



# THE CONGRESSIONAL BUDGET OFFICE AT MIDDLE AGE

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## SUMMARY

In the 40 years since its founding, the Congressional Budget Office (CBO) has become one of the most influential and well-regarded institutions in Washington, solidifying its place as the authoritative source of information on the budget and economy.

CBO has built its influence and credibility by hiring technically skilled staff, deciding that the organization would make no policy recommendations to Congress, and by offering criticism of presidential proposals touting overly optimistic projections, even in cases where the director came from the same party as the president. Also, Congress, especially the Budget Committees, has realized that an objective, credible CBO was in their best interest.

In recent years, CBO's most prominent role has been in generating cost estimates of legislation, which are criticized for being inaccurate, for their narrow focus, and for being biased. CBO frequently stresses that its point estimates are the midpoint in a range, and that there is a great deal of uncertainty inherent in their projections. CBO's analysis focuses almost exclusively on costs rather than societal benefits—but this is a direct result of its mandate. CBO's estimates often exactly match the stated budgetary effects of certain bills, but this is a welcome product of the back-and-forth of the Congressional process.

There are several actions CBO could take to maintain its influence as it reaches middle age. One is to consider being more vocal about the growing fiscal imbalance, although it might be more useful to extend the length of its 10-year baseline estimates to draw attention to the long-term fiscal situation. CBO could also provide more information on the level of uncertainty surrounding its point estimates, which would help avoid the false perception of precision. CBO could widen its scope by providing cost and effectiveness comparisons across a wide range of policies to assist Congress to effectively allocate resources. It is vital that Congress recognize both benefits and limitations of CBO's analyses. Budgetary impacts are important, but should be viewed as only one piece of the puzzle—not always the most important piece. Finally, CBO will be of limited use to Congress and the nation if it becomes viewed as one more source of partisan noise.

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*“The history of health reform is congressmen sending health legislation off to the Congressional Budget Office to die.”—Senator Ron Wyden (D-OR), quoted in Klein, 2009.*

*“Every advocate comes to CBO and their null hypothesis is that they are right and they think CBO’s null hypothesis is that CBO is right: but that’s not CBO’s null. CBO’s null is you’re wrong.”—Former CBO Director Douglas Holtz-Eakin, 2010, quoted in Joyce, 2011.*

The Congressional Budget Office (CBO) is 40 years old. Created out of conflict between the executive and legislative branches, this relatively young agency has become far more influential than was anticipated at its founding. As it was at the outset, CBO’s primary job is to evaluate policy changes through an objective, neutral lens. While broader policy analysis work sometimes enters the policy debate, CBO’s main influence is through its cost estimating function. Cost estimates frequently highlight a difference of opinion between CBO and proponents of legislative changes, since the latter almost always look at their ideas through a somewhat optimistic lens (as suggested in the first quote above), while CBO is more skeptical (hence the second quote).

The perceived importance of CBO has been in evidence since the 2014 mid-term elections, when the anticipated appointment of a CBO Director generated substantial heat. This perceived importance results in large part from the influential role that CBO plays through its cost estimating (“scoring”) process. While the most high-profile recent example of this was CBO’s role in the debate over passage of the Affordable Care Act, there are scores of lesser bills in each Congress where CBO analyses have a demonstrable effect on the final structure of legislation.

CBO has replaced the Office of Management and Budget (OMB, the President’s budget office) as the authoritative source of information on the economy and the budget in the eyes of Congress, the press, and the public. In short, CBO is viewed as the source for what Walter Williams has called “honest numbers” on the budget and the economy (Williams, 1998).

In attempting to evaluate CBO’s influence as an institution as it reaches middle age, this paper does three things. First, it outlines how CBO was able to establish its credibility by examining key decisions made by agency leadership and the major policy events that enabled it to develop a reputation for nonpartisan analysis. Second, it describes CBO’s role in the larger budget debates that have dominated national policy discussions over much of its history. Third, it discusses CBO’s role in analyzing individual policy proposals through its cost estimating process. The paper ends with a number of conclusions designed both to enable CBO to sustain its influence and to highlight how Congress and the nation can make most effective use of the analytical capacity that CBO can inject into the policymaking process.

