



Congressional Budget Office

Testimony

The Congressional Budget Office's Baseline Projections and Cost Estimates: Process and Principles

Mark Hadley
Deputy Director

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Chairman Womack, Ranking Member Yarmuth, and Members of the Committee, thank you for the opportunity to discuss the process and principles underlying the preparation of the Congressional Budget Office's baseline projections and cost estimates. Each year, CBO produces projections of the budget and the economy, hundreds of formal cost estimates, and dozens of reports, while providing technical assistance to Congressional staff as they develop thousands of legislative proposals and amendments. CBO provides that information in a variety of ways and at various points in the legislative process.¹

Budget and Economic Projections

CBO regularly publishes projections of budgetary and economic outcomes that are based on the assumption that current laws regarding federal spending and revenues will generally remain in place. Those projections cover the 10-year period used in the Congressional budget process. CBO also publishes annual reports about those projections. The reports usually describe the differences between the current projections and previous ones; compare the economic projections with those of other forecasters; and show the budgetary effects of some alternatives to the fiscal policies underlying CBO's projections. A detailed description of the methods used to project spending and revenues and the rules that govern the creation of those projections is available in *How CBO Prepares Baseline Budget Projections*.² In addition, the process used to create the economic projections, including how CBO ensures consistency between them and the budget projections, is described in *How CBO Produces Its 10-Year Economic Forecast*.³

The budget projections (which are known as the baseline) are a neutral benchmark that the Congress can use in assessing the budgetary effects of legislation. When CBO publishes cost estimates for proposed changes in

law that would affect mandatory spending or revenues, they are based on the budget baseline. The baseline is also used in CBO's analytical reports to assess the effects of possible changes in fiscal policy. The budget committees typically use CBO's baseline as the starting point for budget resolutions; when they consider policy changes that may be incorporated in those resolutions, they often use estimates of the cost of those changes that are relative to the baseline. Finally, the Congress can use the baseline when determining whether new legislation would be subject to rules and procedures related to budget enforcement.

The baseline projections are not intended to be a prediction of budgetary outcomes. Rather, the projections are CBO's best estimates of how the budget would evolve if existing laws did not change. They are updated two or three times per year (typically in the winter, spring, and summer) through a process that involves most of CBO's staff. Once a year, usually in the spring or summer, CBO produces a detailed extended baseline, which focuses on the coming 30 years; the agency also produces an interim extended baseline in the winter. The economic projections are generally updated twice a year (typically in the winter and summer).

Cost Estimates

The Congressional Budget Act of 1974 (often called the Budget Act) requires CBO, to the extent practicable, to prepare cost estimates for legislation that authorizing committees have ordered reported—that is, agreed to send to the full House or Senate for consideration. Over the past decade, the agency has produced such estimates for more than 95 percent of reported bills.

In addition to reported bills, CBO sometimes provides estimates for legislation at other stages of the process, including introduced bills, amendments, other proposals, and legislative acts that have been passed by one or both chambers. Of the total number of estimates produced in the past decade, 13 percent were for such types of legislation. Over the past five years, the total number of estimates published by CBO has steadily increased each year, and in 2017 the agency issued 740 estimates.

Various provisions in the Budget Act—especially in sections 202, 402, and 424—govern how CBO prepares cost estimates. The statutory requirements were designed to ensure that CBO prioritizes estimates for the legislation that is likeliest to receive active consideration by

1. For an overview of CBO and of its products and processes, see Congressional Budget Office, *An Introduction to the Congressional Budget Office* (July 2016), www.cbo.gov/sites/default/files/cbofiles/attachments/2016-IntroToCBO.pdf (316 KB). For more information, see Congressional Budget Office, "Products," www.cbo.gov/about/products.
2. Congressional Budget Office, *How CBO Prepares Baseline Budget Projections* (February 2018), www.cbo.gov/publication/53532.
3. Robert W. Arnold, *How CBO Produces Its 10-Year Economic Forecast*, Working Paper 2018-02 (Congressional Budget Office, February 2018), www.cbo.gov/publication/53537.

the Congress. Individual Members can ask for formal estimates, but the Budget Act directs CBO to give priority to committees, particularly the House and Senate Budget Committees. Given CBO's staffing, it generally is not possible to satisfy requests for formal estimates that do not come from the budget committees, the committees with jurisdiction over a proposed change in law, or the Congressional leadership, but CBO analysts work on individual Members' requests as time permits.

