



Answers to Questions for the Record Following a Hearing on CBO's Appropriation Request for Fiscal Year 2018 Conducted by the Subcommittee on the Legislative Branch, Senate Committee on Appropriations

On June 21, 2017, the Subcommittee on the Legislative Branch of the Senate Committee on Appropriations convened a hearing at which Keith Hall, Director of the Congressional Budget Office, testified about CBO's appropriation request for fiscal year 2018 (www.cbo.gov/publication/52785). After the hearing, two Senators submitted questions for the record. This document provides CBO's answers.

Senator Kennedy

Question. How do the original CBO cost estimates compare with the actual budgetary effects of the Medicaid expansion under the Affordable Care Act (ACA) and of the ACA in general?

Answer. In CBO's original cost estimate, which was released in March 2010, the agency projected that spending in 2016 on people made eligible for Medicaid because of the ACA would equal \$68 billion. The amount that was actually spent, CBO now estimates, was \$65 billion. However, in the March 2010 projection, CBO had anticipated that all states would adopt the ACA's expansion of eligibility for Medicaid. In June 2012, the Supreme Court ruled that that expansion was optional for states. CBO's projection in July 2012, which incorporated that ruling, was \$38 billion for 2016—about 60 percent of the currently estimated amount of \$65 billion.

It is difficult to identify the budgetary effects of the ACA in general, because the budgetary effects of many provisions are embedded in the spending for preexisting programs—Medicare, for example—and in broad categories of federal tax revenues. But the effects of health insurance subsidies can be more readily identified. In March 2010, CBO and the staff of the Joint Committee on Taxation projected the cost to the federal government of premium tax credits and cost-sharing subsidies for health insurance purchased through the health insurance marketplaces established under the ACA. The projected cost was \$77 billion for fiscal year 2016. That projection proved roughly twice as large as the estimated actual amount, about \$36 billion, primarily because the agencies overestimated the number of people who would enroll in the marketplaces.¹

Question. How does the original CBO cost estimate compare with the actual budgetary effect of Medicare's prescription drug insurance program?

1. For discussion of the reasons for changes in those estimates since the enactment of the ACA, see Congressional Budget Office, *Federal Subsidies for Health Insurance Coverage for People Under Age 65: 2016 to 2026* (March 2016), p. 23, www.cbo.gov/publication/51385.

Answer. In CBO’s original cost estimate, which was released in November 2003, the agency projected that spending in 2013 for the prescription drug benefit known as Part D would equal \$99 billion. That projection proved about twice as high as the actual amount spent in 2013, \$50 billion. A combination of broader trends in the prescription drug market and lower-than-expected enrollment in Part D contributed to that difference.² (This answer focuses on 2013 because CBO’s original cost estimate covered the period through 2013.)

Senator Rubio

Question. In your testimony, you note that the CBO’s requested four new analysts for 2018 would work on the “dynamic analysis of certain legislation.” How can CBO’s dynamic analysis be improved?

Answer. Examining the effects of federal policy on the economy is called dynamic analysis. In CBO’s view, those effects differ in the short term and the long term. In the short term, policy affects the economy primarily by changing the overall demand for goods and services. In the long term, policy affects the economy primarily by changing the incentives to work, save, and invest; by altering the amount of funds available for private investment; and by affecting private-sector productivity.

CBO conducts dynamic analysis with various kinds of macroeconomic models, depending on the policy proposal being examined. The agency considers the latest findings from economics and business research in developing those models, so they reflect the latest thinking among experts in the field. CBO also conducts original research to estimate the economic and budgetary effects of policies for which there are few or no estimates available from other sources.