## THE CREATION OF CBO

The Congressional Budget Office was established by the Congressional Budget and Impoundment Control Act of 1974—the same law that created the other institutions and rules of the new Congressional budget process. The law came into being as a result of what Allen Schick referred to as the “seven-year

budget war” between the executive and legislative branches (Schick, 1980). This conflict had begun under President Johnson, but reached its zenith in the Nixon administration, largely over the President’s impoundment of funds approved by Congress. At the same time, mandatory (mostly entitlement) spending, which is not subject to annual review by the Congress, became a larger and larger share of the overall budget pie. In 1962 it represented only about a third of overall spending, while by 1975 it represented half of all spending.

### **THE 1974 BUDGET ACT**

In an effort to reassert what it viewed as its proper constitutional role in budgeting, and to rein in what it viewed as an excessive exercise of Presidential power, Congress established a Joint Study Committee on Budget Control in 1972. Made up of 32 House members and Senators, this committee was to “propose procedures for improving congressional control over budgetary outlay and receipt totals and to assure full coordination of an overall view of each year’s budgetary outlays with an overall view of the anticipated revenue for that year” (Joint Study Committee on Budget Control, 1973A, p. 1). The Joint Study Committee (JSC) issued two reports—an interim report on February 7, 1973, and a final report on April 18, 1973 (Joint Study Committee on Budget Control, 1973A, 1973B).

The final JSC report made two key organizational recommendations:

- The formation in both the House and Senate of Committees on the Budget responsible for consideration of a budget resolution to provide overall budgetary limitations, along with simultaneous consideration of both the revenue and spending sides of the budget.
- The establishment of joint staff for the two budget committees headed by a legislative budget director. The committee stressed that it was important that “the director and the staff be highly trained, professional, and nonpartisan.”

The law that passed in 1974 adopted these recommendations. Most relevant for our purposes, the law created a new agency, ultimately renamed the Congressional Budget Office. But the House and Senate had different views of what this new agency would do, with the House having a much more narrow conception than the Senate. The House viewed the agency as working only for the budget committees, while the Senate viewed the agency as more independent, and with a broader mandate.

The law stated that CBO was to be headed by a Director and Deputy Director. The Director would be appointed by the Speaker of the House and President Pro Tempore of the Senate, on recommendation of the budget committees. The term of the first director was to expire on January 3, 1979, with subsequent terms expiring at 4-year intervals. The director was to be appointed “without regard to political affiliation and solely on the basis of his fitness to perform his duties” (United States Senate, Committee on the Budget, 1976, p. 21). All other CBO staff were to serve at the pleasure of the director.

By law, CBO was only required to issue one report, which became its annual baseline budget report. It was empowered to produce other reports and analyses as it saw fit. Perhaps most important, it was required to provide Congress with the 5-year cost of any legislation reported by a congressional committee. The law also described a pecking order for CBO work. Its first responsibilities were to the money committees in the Congress—the Budget Committees, the Appropriations Committees, the House

Ways and Means Committee, and the Senate Finance Committee. It only worked for other committees/members to the extent that it had time and resources to do so.

### APPOINTING A DIRECTOR

Having created the agency, the next task for Congress was to choose its first director. The selection process was informed by the differing views between the House and Senate concerning the scope of CBO's responsibilities. The best description of the House vision is still Robert Reischauer's, which first appeared a quarter century ago in a Harvard Kennedy School case study (Kates, 1989, p. 3):

The characterization of what the House wanted was basically a manhole in which Congress would have a bill or something, and it would lift up the manhole cover and put the bill down it, and you would hear grinding noises, and twenty minutes later a piece of paper would be handed up, with the cost estimate, the answer, on it. No visibility, (just) some kind of mechanism below the ground level doing this...noncontroversial, the way the sewer system is.

The Senate, on the other hand, had a more expansive view of what CBO would do, assuming it would play a role that went beyond providing baseline projections and cost estimates to conducting detailed policy analysis. Ultimately, the Senate's candidate—Alice Rivlin—was chosen to lead the agency, and this selection signaled a more ambitious view of the agency's mission.

