



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

On March 11, 2014, the Subcommittee on the Legislative Branch of the Senate Committee on Appropriations convened a hearing at which Douglas W. Elmendorf, Director of the Congressional Budget Office, testified about CBO's appropriation request for fiscal year 2015. Some Members of the Subcommittee submitted further questions for the record, and this document provides the agency's answers.

Chairwoman Shaheen

Question: Does CBO routinely look back at previous cost estimates and compare those to actual outcomes?

Answer: Yes, CBO routinely monitors the budgetary effects of enacted legislation to help improve projections of spending and receipts under current law, as well as to improve cost estimates for new legislative proposals. However, it is often difficult or impossible to determine, even in retrospect, the incremental impact on the budget of a particular piece of legislation. CBO regularly prepares cost estimates for legislation when bills are reported by committees of the House of Representatives or the Senate. In some cases, such legislation is changed before enactment. Although CBO often provides updated cost estimates (especially for direct spending provisions) prior to the enactment of legislation, proposals are sometimes amended after cost estimates are prepared. Moreover, in many cases the actual costs or savings resulting from enacting legislation cannot be identified; they may be a small part of a large budget account or revenue stream, and there may be no way to know for certain what would have happened if the legislation was not enacted. In fact, most of the cost estimates that CBO completes are for legislative proposals that are not enacted, so it is not possible to determine their accuracy.

Nonetheless, CBO attempts to look back at previous estimates to discern as much as possible how such estimates compare with actual outcomes after legislation is enacted. A description of the agency's process and a few specific examples are provided below.

A Regular Review Process. Because it is often not possible to determine how close the impact of a particular piece of legislation is to CBO's initial projections, it is hard to make a general statement about the accuracy of the agency's estimates. Nonetheless, CBO analysts undertake a detailed review of Treasury-reported outlays and receipts after the end of each fiscal year to

learn as much as possible about how those actual results compare with both the original cost estimates for individual pieces of legislation (when possible) and the current-law baseline projections (which reflect all legislation previously enacted). In addition, CBO updates its baseline projections a few times each year, and during those exercises, the agency carefully tracks and reports on changes from the previous baseline by separately categorizing and explaining changes derived from legislation, economic revisions, and other (technical) adjustments.

That annual process is useful in helping CBO prepare better projections going forward, even though it is sometimes not possible to discern exactly how much of a given year's estimating error for a given program is directly attributable to a specific piece of legislation. Following are a few examples of cases in which it is possible to match up results with earlier projections for particular pieces of legislation.

Medicare Part D. The prescription drug program known as Medicare Part D is a relatively rare example in which actual spending can be directly compared with the projections contained in the CBO cost estimate. In most cases, legislation modifies existing programs; it is often not possible after enactment of such legislation to determine how spending for a modified program has changed specifically as a result of that legislation, or how much of future spending would have occurred even without the change in law. In contrast, the legislation that created Part D established a new component of Medicare with a system of new benefit payments, associated administrative costs, and payments from premiums and states.

The actual net cost of Medicare Part D has been much lower than CBO originally projected. For example, in its 2003 cost estimate for the legislation creating the program, CBO projected that Part D costs through 2013 would be \$552 billion (the Administration's estimate at that time was higher), whereas the agency now estimates those costs totaled \$354 billion through 2013. The roughly 35 percent difference between the initial projection and actual results recorded thus far arises largely because, in preparing the estimate, CBO observed that recent growth rates for drug spending had been higher than the long-term trend and anticipated that growth would remain above the long-term trend for most of the 10-year period following the creation of Part D. However, that growth rate dropped below its prior long-term average even before the new program was implemented in 2006—probably because patents expired for a substantial number of brand-name drugs (so consumption of those drugs shifted to lower-priced generic versions) and relatively few new brand-name drugs were introduced. In addition, enrollment in Part D has been lower than what CBO initially projected.

Over the past several years, as actual data have been reported, CBO has significantly reduced its baseline projections of future spending for the Part D benefit, and its cost estimates for new legislation related to Part D have similarly reflected experience with actual spending under the program.

Recovery Act Spending. The American Recovery and Reinvestment Act of 2009 (ARRA) provided funding for a broad range of new and existing federal programs and reduced revenues through changes in federal tax law. Most of ARRA's effects on federal spending and revenues have now occurred, and they have been roughly in line with the original estimates prepared by CBO and the staff of the Joint Committee on Taxation (JCT) at the time the legislation was considered by the Congress in early 2009.