CBO has proposed adding four new analysts in fiscal year 2018. Of those, one would conduct dynamic analysis. (Of the others, two would analyze health care and one would analyze appropriations.) The new analyst would also give CBO more capacity to conduct projects to improve the models. Such projects include the following:

- Research and model development to allow CBO to conduct dynamic analysis of a broader set of policies and to reduce the time needed to respond to Congressional requests;
- Better integration of estimates from different macroeconomic models;
- A more comprehensive analysis of how different kinds of policies affect the economy in the longer term;
- A more detailed specification of how changes in the economy affect the federal budget;
- A more detailed characterization of the sources of uncertainty underlying CBO’s estimates, including uncertainty stemming from the models as well as from broader economic, demographic, and policy considerations;

2. For discussion of why the Part D program cost less than anticipated, see Congressional Budget Office, *Competition and the Cost of Medicare’s Prescription Drug Program* (July 2014), pp. 5–12, www.cbo.gov/publication/45552.

- A more detailed analysis of the effects of federal investment (that is, spending on infrastructure, education, and research and development) on private-sector productivity; and
- A modification of CBO's overlapping-generations model to better estimate the effects of changes to Social Security and federal health insurance programs on the U.S. economy.³

In addition, CBO is currently working on more comprehensive documentation of its models for dynamic analysis. Better documentation will make the agency's methods more accessible to the Congress, outside experts, and the interested public.

Question. One issue that I am interested in exploring is new ways of dynamic scoring for the child tax credit and paid family leave, both policies with tremendous economic impact not easily identified in scoring models.

There is a wealth of research surrounding the social and economic benefits of the child tax credit: from reduced crime, increased educational achievement, and labor force participation, to changes in birth rates that affect the sustainability of pension and retirement programs. How can we more accurately measure the returns to investment in our children?

Has CBO considered expanding the scope of what research might be acceptable to best capture the costs and benefits of child subsidies?

Answer. CBO has assessed the economic and budgetary effects of changes to some federal programs that provide benefits to families and children. For instance, in undertaking its macroeconomic analysis of the President's 2017 budget request, CBO assessed the economic and budgetary effects of increasing spending for programs and activities such as Head Start and primary and secondary education.⁴ Such programs, because they provide supervision for children, make it easier for parents to work and can therefore boost parents' earnings in the short run. In the longer run, such programs can also boost earnings by increasing the skills that children bring to the labor force when they become adults. In its analysis, CBO found that most of the economic effects of changes in spending for such programs that would occur within the 10-year budget window would tend to be small and would result from changes in the amount of labor supplied by parents. The economic effects resulting from changes to children's subsequent earnings would probably be larger, but they would occur later and are more uncertain.

Expanding the child tax credit would probably affect people's earnings and the federal budget through similar channels. Measuring those effects accurately would require understanding how the credit affected parents' earnings in the short run and children's in the longer run. Expanding the credit would probably increase the incentive to work and earn for some parents (mainly lower-income ones, if under the expansion they received a greater amount of

3. An overlapping-generations model focuses on the working, saving, and retirement decisions of households over their life cycles. Because that model explicitly incorporates households' response to changes to future policy and includes households of different ages and in different socioeconomic groups, it is particularly helpful for analyzing changes to Social Security and Medicare programs.

4. Congressional Budget Office, *A Macroeconomic Analysis of the President's 2017 Budget* (June 2016), www.cbo.gov/publication/51625. For additional information, see Congressional Budget Office, "How CBO Analyzes the Economic Effects of Changes in Federal Subsidies for Education and Job Training," *CBO Blog* (May 3, 2017), www.cbo.gov/publication/52361.

money for each \$100 that they earned, up to a maximum) while reducing that incentive for other parents (mainly higher-income ones, if they received a greater reduction in their credit for each \$100 that they earned). Those effects are largely offsetting, however, so expanding the credit probably would not significantly affect parents' earnings in the short run. There is some evidence that the credit improves children's eventual college attendance and boosts their earnings when they become young adults, but most of those effects do not occur within the 10-year budget window.

CBO has studied many mechanisms through which federal programs that provide benefits to families and children could affect the economy, such as the short-run effects on earnings and labor supply and the long-run effects on education and earnings just mentioned. But there are other ways in which such programs might affect well-being—for instance, by affecting crime, health, or longevity, changes that could have some fiscal impact. CBO may incorporate those effects into its future analysis as more research is published.