Rivlin took office on February 24, 1975 (CBO's official birthday), and set about to make the agency a reality. It proved to be no small undertaking to go from an agency with only a director and a very small inherited staff<sup>1</sup> to an organization capable of performing all the functions the statute (and Rivlin herself) envisioned for the agency. Among the earliest tasks were finding office space, selecting key management staff, and then hiring the rank-and-file analytical and support staff. CBO has had eight directors in its history (see Box 1)—four of whom were nominal Democrats and four nominal Republicans. In words Rivlin has used to describe herself, all of these directors have been “card-carrying middle-of-the-roader(s),” at least while serving at CBO. At several points in its history CBO has been led by acting directors, including one period that lasted for almost 2 years (1987–89), and another of slightly more than 1 year (roughly 2006).

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<sup>1</sup> There was a small staff from the Joint Commission on the Reduction of Federal Expenditures, which had been established by the appropriations committees to provide for scorekeeping of appropriations bills. This staff was transferred to CBO, and these employees effectively became the first CBO employees, after Rivlin.



### BOX 1: CBO DIRECTORS AND ACTING DIRECTORS

<u>Director</u>	<u>Tenure</u>
Alice Rivlin	February 24, 1975–August 31, 1983
Rudolph Penner	September 1, 1983–April 28, 1987
Edward Gramlich*	April 29, 1987–December 22, 1987
James Blum*	December 23, 1987–March 5, 1989
Robert Reischauer	March 6, 1989–February 28, 1995
June O’Neill	March 1, 1995–January 29, 1999
Daniel Crippen	February 3, 1999–January 3, 2003
Barry Anderson*	January 4, 2003–February 2, 2003
Douglas Holtz-Eakin	February 5, 2003–December 29, 2005
Donald Marron*	December 30, 2005–January 17, 2007
Peter Orszag	January 18, 2007–November 25, 2008
Robert Sunshine*	November 26, 2008–January 21, 2009
Douglas Elmendorf	January 22, 2009–Present

\*Acting Director

## KEY EVENTS THAT ESTABLISHED CBO’S INFLUENCE

CBO’s role in several key policy debates helped to establish its reputation for nonpartisan analysis during its first 20 years, dating back to Rivlin’s initial vision for the agency. Three of these stand out as key to the development of CBO’s influence: (1) its analysis of the Carter energy policy, (2) its analyses of the Reagan budgets, and (3) its evaluation of the Clinton health plan. Its reputation was solidified by the appointment of leaders who bought into and maintained its culture of nonpartisanship, sometimes confounding the wishes of those who had appointed them.

### RIVLIN’S VISION

Rivlin made a series of decisions in the first year that became crucial to CBO’s ability to perform its functions as she had envisioned them. These included selecting staff whom she believed could perform in an objective, nonpartisan manner, and organizing the agency in a way that protected the longer-term policy analysis work from being forced out by the short-term budget work (Joyce, 2011, pp. 22–25). However, perhaps the most important decision was that CBO would make no policy recommendations. There was nothing in the statute that prevented such recommendations from being made, but Rivlin decided immediately that making recommendations in partisan debates would quickly align CBO with one side or the other, putting it on a slippery slope toward being viewed as partisan (Joyce, 2011, p. 29).

In early contacts with the Budget Committees, Rivlin also asserted that CBO worked for the whole Congress (not only the Budget Committees), and that CBO needed to maintain its ability to set its own agenda. While the statute was somewhat clear on the first point, it must be said that the statute was not so clear on who set CBO's agenda. By protecting the agenda-setting role, Rivlin enabled CBO to become—and remain—independent. One very specific manifestation of this was the decision made by CBO not to respond to requests from individual members unless they had been signed off on by chairs or ranking members of committees (Joyce, 2011, p. 27). She also decided to make the agency's reports and cost estimates public, enhancing the transparency and credibility of the resulting products.

### **EARLY CREDIBILITY—THE CARTER ENERGY POLICY**

While Rivlin herself certainly had a history of doing work that was viewed as highly credible, it was no secret that she was a Democrat, and some Republicans in Congress were skeptical that she would be able to be critical of Democratic policies. The idea of nonpartisan analysis in a partisan institution, especially concerning something as politically charged as the budget, was foreign to members of Congress. It was no surprise to Republicans when Rivlin's CBO called into question the assumptions used in the first Ford budget, and Democrats were thrilled to have an analytical basis on which to criticize the Ford administration's budgets. Even this early perception of partisanship never seemed to match reality, and Rivlin herself noted in a 1975 hearing that she was “rather pleased by the fact that we have been attacked by both sides, both from the right and from the left.” (United States House of Representatives, Committee on the Budget, 1975, p. 15).