CBO has closely monitored actual spending under ARRA for the past five years to help determine where the agency's estimates of outlays (including their timing) were too high or too low—both in total and for individual years and programs. Estimates for many of the individual years following the enactment of the Recovery Act were generally quite accurate. For example, the actual spending in 2009 of funds provided by ARRA differed by only 1 percent from CBO's estimate for that year.

Through fiscal year 2013, the outlays resulting from ARRA totaled \$596 billion, about \$54 billion (or 10 percent) above CBO's original estimate of \$542 billion for the 2009–2013 period.* (Additional spending will occur over the next several years. In addition, JCT estimated that ARRA would reduce federal revenues by about \$210 billion over 10 years, with most of that impact falling in 2009 and 2010.) Most of the underestimate in spending under ARRA 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.

Some estimates were particularly close to the recorded results for the five years following the enactment of ARRA. For example, spending for the Department of Health and Human Services totaled \$130 billion through 2013, which is about 1 percent below CBO's original estimate for that period. Estimates of education and transportation spending under ARRA were within 4 percent and 6 percent, respectively, of the actual five-year totals (which were \$94 billion for the Department of Education and \$40 billion for the Department of Transportation).

Spectrum Auction Receipts. Legislation enacted in the past 20 years directed the Federal Communications Commission (FCC) to use competitive bidding (auctions) for licenses to use the electromagnetic spectrum when more than one party seeks such licenses. Spectrum auctions under such legislation have generated more than \$50 billion in net offsetting receipts to the Treasury since 1994.

CBO's estimates of spectrum auction proceeds under legislation enacted over the past two decades have sometimes been too high and sometimes too low. When estimating the budgetary impact of the Balanced Budget Act of 1997, for example, CBO projected that FCC auctions would generate about \$25 billion in proceeds. Actual collections resulting from that legislation were about one-third less than projected. CBO also estimated spectrum receipts of about \$25 billion from the auctions authorized by the Deficit Reduction Act of 2005, but the agency underestimated receipts for that legislation: Collections resulting from the 2005 act have been about 30 percent higher than the estimate.

Spectrum values fluctuate for several reasons, including changes in technology, market conditions, and the financial and strategic interests of individual wireless companies. Projections of receipts also reflect uncertainty about the quantity of spectrum that will be available for auction. CBO's estimates attempt to reflect those uncertainties by representing the middle of the range of most likely outcomes.

Spending for Unemployment Insurance. In 2008, lawmakers enacted the Emergency Unemployment Compensation program (EUC) program, which has been altered numerous times over the past several years. Under current law, that program expires at the end of December 2013. The EUC program expired at the end of 2013. Adding together its estimates for the 12 laws that enacted and subsequently expanded and extended EUC, CBO estimated

[*Values corrected on March 8, 2019]

that benefits under the program would total \$228 billion through December 2013. According to the Department of Labor, the actual cost of EUC benefits has been \$230 billion through December 2013, a difference of less than 1 percent.

The relatively low net error overall reflects both overestimates and underestimates in CBO's original cost estimates for the many pieces of EUC legislation enacted in recent years. In general, estimates for EUC tended to be lower than the actual outlays in 2009 and 2010 because the effects of the recession turned out to be much worse than CBO anticipated. During that time, the unemployment rate rose sharply and stayed higher than the rate CBO used for estimating the costs of legislation. In addition, people remained unemployed much longer than they had in previous recessions, thus increasing the time that people collected benefits, adding to the total costs of such benefits. In more recent years, the opposite has been true: the unemployment rate has fallen at a slightly faster pace than CBO projected; hence, more recent estimates of benefit payments have tended to be higher than actual costs. In addition, actual benefit payments were reduced by mandatory sequestration, the effects of which were not reflected in the original estimates.

Question: Does CBO adjust or inform its methodologies in response to lessons learned from previous estimates?

Answer: When spending for a government program turns out to be higher or lower than CBO had expected after a legislative change, it is generally unclear whether the error should be attributed to the previous baseline projection for spending under that program or to the agency's estimate of the effects of the new legislation. Nonetheless, CBO carefully scrutinizes errors in its projections, reviews data on the spending patterns for federal programs, and consults with outside experts on those programs in order to improve its estimating methodologies.