Question. One of the important roles that CBO plays for the legislative branch is that of referee: your scores and analysis shape the congressional debate over policy. Due to this influence, the behind-the-scenes assumptions that determine these scores matter a good deal to Congress. And in a time of increasing diversity and decentralization, a more open scoring process may produce better, more accurate outcomes by increasing the number of inputs for a score.

What role does transparency play in CBO scoring?

Have you considered implementing open-source modeling, in which outside analysts could test CBO's assumptions?

What kinds of congressional requirements for CBO would need to be changed in order to ease a transition to a more open-sourced model?

Answer. CBO works hard to make its analyses of legislative proposals transparent. To begin with, CBO's cost estimates go well beyond simply presenting results; instead, the agency explains the basis of its findings so that Members of Congress, their staff, and outside analysts can understand the results and the methods used. CBO has also increased public documentation of its modeling efforts—by publishing more appendixes and background reports, providing details about its analyses for nonexperts, and by publishing more working papers with technical descriptions for experts.

The agency is actively exploring ways to provide additional information about its modeling that would be most useful to the Congress, such as furnishing further public documentation, presenting the sensitivity of budgetary effects to changes in key parameters of policy proposals, and writing accessible source code for computer programs used in analyses. Those tasks require considerable resources; to best allocate those resources, the agency is in the process of assessing which tasks are the most valuable.

CBO will use such a multifaceted approach to enhancing the transparency of its modeling because that modeling—and CBO's analysis more broadly—is much more than the output of computer programs. It is primarily the identification of the main mechanisms through which proposed legislation would affect the budget; the assessment of which mechanisms would probably have effects important enough to quantify; and the integration of different

types of research, on the basis of data from the past, to project responses in individuals' and institutions' behavior to changes in those mechanisms. That process generally differs for each estimate so that CBO can make the best use of different types of research to model the effects of a particular legislative proposal. One example is the agency's analysis of potential changes to premiums in Medicare Advantage. The effects of such a change on people's decisions to enroll in a private plan through that program—and thus on the federal budget—would not simply be proportional to the size of the change, so CBO's modeling differs depending on whether proposed changes are small or large.

Because the overall demand for CBO's work is high and its resources are constrained, the agency needs to balance requests to explain more about finished analyses with requests for new analyses and with its other responsibilities, such as regularly updating its baseline budget and economic projections. Those demands and constraints, and not any requirements written in law, are the main factors limiting public documentation, reporting of the effects of changes in key parameters, writing accessible computer code, and related activities.

The Role of Transparency. When CBO completes a budget or economic projection, a cost estimate for a public piece of legislation, or another type of analysis, it makes the results of that analysis available to all Members of Congress, their staff, and the public. CBO's analysts spend a great deal of time meeting with interested Members of Congress and their staff to explain the details that underlie cost estimates. In its blog, CBO also highlights answers to questions that have frequently been raised by Members, sometimes explaining what the limitations of its analyses are and how new data and results from well-designed studies could help the agency better predict the potential effects of legislative proposals.⁵

Even though CBO devotes substantial time and energy to presenting its work as clearly and nontechnically as possible, the pace of Congressional action often requires the agency to produce analyses quickly. So the amount of explanation that can be provided when an estimate or analytic report is released is sometimes limited by the time available.

Information About Models. CBO has made a variety of information available so that outside analysts can examine the basis for its estimates, and the agency intends to make more available in the future. For example, in June, CBO published a paper describing the simulation model that it uses to inform its baseline budget projections for the Pension Benefit Guaranty Corporation's multiemployer program.⁶ The paper explains the interest rates used, the way stock market returns are simulated, the role of plan-specific parameters, how they are calibrated by means of information from a plan's filings with the Internal Revenue Service, and so on.

Another complex simulation model is the one that CBO uses to estimate how rates of coverage and sources of health insurance would change if various insurance options underwent alterations in eligibility criteria and subsidies and thus net cost. CBO has described the data underlying that model, which include information about the income, employment, health

5. For example, see Noelia Duchovny, Eamon Molloy, Lori Housman, and Ellen Werble, "Estimating the Effects of Federal Policies Targeting Obesity: Challenges and Research Needs," *CBO Blog* (October 26, 2015), www.cbo.gov/publication/50877.