Once President Carter was elected, the tables were turned. Initially this was limited to the Carter budgets, where Rivlin's CBO was as critical of the new President's budget assumptions as it had been of Ford's. This came as a surprise to some in Congress and helped establish CBO's reputation for nonpartisanship with Republicans on the Hill.

The major analytical work that established CBO as both substantively competent and politically independent was its analysis of the Carter energy policy. Aimed to simultaneously promote conservation and U.S. energy independence, this policy was the centerpiece of the Carter domestic agenda. CBO had no formal statutory role in analyzing the plan, other than the vague reference in the statute that permitted the agency to provide any information to Congress that CBO deemed potentially useful. CBO inserted itself into this process by proposing to do an analysis of the plan, and by generating requests for this analysis from the committees of jurisdiction (see Joyce, 2011, pp. 123–128 for a more complete discussion). In the end, CBO found that the claims of the Carter administration concerning the effects of the plan were optimistic. In fact, Rivlin held a press conference that openly challenged the President's assertion that the plan was up to a challenge that Carter had called the “moral equivalent of war” (Joyce, 2011, p. 126).

The analysis of the Carter plan was important for two reasons. First, it solidified CBO's independence. Headed by a nominal Democrat working for a Congress where both houses were controlled by Democrats, CBO was poking holes in a plan that represented the central policy objective of the recently elected Democratic president. Second, it established that CBO had the capacity—on short turnaround—to conduct a broad economic analysis of a major policy proposal. This meant that Rivlin's founding vision

was made reality: CBO was not just an organization that produced budget baselines and cost estimates, but policy analyses as well.

### THE REAGAN BUDGET

The second set of events that put CBO on the map also occurred while Rivlin was director. President Ronald Reagan came into office with multiple goals related to the budget, including significant revenue reductions, increases in the defense budget, and reductions in budgets for domestic programs. He argued that he could take these actions and balance the budget, largely because of the economic growth that would result from his policies. In this case, CBO's analysis seemed to indicate that the Reagan budgets were based on optimistic assumptions ("rosy scenarios," to use the language of the day) about economic growth, resulting in sharply different views of the budgetary effect of the Reagan policies. In particular, while President Reagan suggested that his policies would result in a balanced budget by 1984, CBO projected a deficit approaching \$50 billion in that year (Dewar, 1981). Reagan derided the CBO analysis as "phony numbers" (*New York Times*, 1981).

The Reagan administration had anticipated this problem. In fact, on taking office they had convinced certain conservative Republicans to work for Rivlin's ouster, but they were rebuffed by the new Senate Budget Committee Chair, Pete Domenici (R-NM). Rivlin later recalled (Joyce, 2011, p. 57):

When Reagan was elected, the new administration tried to get rid of me...What the law said was that I could be removed by a majority vote of either house, and they started working on the Republicans in the Senate...Pete Domenici said no, that I should serve out my term, that I was doing a good job, that this was the prerogative of the Congress, not the White House. I think he got (Senator Robert) Dole's backing, and the more extreme members backed down.

CBO's challenge to the Reagan budget assumptions solidified its reputation for independence. In a feature article about Rivlin, the British publication *The Guardian* noted that "It has been Mrs. Rivlin's quietly offered analyses which have done the worst damage to Mr. Reagan's credibility," and that "She has demonstrated an almost surgical approach to David Stockman's (Reagan's first budget director) arithmetic" (Jackson, 1982).

### THE CLINTON HEALTH PLAN

When Bill Clinton was elected President in 1992, comprehensive health reform represented the key pillar in his domestic agenda. While the reform was primarily billed as an effort to provide health coverage to uninsured Americans, the political environment was such that it was also judged by its effect on the federal deficit. (Ross Perot had gotten 19 percent of the popular vote in the 1992 Presidential election with a platform focused almost solely on deficit reduction.) As the Carter administration had earlier, in 1993 the Clinton administration forwarded a comprehensive policy, including complete legislative language, to the Congress. CBO's function, as with other proposed legislation, was to provide a cost estimate.

The Clinton administration had perhaps unwittingly elevated CBO as budget oracle by promising early in the administration to use CBO assumptions in putting its initial budget plans together. While its intent in

doing this was to take arguments about assumptions off the table, the result was to create problems for the administration later (Joyce, 2011, pp. 67–68).