As noted in the previous answer, CBO conducts a thorough review of actual outlays and revenues each year (as reported by the Department of the Treasury). The direct result of that review is a continual fine-tuning of estimates in the forward-looking baseline projections. That process begins late in the fall of each year, and updated estimates are reflected in the *Budget and Economic Outlook* that is published early in the next calendar year. Moreover, CBO then uses the updated estimating assumptions that underlie such baseline projections when it prepares cost estimates for new legislation considered during the ongoing Congressional session.

Similarly, when CBO is presented with new legislation to estimate, it generally begins that process by reviewing available data for historical spending patterns stemming from prior legislation. In addition, when appropriate, it modifies the methodology that was used for previous estimates to reflect any lessons learned from observing how programs created or changed in prior legislation unfolded over time. For example, sometimes funds appropriated for a given program have been spent more slowly or more quickly than CBO had estimated, so when new proposals for additional funding for the program arise, the agency may adjust its estimates of the pace of such spending.

In other cases, CBO may learn that agencies or states participating in a program have been implementing the program somewhat differently than it had expected when preparing a

previous estimate. As above, CBO takes such information into account in estimating the cost of new legislation that would affect that program.

Question: Does CBO share its cost methodologies with academic and financial researchers, or other experts, for independent evaluation? What about other budget offices at the local, state, or international level that have similar responsibilities in terms of projections and cost estimates?

Answer: CBO considers the transparency of its analyses to be a basic value of the agency. Although much of the analysis that CBO undertakes is very technical in nature, the agency works hard to explain the basis for its findings so that Members of Congress, their staff, and outside analysts can understand the results and question the methodologies used.

To that end, CBO discloses its methodology and the reliability of its methodology in numerous ways:

- The agency makes its cost estimates for public pieces of legislation and reports presenting other analyses available immediately on the website to all Members of Congress, their staff, and the public.
- The agency's normal cost estimates include descriptions of the basis for the estimates.
- Many of the agency's reports include substantial discussions of the relevant research literature and CBO's modeling approaches—in the text, in special boxes, or in appendixes. Examples include the following:
 - Analyses of the [economic impact of the President's budget](#), released annually.
 - The projections of long-term growth in the costs of health care used for the *Long-Term Budget Outlook*, released annually.
 - Estimates of the effects on output and employment of the [American Recovery and Reinvestment Act](#).
 - Reports on the [distribution of household income and federal taxes](#), released periodically.
 - Updated estimates for the [insurance coverage provisions of the Affordable Care Act](#), released periodically.
 - Estimates of the economic impact of alternative fiscal policies.
 - A report on the budgetary effects of [raising the cigarette tax](#).
 - A report on the effects of [raising the minimum wage](#).
- The regular updates to the agency's [baseline budget projections](#) include an accounting and explanation of the sources of revisions to those projections.

- The agency releases data and other technical information with some of the key reports. Examples include extensive spreadsheets released with the thrice-annual budget projections and with the annual report on the long-term budget outlook, as well as with a report on the fair-value cost of federal credit programs.
- The agency releases regular analyses of the accuracy of its economic forecasts.
- The agency releases background reports to provide details about its analyses for nonexperts, and working papers to provide technical descriptions of its analyses for experts. Some examples include these:
 - A background paper, a working paper, and another working paper describing the agency's analysis of the responsiveness of the labor supply to changes in tax rates.
 - A background report describing the main features of the microsimulation model used for long-term analysis of Social Security.
 - A working paper on the tax elasticity of capital gains.
 - A working paper on the short-term effects on output of changes in federal fiscal policies.
 - A report on how CBO projects income.
 - Working papers on wages and on benefits and total compensation in the federal government and private sector.
 - Working papers on Medicare's demonstration projects on disease management and on value-based payment.
- The agency undertakes and publishes analyses of the sensitivity of its estimates to key parameters. For example, the analyses of the economic effects of fiscal policies include alternative estimates based on ranges of assumptions about the short-term stimulus from lower taxes or higher government spending, the response of the labor supply to changes in tax rates, and the effects of budget deficits on private saving and international capital flows. The agency's report on employment-based health insurance under the Affordable Care Act showed how alternative assumptions would alter the estimates.
- When the agency revises its view of key aspects of its analyses, it explains the rationale for those revisions. Examples include reports explaining the agency's revised view of the effects of several policy options: the effectiveness of malpractice reform in reducing health care costs, the effect of prescription drug use on Medicare's spending for other health care services, and the effect of raising the age of eligibility for Medicare to 67 on the budget deficit.
- The agency responds to letters from Members of Congress requesting additional information on methodology. Examples include reviews of how CBO views the budgetary impact of long-term agreements by the federal government to purchase electric power and the budgetary impact of opening more federal lands to oil and gas leasing.