CBO's cost estimates provide information that the Congress can use as it implements rules and procedures to enforce budgetary rules or targets. However, those cost estimates are only advisory. They can—but do not have to—be used in budget enforcement. Moreover, CBO does not enforce budgetary rules; the budget committees do. In keeping with its mandate to provide objective, impartial analyses, CBO never makes recommendations in its cost estimates or other products.

Answers to many of the common questions regarding CBO's process for producing cost estimates are available in *How CBO Prepares Cost Estimates*.⁴ For example, that document discusses the rules that govern what budgetary effects are identified in an estimate.

Each cost estimate tells a concise story about a legislative proposal's likely effects on federal outlays or revenues, compared with what would happen under current law (that is, with what would occur if the proposal was not enacted). For bills that would authorize discretionary activities or programs—those whose funding is controlled by annual appropriation acts—cost estimates typically provide budgetary information for a 5-year period. For bills that would affect mandatory spending or revenues, the period is 10 years. For most tax legislation, CBO uses estimates provided by the staff of the Joint Committee on Taxation (JCT).

In addition to formal, written estimates for bills approved by committees, CBO devotes substantial effort to providing technical assistance, sometimes including preliminary estimates, at other stages of the legislative process—such as when legislation is being developed or when amendments to legislation are being considered. Such technical assistance occurs primarily through staff-to-staff communications, and it takes place very

frequently—for the development of thousands of legislative proposals and amendments each year. In some cases, preliminary estimates are prepared when Members or their staffs are evaluating alternative proposals to accomplish their goals, have not made any specific proposals public, and need the flexibility to modify their proposals before they become public, sometimes in response to CBO's preliminary estimates.

In such situations, CBO recognizes that the confidentiality of its work is critical to committees' deliberations, so it keeps preliminary analysis and estimates confidential as long as the proposals are not made public. In contrast, the formal estimates are posted on CBO's website.

Other Products

In addition to budget projections, economic projections, and cost estimates, CBO publishes dozens of reports each year at the request of the Congress and to provide background information about CBO's analyses. That background information enhances the transparency of the agency's work. The reports include:

- A reestimate of the President's annual budget proposal that is independent of the estimates provided by the Administration;
- A monthly analysis of federal spending and revenues;
- A periodic reference volume examining numerous options for reducing budget deficits; and
- Analytic reports that examine particular federal spending programs, aspects of the tax code, and budgetary and economic challenges.

Principles and Rules That Govern Baseline Projections and Cost Estimates

Most of the principles and rules that govern the formulation of baseline projections and cost estimates are set in law. Others originated in budget resolutions, House or Senate rules, conference reports that accompanied budget legislation, and the 1967 *Report of the President's Commission on Budget Concepts*. In addition, some have been developed by CBO in consultation with the House and Senate Budget Committees; such consultations are necessary to resolve uncertainty about how to implement the rules in particular cases.

4. Congressional Budget Office, *How CBO Prepares Cost Estimates* (February 2018), www.cbo.gov/publication/53519.

For two reasons, the principles and rules governing the construction of the baseline directly affect cost estimates. First, in those estimates, the budgetary effects of provisions that would affect mandatory spending and revenues are measured in relation to the baseline projections. Second, the estimates follow the same underlying principles. For example, if a rule requires CBO to assume in the baseline that an expiring program will be extended, the agency will estimate the cost or savings from a proposed change to the expiring program in relation to a spending path in which the program is extended.

Examples of Principles and Rules That Govern Baseline Projections

The Balanced Budget and Emergency Deficit Control Act, which was enacted in 1985 and amended several times, defines CBO's baseline projections and spells out the rules for making them. CBO generally constructs the baseline for mandatory spending and revenues under the assumption that current laws will remain in place. For example, the agency assumes in the baseline that individual and corporate tax policy follows the changes scheduled under current law. However, there are important exceptions—involving certain excise taxes, expiring programs, entitlement authority, and discretionary spending, for example.

Expiring Taxes and Programs. Under section 257 of the Deficit Control Act, CBO is required to assume that certain taxes and programs will continue beyond their scheduled expiration. Those include excise taxes dedicated to a trust fund, such as the federal gasoline tax. They also include certain programs with current-year outlays greater than \$50 million; that requirement is sometimes called the \$50 million rule. (The rule applies automatically to programs established on or before August 5, 1997; CBO consults with the budget committees to determine whether it will apply to new programs established thereafter.) Programs subject to that rule include the Supplemental Nutrition Assistance Program and the Children's Health Insurance Program.

