Economic Outlook: 2022 to 2032*, CBO discussed uncertainty in both the budgetary forecasts (page 16) and economic forecasts (page 44).

Creating Data Visualizations

To make CBO's projections and reports easier to understand, the agency publishes data visualizations that highlight the key findings of its analyses.

The agency published nine visual reports in 2022:

- In *CBO's 2022 Long-Term Projections for Social Security*, the agency described its two sets of long-term projections for Social Security; each set has different underlying assumptions about whether the program's trust funds maintain sufficient balances to cover the Social Security program's outlays.
- In *Emissions of Carbon Dioxide in the Transportation Sector*, CBO provided an overview of emissions of carbon dioxide (CO₂, the most common greenhouse gas) in the transportation sector, describing the sources of and trends in such emissions and projecting their future path.
- In *Emissions of Carbon Dioxide in the Electric Power Sector*, CBO described recent trends in CO₂ emissions in the electric power sector, changes in how electric power is produced and the reasons for those changes, and expectations for future CO₂ emissions in that sector.
- In *The Army's Costs to Eliminate Its Deferred Maintenance Backlog and to Renovate and Modernize Its Buildings*, the agency analyzed roughly 49,000 buildings in use on Army bases in the United States that the service's active component is responsible for maintaining.
- In *Trends in the Distribution of Family Wealth, 1989 to 2019*, CBO examined changes in the distribution of family wealth from 1989 to 2019 and analyzed those changes in relation to several family characteristics.
- In *The Demographic Outlook: 2022 to 2052*, the agency described its population projections that

underlie the baseline budget projections and economic forecast that CBO published in May 2022 and the long-term budget projections that the agency published in July 2022.

- In *Federal Subsidies for Health Insurance Coverage for People Under 65: 2022 to 2032*, the agency described updated baseline projections prepared by CBO and JCT of the federal costs associated with each kind of subsidy and the number of people with different types of health insurance.
- In *The Prices That Commercial Health Insurers and Medicare Pay for Hospitals' and Physicians' Services*, CBO examined potential reasons that the prices paid by commercial health insurers for hospitals' and physicians' services are higher, rise more quickly, and vary more by geographic location than the prices paid by the Medicare fee-for-service program do.
- In *Availability and Use of Aircraft in the Air Force and Navy*, CBO analyzed patterns in the availability and use of the Air Force's and Department of the Navy's aircraft since 2001.

In addition, CBO published one chartbook (a report that features one exhibit per page) in 2022: *The Distribution of Household Income, 2019*, presents the distributions of household income, means-tested transfers, and federal taxes between 1979 and 2019.

CBO also produced interactive tools that allow users to model the budgetary effects of policy options and economic changes:

- A [workbook](#) models how changes in economic conditions could affect the federal budget.
- CBO's interactive [force structure tool](#) enables users to vary inputs such as the size and type of force and see how those choices would affect total military personnel and costs.
- An interactive [tool](#) allows users to adjust the federal minimum wage and the speed of its implementation to estimate the effects on employment and the number of people living in poverty. It also allows the user to model different outcomes from changes to the minimum wage and displays those effects in charts and graphs.
- CBO's waterfall [model](#) simulates the agency's process for projecting discretionary budget authority and

outlays for different types of spending over the course of 10 years.

- An interactive [workbook](#) shows how changing revenues and outlays would increase or decrease net interest costs.

CBO also published four infographics:

- “[The Federal Budget in Fiscal Year 2021: An Infographic](#)” shows the major categories of federal outlays and revenues and illustrates trends in federal deficits and debt held by the public over the past 50 years.
- “[Revenues in Fiscal Year 2021: An Infographic](#)” illustrates trends in sources of federal revenues—individual income taxes, payroll taxes, corporate income taxes, and other taxes—over the past 20 years and presents details about those sources in 2021.
- “[Mandatory Spending in Fiscal Year 2021: An Infographic](#)” shows changes in several categories—including spending for the major health care programs, Social Security, and income security programs—since 2001 and presents details about spending within those categories.
- “[Discretionary Spending in Fiscal Year 2021: An Infographic](#)” shows changes in defense and nondefense discretionary spending since 2001 and presents details about spending within those categories.

