



Congressional Budget Office

Testimony

Seven Things to Know About CBO's Analyses

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Chairman Womack, Ranking Member Yarmuth, and Members of the Committee, thank you for inviting me to testify this morning about how CBO does its analysis.¹ I would like to make seven points.

First, our goal is to provide budget estimates in the middle of the distribution of potential outcomes. All budget estimates are uncertain, but the budget process relies on estimates of specific dollar amounts, so those are what we produce in our baseline budget projections and in cost estimates for legislative proposals. To the extent feasible, we describe the uncertainty associated with those estimates. And we regularly compare our estimates with actual outcomes, when available, to improve our estimating methods.²

Second, our estimates are derived from data and research. Baseline projections and analyses of policy proposals rely on various types of information, depending on the program involved and the specifics of any particular proposal. When applicable, we use historical information about spending, revenues, and other factors affecting budgetary outcomes; we draw upon research from the professional community and utilize information about outcomes in analogous circumstances; we consult with Congressional staff, staff members at relevant federal agencies, and other experts with diverse views, including experts from state governments, industry, think tanks, and universities; and we receive input from our Panel of Economic Advisers and our Panel of Health Advisers, whose members represent a variety of

perspectives.³ We write about the data and research that informed our analysis in our description of the basis of an estimate.

Third, our estimates incorporate behavioral reactions to proposed policy changes. Estimating how individuals, firms, and governmental entities would react to a policy is a fundamental part of analyzing its effects. For example, our estimates account for changes in the production of various crops that would result from new farm policies, changes in people's likelihood of claiming government benefits if policies pertaining to those benefits were altered, and changes in the quantity of health care services that would be provided if Medicare's payment rates to certain providers were adjusted.

Fourth, for major legislation, and when practicable, our cost estimates reflect additional behavioral changes that would affect total output in the economy. Those macroeconomic changes—including changes in the labor supply or private investment—are incorporated into certain cost estimates using what is sometimes termed dynamic scoring.⁴ Because such macroeconomic analyses are complex and time-consuming, they are produced for only a small number of proposals—usually when the gross budgetary effect (excluding any effect arising from macroeconomic changes) is at least one-quarter of 1 percent of gross domestic product in any year over the next 10 years and when there is sufficient time to conduct the analysis.

Fifth, our analyses cover a broad range of topics. At the end of 2017, we had 40 people working on issues related to Medicare, Medicaid, the Affordable Care Act (ACA), prescription drugs, and other health-related topics; 29 working on education, immigration, income security, labor, and retirement issues; 23 on national security issues; 17 on tax issues; 16 on energy and natural resource issues; 15 on macroeconomics; 9 on the overall

1. The information in this testimony supplements that in other testimonies given earlier this year. See testimony of Keith Hall, Director, Congressional Budget Office, before the House Committee on the Budget, *The Congressional Budget Office's Work in 2017 and Plans for the Future* (January 30, 2018), www.cbo.gov/publication/53501, and testimony of Mark Hadley, Deputy Director, Congressional Budget Office, before the House Committee on the Budget, *The Congressional Budget Office's Baseline Projections and Cost Estimates: Process and Principles* (February 6, 2018), www.cbo.gov/publication/53539.
2. 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, *An Evaluation of CBO's Past Outlay Projections* (November 2017), www.cbo.gov/publication/53328, *CBO's Economic Forecasting Record: 2017 Update* (October 2017), www.cbo.gov/publication/53090, and *CBO's Revenue Forecasting Record* (November 2015), www.cbo.gov/publication/50831.

3. See Congressional Budget Office, "Panel of Economic Advisers" (accessed February 21, 2018), www.cbo.gov/about/processes/panel-economic-advisers, and "Panel of Health Advisers" (accessed February 21, 2018), www.cbo.gov/about/processes/panel-health-advisers.
4. See Congressional Budget Office, "Dynamic Analysis," www.cbo.gov/topics/dynamic-analysis, and "Does CBO Do 'Dynamic Scoring?'" (accessed February 21, 2018), www.cbo.gov/faqs#dynamic.

budget outlook; and 8 on finance and housing issues.⁵ Those people have specialized training to work on those topics and develop analyses specific to the issues at hand. The analyses involve regular use of hundreds of models and other estimating techniques. For example, in its analysis of a proposal to increase the counseling people receive before obtaining a mortgage, CBO used evidence about how such counseling reduces the volume of loans and default rates among borrowers to estimate how the proposal would affect the costs of loan guarantees made by the Federal Housing Administration.⁶ As another example, the agency estimated the effects of the ACA on the labor supply in its economic projections mainly by calculating the effects of the law on marginal and average tax rates and drawing upon research about changes in the labor supply resulting from changes in tax rates.⁷

Sixth, our estimates are produced by a team of people, not by models. Although our analysts often use models in preparing cost estimates, they also use information obtained from experts, data, and research to determine which models or other inputs to use, how to distill the proposed changes in law into inputs to those models, and how to combine the results of the models with other available information to produce a final estimate.

That general process for preparing cost estimates is followed in our analyses of major proposals that would affect health insurance coverage for people under age 65. For such proposals, an especially large number of analysts and modeling efforts are usually involved because of the complexity of health insurance decisions.⁸ In those analyses, CBO focuses on estimating the effects on coverage, premiums, and federal spending, and the staff of the Joint Committee on Taxation (JCT) estimates the tax-related budgetary effects. The analyses have three main steps:

5. See Congressional Budget Office, *The Congressional Budget Office's Work in 2017: A Report to the Congress* (January 2018), www.cbo.gov/publication/53460.
6. See Congressional Budget Office, *Options to Manage FHA's Exposure to Risk From Guaranteeing Single-Family Mortgages* (September 2017), www.cbo.gov/publication/53084.
7. See Edward Harris and Shannon Mok, *How CBO Estimates the Effects of the Affordable Care Act on the Labor Market*, Working Paper 2015-09 (Congressional Budget Office, December 2015), www.cbo.gov/publication/51065.
8. See Congressional Budget Office, *How CBO and JCT Analyze Major Proposals That Would Affect Health Insurance Coverage* (February 2018), www.cbo.gov/publication/53571.