- Members of CBO's staff present information about [how the agency does its analyses](#) and the [results of those analyses](#) at academic and professional conferences so as to encourage input from outside experts.
- CBO's analysts spend a great deal of time explaining details underlying the cost estimates and reports in phone calls and meetings with interested Members of Congress and their staff.

CBO also seeks input from outside experts, including professors, analysts at think tanks, private-sector experts, and employees at various government agencies when reports and analyses are being prepared. Some of those consultations occur during regular meetings of CBO's Panel of Economic Advisers (which reviews the agency's economic forecast) and Panel of Health Advisers; many more consultations occur on an informal, ongoing basis.

For cost estimates, for example, CBO staff routinely consult with knowledgeable program staff at federal agencies that would be involved in implementing a legislative proposal. In many cases, that consultation extends to officials in state and local governments. For example, legislation in the areas of health care, income security programs, environmental regulation, education assistance, and infrastructure spending is often implemented (at least in part) at the state level, and CBO staff can and do learn a great deal by discussing estimating methodologies, program parameters, and historical data with staff in state agencies (as well as local governments as appropriate).

CBO's analysts frequently contact outside experts in academia and elsewhere to obtain their insight about the potential effects of legislation, to obtain useful data, or to discuss estimating methodologies. For example, when developing models involving insurance risks to the federal government that are similar to those faced by the private sector, CBO consults with academic researchers and private-sector experts to understand the concepts involved in estimating insured losses. CBO has prepared several cost estimates for proposals related to the authorization of terrorism risk insurance that relied heavily on information from insurance industry actuaries and models used by private-sector firms for the terrorism component of property and casualty insurance that they offer. CBO also consults outside experts in the agriculture community (including federal, academic, and private-sector experts) by holding an annual baseline review conference to seek input and feedback on the agency's preliminary projections of supply and demand for various agricultural commodities.

More generally, CBO staff review the work of others' independent analyses and conduct literature reviews to identify relevant research findings that can inform their estimating methodologies.

At the international level, CBO staff have participated in annual meetings of parliamentary budget officials organized by the Organisation for Economic Co-operation and Development, as well as meetings of other international groups. Those forums have provided an avenue for exchange of information, including learning about the analytical methodology and budgeting approaches taken by governments in different countries. CBO also frequently hosts visiting delegations from other countries to discuss the work that it does for the U.S. Congress and to learn about budget-related experiences in other countries.

Senator Hoeven

Question: What is the current level of FTEs at CBO, and do you expect to reach 235 FTEs by the end of the current fiscal year? If you are not able to reach that goal, how will money designated for salaries be reallocated?

Answer: CBO is currently operating with about 222 FTEs. After the 2014 appropriation was set, we began an aggressive recruitment effort to bolster the staff, and we have made offers to, and received acceptances from, another 10 people. We are continuing to recruit for other positions. Taking into account some anticipated attrition, we expect to end fiscal year 2014 with about 230 employees on board. As a result, some of the funds allocated in the budget request for payroll will not be spent for that purpose; as reflected in our 2015 budget request, we reallocated such funds to cover the cost of information technology purchases that had been deferred from previous years.

Question: Last year, you mentioned that under sequestration, it forced deferment of IT purchases. Have those needs been addressed, and if so, how are they assisting CBO with the current workload?

Answer: Yes, CBO's pressing needs for information technology were addressed by the 2014 appropriation. For example, the funding enabled us to acquire greater storage capacity and advanced servers designed for sophisticated statistical analysis and modeling undertaken by an increasingly wide swath of the agency. The funding also enabled us to replace aging computers and other hardware and to enhance remote access capabilities for CBO staff, made necessary by increasingly compressed legislative time frames. Finally, the funding allowed us to buy software that will improve our analytical capabilities.