Conducting Outreach

In addition to conducting the daily gathering of information that supports the agency's work, members of CBO's staff communicate every day with people outside the agency to explain its findings and methods and to obtain feedback that helps it maintain and improve the quality of its work. As part of its outreach, CBO consults with experts outside the organization to obtain feedback that complements its rigorous internal review process (which involves multiple people at different levels in the organization). The agency also explains its work and obtains feedback by encouraging its staff to give presentations to various audiences. Finally, CBO continually works to make the information it provides more accessible.

Direct Communication With Members and Staff. The most important form of outreach CBO conducted in 2022 was the direct communication between the agency and the Congress that occurred in person, by phone, and

by email. CBO's Director met regularly with Members of Congress to explain the agency's work, respond to questions, and solicit feedback.

During the development of legislation, communication between CBO's staff and Congressional staff was frequent. After major cost estimates were released, CBO's staff reached out to staff of key committees to explain the results and answer questions.

Additionally, CBO's staff attended the Congressional Data Task Force's internal and public meetings in 2022, and at its March 2022 meeting, CBO presented highlights of some of the agency's recent transparency efforts, such as code and model releases and website enhancements, and listed some future transparency plans. (The task force consists of representatives from Legislative Branch agencies who coordinate on ways to support openness and transparency in the legislative process.)

Consultation With Outside Experts. As part of its regular processes of developing cost estimates and undertaking other analyses, CBO consults with numerous outside experts who represent a variety of perspectives. The experts include professors, analysts at think tanks and consulting firms, representatives of industry groups, other experts in the private sector, and people working for federal agencies and for state and local governments. CBO obtains suggestions about whom to consult and independently seeks other experts so that the agency can gather information and insights from people with varied backgrounds, training, experience, and views. (The agency always works with Congressional staff to ensure that information about a legislative proposal that they wish to keep confidential remains so during its development.) When time allows, CBO seeks external review of its methods and of drafts of reports. Such external review allows the agency's analyses to reflect both the consensus and the diversity of views of experts from around the country. In 2022, CBO continued those practices of extensive consultation with outside experts while preparing various analytic products.

CBO's full Panel of Economic Advisers met twice in 2022, and smaller groups of panelists met throughout the year. As part of the agendas for those meetings, CBO requested and received feedback on its economic forecasts, its model of the short-term economic effects of policy changes, and its analysis and expectations about the international role of the U.S. dollar. Panelists and

invited experts also discussed broad issues underlying various analyses by CBO, including labor force participation, the outlook for inflation, and monetary policy and fiscal sustainability.

The meeting of the Panel of Health Advisers included presentations and discussions about issues in mental health, changes in health insurance coverage, and CBO's long-term projections of health care spending.

When it obtains written feedback about an analysis, CBO acknowledges that assistance in a section called About This Document at the end of a publication. CBO obtained written feedback on drafts of 32 reports and working papers in 2022.

Presentations. Members of CBO's staff gave 17 presentations about the agency's processes for conducting analyses at many venues (listed in parentheses):

- A presentation on CBO's Medicaid baseline forecast (at the 2022 Annual Conference of the National Association of Medicaid Directors) described that forecast.
- A presentation on CBO's support of the U.S. Congress (to Pennsylvania's Independent Fiscal Office) described CBO's role in the legislative process.
- A presentation on independent fiscal institutions (to the Australian Parliamentary Budget Office) described how those institutions work in theory and in practice.
- A presentation on the agency's role in the budget process (at the AcademyHealth 2022 Health Policy Orientation) described how CBO helps the Congress make effective budget and economic policy. (A similar presentation was made to the Leadership Fellowship Program at the National Hispanic Medical Association.)
- A presentation on CBO's recent transparency efforts (at the Library of Congress's 2022 Congress.gov Public Forum) described those efforts.
- A presentation on independent fiscal institutions (at the International Monetary Fund) provided an overview of the role and evolution of the Organisation for Economic Co-operation and Development (OECD) Working Party of Parliamentary Budget Officials and Independent Fiscal Institutions.