- *Develop an analytical strategy.* We first review the proposal and identify the key effects it would have. We then examine issues surrounding its implementation, such as how eligibility for a subsidy would be verified, and assess the probable timing of effects. As part of that process, we consult with outside experts and review existing evidence.
- *Model the effects of the proposal.* We use several models—including our health insurance simulation model, models of Medicaid, and JCT's individual tax model—to analyze the proposal's effects on health insurance coverage and the federal budget. We translate the features of the proposal into changes, relative to current law, in the price and generosity of health plans and in other factors that would affect the decisions of all parties involved—states, employers, insurers, individuals, and others—and use those changes as inputs in modeling the proposal's effects on health insurance coverage and premiums. We then use the results from those analyses as building blocks to project the proposal's budgetary effects—including effects on the costs of the Medicaid program and on receipts of individual income taxes.
- *Review and write about the estimate.* At several points, we thoroughly review the projections for objectivity and analytical soundness. That rigorous process involves multiple people at different levels in CBO and JCT. When an estimate of the proposal's total budgetary effect is nearly complete, we write up the results, along with a detailed explanation of how we arrived at them, for the Congress.

We followed those steps to prepare our November 2017 estimate of the effects of repealing the ACA's mandate for individuals to have health insurance.⁹ In developing an analytical strategy, we examined data and research that might shed light on the effects, and we discussed the issues at a meeting of CBO's Panel of Health Advisers and consulted other experts.

In modeling the effects of the proposal, we estimated the number of people who would no longer enroll in health insurance as a result of the repeal, the effects on premiums, and the speed at which those changes would occur. And we projected how those changes in coverage and

9. See Congressional Budget Office, *Repealing the Individual Health Insurance Mandate: An Updated Estimate* (November 2017), www.cbo.gov/publication/53300.

premiums would affect tax revenues, Medicaid spending, and other spending.

In writing about that estimate, we also indicated that we were undertaking considerable work to revise our methodology and that preliminary results indicated that the estimated effects on health insurance coverage would be smaller than reported previously. In addition to other technical and economic changes, our next baseline projections will incorporate estimates of those effects because the repeal of the penalty for not having insurance (beginning in 2019) is now part of current law.

Seventh, we strive to make our analysis transparent, and we have recently reallocated resources to make it still more so. We have released new publications this year describing our processes for producing economic forecasts, budget baselines, and cost estimates.¹⁰ Key staff are making presentations to Congressional staff about those processes.¹¹ In the coming months, some of our specific efforts to explain how our models have contributed to our estimates will include the following:

- Exploring ways to make more supporting documentation for the methods used in baseline projections and cost estimates publicly available;
- Publishing detailed information about key aspects of our updated model for simulating health insurance coverage—including computer code—and about how analysts use the model in preparing estimates;
- Developing a version of our model for projecting spending on discretionary programs to facilitate replication of roughly 40 percent of CBO's formal cost estimates;
- Releasing technical documentation and computer code explaining how key parts of our long-term budget model work and how they contribute to our analyses;
- Providing information online that enables users to examine how a large variety of changes in baseline economic projections can affect projections of the federal budget;
- Publishing revised estimates of how certain changes to laws governing medical malpractice would affect medical spending, explaining the reasons behind revisions to the methodology used, documenting the model used to project how those changes to laws would affect medical costs, and making computer code for that model available;
- Posting a tool for examining the costs of different military force structures on our website; and
- Providing computer code that generates results discussed in a working paper about our model of the maximum sustainable output of the economy.¹²

More broadly, we plan to increase the public documentation of our modeling efforts by publishing more slide decks, working papers, appendixes, supplemental data, related spreadsheets, and other technical material.

We look forward to getting feedback on the usefulness of these transparency efforts. I appreciate the opportunity to explain how we do our work, and I am happy to answer your questions. Thank you for your support and guidance as we carry out our mission to provide information to the Congress and as you grapple with the difficult issues facing the nation.

10. See 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; Congressional Budget Office, *How CBO Prepares Baseline Budget Projections* (February 2018), www.cbo.gov/publication/53532; and Congressional Budget Office, *How CBO Prepares Cost Estimates* (February 2018), www.cbo.gov/publication/53519.

11. For example, see Jessica Banthin, Deputy Assistant Director, Health, Retirement, and Long-Term Analysis Division, Congressional Budget Office, "An Overview of CBO's Estimates of Federal Subsidies for Health Insurance for People Under Age 65: 2017 to 2027" (presentation at a Congressional Research Service seminar, Washington, D.C., January 10, 2018), www.cbo.gov/publication/53447; and Sarah Masi, Analyst, Budget Analysis Division, Congressional Budget Office, "Estimating the Costs of Proposals Affecting Health Insurance Coverage" (presentation at a Congressional Research Service seminar, Washington, D.C., January 10, 2018), www.cbo.gov/publication/53448.

12. See Robert Shackleton, *Estimating and Projecting Potential Output Using CBO's Forecasting Growth Model*, Working Paper 2018-03 (Congressional Budget Office, February 2018), www.cbo.gov/publication/53558.

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