Such provisions have advantages and disadvantages. Consider the \$50 million rule. On the one hand, because expiring programs *are* often extended, the rule improves the accuracy of baseline projections of the deficit. And because the rule is also applied to cost estimates for legislation, the rule often results in a more accurate estimate of the ultimate cost or savings when establishing, expanding, shrinking, or eliminating a program. On

the other hand, the rule makes legislative proposals for new programs that are scheduled to expire appear more costly than policymakers may intend them ultimately to be. In addition, the rule makes certain extensions of programs appear costless: CBO would formally estimate the cost of extending such a program as zero, because the extension is already assumed to occur in the baseline. So to aid policymakers' decisionmaking, CBO and JCT also show how the baseline projections would change if expiring spending or tax provisions were instead assumed to expire.

Full Funding of Entitlements. In addition, under section 257, CBO is required to assume that entitlement programs, including Social Security and Medicare, will be fully funded and thus will be able to make all scheduled payments. For example, CBO must assume that scheduled Social Security benefits would be paid even after the program's trust funds were exhausted and annual payroll tax revenues were inadequate to fund those payments.

That rule too presents trade-offs. On the one hand, a baseline that shows benefits being paid regardless of the resources in the trust funds is less informative about the challenges facing the program. On the other hand, it may be more informative about the budgetary challenges facing the nation if policymakers want to maintain Social Security in its current form, because the shortfall of payroll tax revenues relative to scheduled payments is an important driver of federal debt under CBO's projections over the next decades. A projection that instead assumed that payments were limited to the amounts the funds can pay each year would show a sharp reduction in benefits over time (and a flatter debt trajectory). To show that alternative view of the Social Security program's budgetary challenges, CBO also provides the percentage by which benefits would be cut if no additional funding were provided.⁵

Discretionary Programs. Section 257 of the Deficit Control Act also specifies how CBO must construct the baseline for discretionary programs. It requires CBO to use specified inflators to inflate the most recent discretionary appropriation for each program. However, to project

5. See Congressional Budget Office, *CBO's 2017 Long-Term Projections for Social Security: Additional Information* (October 2017), www.cbo.gov/publication/53245, and *CBO's 2016 Long-Term Projections for Social Security: Additional Information* (December 2016), www.cbo.gov/publication/52298.

total defense and nondefense discretionary spending, CBO is required by the Deficit Control Act to apply the caps in current law that limit funding for those categories through 2021. (The caps do not constrain certain types of funding, such as appropriations for overseas contingency operations, which CBO projects separately, using the specified inflators.) To assist policymakers and analysts who may hold differing views about the most useful benchmark projections for discretionary spending, CBO provides alternative paths in its reports—for example, giving projections in which discretionary appropriations are frozen at the amounts provided in the current fiscal year.

Other Principles and Rules Governing Baseline Projections. Most spending programs are projected on a cash basis. However, in accordance with the Federal Credit Reform Act of 1990, federal loan and loan guarantee programs are recorded in the budget on an accrual basis; they are projected in CBO's baseline in that way as well.⁶ Specific rules also apply to projections of spending for the Federal Pell Grant Program and certain transportation programs because they are treated in unusual ways in the budget.

Examples of Principles and Rules That Govern Cost Estimates

The rules governing cost estimates differ depending on what the legislation affects: mandatory spending or revenues, or discretionary spending. The reason is that when the Congress applies budget enforcement rules, it does not treat mandatory spending and revenues in the same way that it treats discretionary spending. Legislation that would affect mandatory spending or revenues is subject to House and Senate points of order (parliamentary objections that legislation violates a certain rule) as well as to procedures specified in the Statutory Pay-As-You-Go Act of 2010 (often called PAYGO). By contrast, budgetary points of order and PAYGO procedures do not apply to authorizations of new discretionary programs or to legislation that modifies existing discretionary programs or activities, as long as appropriations are not being provided or changed. (For them to be changed, lawmakers must take further action.)

Other principles apply to cost estimates more broadly. For example, CBO publishes point estimates, rather than

only ranges, in its cost estimates, because the Congress needs point estimates to implement various laws and rules. In addition, CBO follows certain guidelines and precedents in determining whether new activities should be considered governmental. And the Congress has directed CBO to incorporate aggregate economic effects in its cost estimates in certain circumstances.

Mandatory Spending and Revenues. A key element in each of CBO's cost estimates is the benchmark against which a legislative proposal's estimated budgetary effects are measured. Generally, that benchmark is the amount of spending or revenues that CBO estimates will occur under current law. In the case of mandatory spending, the benchmark is usually the CBO baseline projection of federal spending that underlies the budget resolution for that year. The 10-year period covering the current year and the next decade is used for estimates involving mandatory spending or revenues because various budget enforcement rules apply to 10-year budgetary effects.