- A presentation on CBO's inflation forecast (to the Society of Actuaries) described how CBO forecasts inflation and discussed the agency's inflation projections and how they have compared with other forecasters' projections in recent years.
 - A presentation on CBO's economic forecast (at the NABE Foundation's 19th Annual Economic Measurement Seminar) described how CBO developed its 10-year projections of potential output from May 2022.
 - A presentation on the availability and use of aircraft in the Air Force and Navy (at the Western Economic Association's Annual Conference) described CBO's analysis of patterns in the availability and use of military aircraft by the Air Force and the Department of the Navy.
 - A presentation on CBO's long-term economic projections (at the 28th International Conference of the Society for Computational Economics) provided an overview of a method that CBO uses to assess the uncertainty of long-term economic projections.
 - A presentation on effective communication (to OECD's Committee of Senior Budget Officials) discussed the importance of effective communication at CBO and highlighted how the agency's communications have evolved over time.
 - A presentation on dynamic analysis (to OECD's Committee of Senior Budget Officials) explained how CBO incorporates behavioral effects into its estimates of the budgetary effects of legislative policies.
 - A presentation on health care prices (at the Congressional Research Service) described CBO's analysis of the prices of prescription drugs, hospitals' services, and physicians' services.
 - A presentation on CBO's estimates of the market risk of federal credit programs (to the Federal Credit Policy Council) described the two discounted cash-flow approaches the agency uses to estimate the lifetime costs of federal credit programs.
 - A presentation on the effect of taxes on carbon dioxide emissions (to the Carbon Tax Study Group at PricewaterhouseCoopers) described the agency's recent update of parameters that characterize the relationship between emissions of carbon dioxide and changes in the price of those emissions.
 - A presentation on CBO's methods for evaluating health care proposals (to the Healthy Future Task Force) provided an overview of how CBO evaluates health care proposals and produces cost estimates and discussed policy options that would reduce federal deficits and slow the growth of health care spending.
 - A presentation on CBO's model of new drug development (to the Health Economics Seminar Cosponsored by Boston University, Harvard University, and the Massachusetts Institute of Technology) described that model, which is intended to help the Congress understand the effect that legislative proposals would have on the development of new drugs. (A similar presentation was made to the Dartmouth Institute for Health Policy & Clinical Practice.)
- CBO also presented 16 products that offered an overview of recent analyses and estimates:
- A presentation on CBO's budget options (to the Committee for a Responsible Federal Budget) described policy options to reduce the deficit relating to health care.
 - A presentation on the U.S. tax gap (to the Brazilian Tax and Customs Administration) provided an overview of that gap, how changes in funding for the Internal Revenue Service (IRS) would affect future revenues, and the projected changes in spending and revenues from increased IRS funding in the 2022 reconciliation act.
 - A presentation on health care policy (to the Dartmouth Symposium on Health Care Delivery Science) described policy approaches available to the Congress that would reduce the prices that commercial insurers pay providers and thereby reduce premiums for that coverage.
 - A presentation on CBO's 2022 Long-Term Budget Outlook (at an event hosted by the American Enterprise Institute) provided an overview of that report. (A similar presentation was made to the National Economists Club.)
 - A presentation on CBO's budget and economic projections (at the Committee for Economic Development's Policy Conference) described those projections.
 - A presentation on CBO's projections (at a joint seminar by CBO and the Congressional Research

Service) for the federal budget and the economy over the coming decade explained those projections.

- A [presentation on the Federal Pell Grant Program](#) (to the Postsecondary National Policy Institute) provided an overview of the Federal Pell Grant Program and how it is funded.
- A [presentation on the distribution of household income](#) (to the Committee on National Statistics of the National Academy of Sciences, Engineering, and Medicine) described CBO's report on the distribution of household income, means-tested transfers, and federal taxes.
- A [presentation on defense strategy](#) (at the Naval Postgraduate School's 19th Annual Acquisition Research Symposium) described challenges of adapting the Department of Defense's acquisition portfolio to a new defense strategy.
- A [presentation on public transportation](#) (to the National Tax Association's 52nd Annual Spring Symposium) described government spending on public transportation and other infrastructure.
- A [presentation on prices for hospitals' services](#) (at the American Academy of Actuaries) reviewed CBO's analysis of those prices.
- A [presentation on employees' saving decisions](#) (to the Association for Public Policy Analysis & Management) explained the agency's estimates of the effect of employer matching and automatic enrollment procedures on workers' Thrift Savings Plan savings behavior.
- A [presentation on health care costs](#) (at the Association for Public Policy Analysis & Management's 2021 Annual Research Meeting) described how changes in drug mix and price growth contribute to the rising costs of brand-name drugs in Medicare Part D.
- A [presentation on uncertainty in CBO's budget projections](#) (at the Spring 2022 Brookings Papers on Economic Activity Conference) illustrated how CBO's July 2021 baseline budget projections would have differed if the agency had used two alternative economic forecasts.
- A [presentation on the Navy's shipbuilding plans](#) (at the 37th Annual Spring Meeting of the Marine Machinery Association) examined those plans' implications for the size and composition of the fleet,

with special emphasis on the Navy's surface ships. (Similar presentations were made at the Surface Navy Association's 34th National Symposium and the Bank of America 2022 Defense Outlook and Commercial Aerospace Forum.)