6. See Wendy Kiska, Jason Levine, and Damien Moore, *Modeling the Costs of the Pension Benefit Guaranty Corporation's Multiemployer Program*, Working Paper 2017-04 (Congressional Budget Office, June 2017), www.cbo.gov/publication/52749.

status, and health insurance coverage of a representative sample of individuals and families.⁷ The model also incorporates information from the research literature about people's and employers' responsiveness to price changes and about people's responsiveness to changes in eligibility for public coverage. CBO's publications explain how changes in coverage of different types depend on the difference in price between those types. In addition, those publications present the parameter values used to estimate the change in the probability of choosing coverage of a particular type with respect to a percentage change in price.⁸

Most of CBO's cost estimates, however, do not involve simulation models. In those cases, the agency generally describes the building blocks of the estimate. In October 2016, for example, CBO estimated that the Veterans First Act would, among other provisions, authorize the Veterans Administration (VA) to place up to 900 veterans with severe service-connected disabilities in Medical Foster Homes (MFHs). Here is an excerpt from CBO's cost estimate:

CBO estimates that half of the veterans eligible for this program (about 450 individuals) would become residents of MFHs as a result of the bill's enactment. For those veterans, VA would pay for their living expenses, as well as the costs for Home Based Primary Care services. We estimate that those veterans would receive health care that would cost \$9,000 per year more than they would receive under current law because providing care in the individual homes is costlier than providing health care at VA medical facilities. Including the costs for living expenses at the MFHs of \$39,000 per year, we estimate total costs per new resident of \$48,000 per year. As a result, total costs for new MFH residents would be about \$22 million a year, CBO estimates.⁹

Outside analysts with a different estimate of one component, such as the cost of care in the individual homes, can draw on that explanation to make their own calculations.

How CBO Incorporates Feedback From Outside Analysts. CBO continually seeks feedback about its analytical efforts in order to ensure their effectiveness. For example, the agency has a Panel of Economic Advisers and a Panel of Health Advisers, which consist of experts with a wide variety of backgrounds and specialized knowledge who are selected to represent a range of views. The first of those panels meets twice a year to provide input about CBO's latest economic forecast and other issues, and the second meets annually to discuss key issues affecting the agency's projections and analyses and to examine new research in health care and health care financing.¹⁰ CBO also regularly consults with those experts and with others for guidance.

7. See Jared Maeda and Susan Yeh Beyer, "How Does CBO Define and Estimate Health Insurance Coverage for People Under Age 65?" *CBO Blog* (December 20, 2016), www.cbo.gov/publication/52352.

8. For additional information, see Congressional Budget Office, "Methods for Analyzing Health Insurance Coverage" (accessed August 1, 2017), www.cbo.gov/topics/health-care/methods-analyzing-health-insurance-coverage.

9. See Congressional Budget Office, cost estimate for S. 2921, the Veterans First Act (October 24, 2016), page 17, www.cbo.gov/publication/52133.

10. For additional information about those meetings, see Congressional Budget Office, "Agendas From Prior Meetings of CBO's Panels of Advisers" (accessed August 1, 2017), www.cbo.gov/about/processes/meeting-agendas.

Furthermore, CBO's analysts regularly make presentations at conferences and elsewhere to obtain feedback and to answer questions about the agency's analytical methods. For example, CBO has devoted significant effort to developing and enhancing analytical tools for assessing the macroeconomic effects of fiscal policies and the feedback of those effects into the budget. The agency has engaged in dialogue about that effort at meetings of numerous professional associations and at universities (in addition to obtaining input from its Panel of Economic Advisers).¹¹

11. For links to CBO's presentations at those meetings and universities, see Congressional Budget Office, "Dynamic Analysis" (accessed August 1, 2017), www.cbo.gov/taxonomy/term/1632/latest?type=5.