Discretionary Spending. For discretionary programs, the benchmark is also what would happen under current law, but it is not the baseline—because most discretionary programs have no specified authorization after the current year, and lawmakers ordinarily do not provide appropriations beyond the current year. Therefore, estimated costs for authorizing legislation related to those programs are measured in relation to enacted appropriations for the current year and any amounts appropriated or authorized to be appropriated in the future. For example, a bill that would extend the authorization for an existing discretionary program for another year would be shown as having a cost in that year, even if the authorized funding was the same as the current year's appropriation.

A bill could potentially affect discretionary spending even if it did not specifically authorize additional appropriations. If a bill would impose a new requirement on an agency (such as a requirement to prepare a plan or complete a study), complying with it would entail the use of resources. So the requirement might influence the amount of budget authority that the Congress made available to the agency in the future. Even if future funding was not affected, the agency would have to spend appropriated resources on the new activity instead of on other responsibilities. Therefore, in CBO's estimates, the cost of carrying out the requirement would be the amount of resources projected to be used.

6. See Congressional Budget Office, *Cash and Accrual Measures in Federal Budgeting* (January 2018), www.cbo.gov/publication/53461.

Point Estimates. CBO reports point estimates—estimates of specific dollar amounts—of the budgetary effects of legislation because they are necessary for the enforcement of budget rules during Congressional deliberation.⁷ For example, budget resolutions provide committees with allocations of funds expressed as point values, and the budget committees use point values to track the estimated budgetary effects of legislation. Nevertheless, CBO tries to indicate which factors underlying an estimate may be particularly uncertain.

Whether New Activities Are Considered Governmental.

When the Congress considers legislation that would establish a new program or mandate a new activity, CBO must decide whether to treat the associated cash flows as federal transactions in its estimates of the bill's budgetary effects. For most legislation, that determination is straightforward because federal agencies would perform any functions required by the bill.

Sometimes, however, the determination is more complicated because the legislative proposal would authorize nonfederal entities to carry out certain activities that might or might not be considered governmental, and the cash flows related to those activities might or might not involve the Treasury. In such instances, to determine whether the new activity should be considered governmental in cost estimates, CBO relies on the recommendations of the *Report of the President's Commission on Budget Concepts* and on past precedent, rather than on a statute. In preparing its cost estimates, CBO generally treats the transactions of nonfederal entities as federal budget transactions if those entities would use the sovereign power of the federal government, would work to achieve a governmental purpose, or would be subject to a significant degree of federal control.⁸

Dynamic Scoring. CBO always tries to incorporate into its cost estimates the effects that legislation would have on people's behavior—for example, changes in how many people would enroll in a program. But effects on the economy as a whole are taken into account only in

the limited circumstances in which CBO produces a “dynamic score.”

Although some major legislation can have significant macroeconomic effects (for example, because it affects the labor supply or private investment), most does not. When the gross budgetary effects of a bill would equal or exceed 0.25 percent of gross domestic product (the economy's total output) in any year, the Congress has directed CBO, if practicable, to incorporate into its cost estimates the estimated budgetary feedback of the bill's macroeconomic effects—that is, how the macroeconomic effects would influence the budget. Such a dynamic score also may be requested by the House or Senate Budget Committee for any bill and is prepared if it is practicable for CBO to do so.⁹ Dynamic scores are complicated and often time-consuming, so they are difficult to prepare if legislation is moving quickly. Nonetheless, when CBO prepares the economic projections underlying the baseline, the agency incorporates all of the estimated feedback into the budget of the macroeconomic effects of fiscal policies under current law.

Other Principles and Rules Governing Cost Estimates.

CBO must follow many other rules when preparing cost estimates. For example, under long-standing budget enforcement rules, estimates include effects on programs other than those specifically addressed by the proposed legislation. That can occur for many reasons—for instance, if the legislation would affect how many people would be eligible for those other programs. However, CBO's cost estimates do not account for how proposed legislation would change the interest costs paid by the government on federal debt as a result of changes in the amount of debt.

In addition, CBO adheres to a number of principles and rules that govern cost estimates for particular programs. Those include rules for estimating the costs of federal credit programs, a specific guideline for estimating the costs of the Pell grant program, and principles governing the budgetary treatment of certain transportation programs.

CBO's Estimates for Appropriation Bills

CBO does not produce the same kind of written cost estimates for appropriation bills that it produces for

7. Implementation of requirements in the Budget Act, in annual budget resolutions, in the Statutory Pay-As-You-Go Act, and in many parliamentary rules relies on point estimates.