- A [presentation on the effects of recent legislation on the economy and budget](#) (at the American Economic Association's Annual Meeting) outlined the agency's budget and economic analysis during the coronavirus pandemic and described some of the challenges involved in analyzing economic policy during that period.

CBO also responded to 20 letters from Members of Congress requesting information:

- A [letter](#) responded to questions about CBO's current view of the economy in 2023 and 2024, how that compares with its most recent projections and with those of the Federal Reserve, and the implications for households and the federal budget.
- A [letter](#) provided information on the effects of a final rule issued in July 2022 by the Pension Benefit Guaranty Corporation regarding special financial assistance provided to pension plans under the American Rescue Plan Act of 2021.
- A [letter](#) responded to questions about the effects of President Biden's August 24, 2022, announcement on executive actions affecting student loans.
- A [letter](#) provided information about CBO's estimates of the cost of student loan programs and how they have changed since 2010.
- A [letter](#) answered several questions about increased enforcement by the Internal Revenue Service.
- A [letter](#) provided information on reconciliation legislation for several committees of the House of Representatives.
- A [letter](#) provided updated budgetary information about reconciliation legislation passed by the Senate.
- A [letter](#) provided information about the budgetary effects of the Inflation Reduction Act of 2022.
- A [letter](#) provided information about the use of drugs that treat cancer and that are covered by Part B of the Medicare program.

- A [letter](#) answered four questions related to the Inflation Reduction Act of 2022 and broader economic conditions.
- A [letter](#) provided additional information about subtitle I of the reconciliation recommendations of the Senate Committee on Finance regarding prescription drug legislation.
- A [letter](#) responded to three questions about the budgetary costs of higher interest rates and inflation.
- A [letter](#) provided additional information about how the certification provision in the INSULIN Act would affect the prices for insulin and the federal budget.
- A [letter](#) explained the effects of making permanent the enhanced premium tax credit structure provided in the American Rescue Plan Act and finalizing a proposed regulation concerning the affordability of employment-based health coverage.
- A [letter](#) provided information about the cost of eight executive actions taken by the Biden Administration and how they are reflected in CBO's baseline projections.
- A [letter](#) described the agency's efforts to increase its capacity to analyze how budgetary and economic conditions or developments may affect various demographic groups (including groups based on race and ethnicity) differently.
- A [letter](#) answered questions about the publication date of the agency's baseline projections and about how CBO prioritizes its work.

- A [letter](#) provided an estimate of the effects of higher interest rates on federal debt over the long term.
- A [letter](#) described the budgetary effects of higher inflation and interest rates.
- A [letter](#) addressed several questions concerning the agency's assessment of the budgetary effects of the Postal Service Reform Act of 2022.

Communications Infrastructure. In 2022, CBO upgraded the open-source search platform it uses to power its website search engine to the latest version. That upgrade provides a stronger foundation for future innovations. The agency also worked to ensure that its website is easy to navigate. It revamped the [Cost Estimates](#) page on its website to make it more user-friendly for Congressional staff and Members of Congress. Estimates for bills scheduled to be considered under the House's suspension calendar and estimates for appropriation bills are now easier to find. The new page also highlights CBO's explainers on cost estimates and provides quick links to relevant primers and explainers about the budget process and other topics.

In addition, CBO created online versions of the options in the two Budget Options volumes the agency released in December and added them to CBO's [search tool for budget options](#). CBO also added a new section to its website that makes its distributional analyses accessible in one place. Understanding how different outcomes for different groups of people may be linked to policies and their implementation is a high priority for the agency.

About This Document

The Congressional Budget Office prepared this report to provide details on its transparency plans. It was written by Daniel Fried.

Jeffrey Kling and Robert Sunshine reviewed the report. Caitlin Verboon edited it, and Casey Labrack designed the cover and prepared the text for publication. Nicholas Abushacra fact-checked the report. It is available at www.cbo.gov/publication/58930.

The agency seeks feedback to make its work as useful as possible. Please send comments to communications@cbo.gov.

A handwritten signature in black ink, appearing to read "Phillip Swagel", with a long, sweeping flourish extending to the right.

Phillip L. Swagel
Director
March 2023