8. See *How CBO Determines Whether to Classify an Activity as Governmental When Estimating Its Budgetary Effects* (June 2017), www.cbo.gov/publication/52803.

9. See Congressional Budget Office, “Dynamic Analysis,” www.cbo.gov/topics/dynamic-analysis.

legislation that only authorizes programs and activities. Rather, for annual appropriation bills, CBO provides detailed reports showing account-by-account estimates of the budget authority provided and the resulting outlays, including the estimated budgetary effects of provisions that make changes in mandatory programs (CHIMPs). Separately, CBO provides a tabulation of the budgetary effects of those CHIMPs in each of the next 10 years. In addition, for appropriation bills that are ordered reported, CBO provides an estimate of the outlays resulting over the next 5 years from the budget authority provided in such bills.

For supplemental appropriation bills, CBO provides detailed reports to interested parties in the Congress and routinely publishes tables on its website showing the estimated budget authority and outlays over the next 10 years resulting from such legislation.

The Accuracy of CBO's Baseline Projections and Cost Estimates

In several publications, CBO has reported on the accuracy of its budget and economic projections. It found the following:

- CBO's economic projections have been comparable in quality to those made by the Administration and the Blue Chip consensus (which is an average of about 50 private-sector forecasts published in *Blue Chip Economic Indicators*). When CBO's projections were inaccurate by large margins, the other forecasters' projections tended to have similar errors because all forecasters faced the same challenges.¹⁰
- Since 1984, CBO has tended to overestimate total outlays (after adjustments for legislative changes have been made) for the fiscal year following the year in which the projection has been released. The mean absolute error for total outlays—that is, the average of all errors without regard for whether they were positive or negative—is 2.3 percent.¹¹ The mean absolute error for CBO's sixth-year projections of outlays (that is, those that project outlays for the fifth

fiscal year after the year in which they are released) is 5.9 percent.

- Since 1982, CBO has also tended to overestimate total revenues. The mean absolute error is 5.2 percent in its next-year projections and is 10.4 percent in its sixth-year projections.¹²

Judging the accuracy of CBO's cost estimates for legislation that is ultimately enacted is often much more difficult, generally because the actual costs or savings resulting from enacting the legislation are a small part of a large budget account or revenue stream and cannot be separately identified. As a result, when spending for a government program turns out to be higher or lower than CBO had expected after a legislative change, it is usually unclear whether the error should be attributed to the previous baseline projection for spending under that program or to CBO's estimate of the effects of the new legislation. When it is possible, however, CBO does try to compare actual spending with its cost estimates.

In some cases, the budget records the outcomes that can be attributed to specific pieces of legislation. That is the case for the health care subsidies provided under the Affordable Care Act (ACA), for instance. The estimates produced by CBO and the staff of JCT around the time of that law's enactment proved to be close to the actual amounts for 2014 and 2015 but were much too high for 2016.¹³ In general, other organizations' estimates of health care subsidies produced around the time of the ACA's enactment were much too high for all three years.

Such an analysis is also possible for CBO's estimates of spending under the American Recovery and Reinvestment Act of 2009 (ARRA), which was enacted in response to the severe 2007–2009 recession. Total ARRA spending through fiscal year 2013 was 10 percent higher than CBO originally estimated.^{14*} Most of

10. See Congressional Budget Office, *CBO's Economic Forecasting Record: 2017 Update* (October 2017), www.cbo.gov/publication/53090.

11. See Congressional Budget Office, *An Evaluation of CBO's Past Outlay Projections* (November 2017), www.cbo.gov/publication/53328.

12. See Congressional Budget Office, *CBO's Revenue Forecasting Record* (November 2015), www.cbo.gov/publication/50831.

13. See Congressional Budget Office, *CBO's Record of Projecting Subsidies for Health Insurance Under the Affordable Care Act: 2014 to 2016* (December 2017), www.cbo.gov/publication/53094.

14. Congressional Budget Office, *Answers to Questions for the Record Following a Hearing on the Congressional Budget Office's 2015 Appropriation Request Conducted by the Subcommittee on the Legislative Branch, Senate Committee on Appropriations* (May 2014), www.cbo.gov/publication/45389.

[*Value corrected on March 8, 2019]

the underestimate is accounted for by provisions related to unemployment insurance, nutrition assistance, and refundable tax credits; those costs were boosted by the weaker-than-expected economic recovery.

This testimony was prepared by Wendy Edelberg with contributions from Teri Gullo and T. J. McGrath. In keeping with the Congressional Budget Office's mandate to provide objective, impartial analysis, the testimony contains no recommendations.

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