In addition to the cost of the legislation, a very arcane—but politically important—issue dominated the debate surrounding the Clinton reform. The Clinton plan involved the creation of complicated entities called health alliances that would both collect health insurance premiums from individuals and act as conduits through which health insurance could be purchased. This “budgetary treatment” question had to do less with the size of the transactions involved, and more with whether such transactions represented activities (taxes and spending) that should be counted as part of the federal budget. If they did count, it would assist opponents who wished to label the reform as a substantial expansion of government.

Because it was dropped in the lap of Congress as a fully formed proposal, the Clinton plan did not result in an iterative process where back and forth between the administration and Congress would result in tweaking the plan to make it fall more into line with political or fiscal realities. In its analysis of the plan, CBO reached two conclusions that were damaging to legislative prospects for health reform. The first was that the plan would add \$70 billion to deficits between 1995 and 2000 (the administration had estimated that it would *reduce* deficits by \$60 billion during the same period). The second was that health alliance transactions were budgetary, meaning the plan could be characterized by opponents as a vast expansion of the federal role in health care. Both of these conclusions dealt a substantial blow to the credibility of the effort (see Joyce, 2011, pp. 161–166 for an expanded discussion).

As had occurred in the case of Rivlin and the earlier Carter energy policy, there had been an assumption in some circles that CBO Director Robert Reischauer, whose family had long ties to the Democratic Party<sup>2</sup>, would reach conclusions that were supportive of the Clinton administration. It was a surprise to many Republicans in Congress when that did not happen. In fact, the House Budget Committee’s ranking Republican, John Kasich (R-OH), assuming Reischauer would rule in favor of the administration, told Reischauer (the day before the report was released but well after it had been sent to the printers) there were Republicans in the House prepared to introduce a resolution to remove Reischauer from office and assured Reischauer he was prepared to defend him (Joyce, 2011, p. 166).

The relevant point here is not whether CBO got either of these things right. In fact, the cost estimating difference was well within the margin of error, and there is still a dispute among budget technicians about the budgetary treatment conclusion. Rather, the point is that CBO played it straight, in spite of great pressure—both from the majority party in the White House and key members of Congress—to reach a different conclusion. Reischauer also took the opportunity (with limited success, in retrospect) to caution members of Congress to not put too much weight on the CBO analysis of the cost and budgetary treatment, as opposed to focusing on the broader effects of the policy (Joyce, 2011, pp. 169–170).

### **CBO DIRECTORS AND STAFF MAINTAIN THE CULTURE AND MISSION**

In addition to being the key three events that helped CBO to demonstrate its nonpartisan nature and independence, these three examples have something else in common. In each case, the CBO did not just establish and solidify its own reputation. It also empowered Congress analytically. Each of these

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<sup>2</sup> Reischauer’s father had been Ambassador to Japan during the Kennedy and Johnson administrations.

examples—and many others—involve proposals where, because of the capacity that CBO gave to the Congress, the legislative branch was able to challenge a proposal that was central to the agenda of a President. This capacity simply did not exist prior to the creation of CBO.

Beyond specific events, the key institutional factor contributing to CBO’s credibility has been the culture of nonpartisanship that was encouraged by subsequent CBO directors and CBO staff. An important development here was the appointment of Rudolph Penner as the second director. Referred to at the time by Alan Greenspan as “in certain respects a Republican Alice Rivlin” (Seaberry, 1983), Penner established a tradition of continuity at CBO. He did not engineer a wholesale dismissal of staff, he largely ratified the decisions that Rivlin had made, and he did not attempt to create a Republican CBO. This tradition has continued throughout CBO’s history, with just a couple of minor hiccups. Every subsequent director has maintained (even enhanced in some cases) the culture of nonpartisanship.

This has occurred in spite of threats—real and imagined—to politicize CBO. Perhaps the highest profile of these efforts came after Republicans took over both houses of Congress in 1994 (for the first time in 40 years). Given statements made by the new House leadership to the effect that they wanted to appoint a director who would clean the place out, there were real concerns when June O’Neill became director, supported as she was by Chairman Kasich and Newt Gingrich, the new Speaker of the House. The concerns were ill founded. O’Neill herself told of a meeting she had with Senate Budget Committee Chair Pete Domenici before she was appointed (Joyce, 2011, p. 39):

He was concerned about wholesale dismissal of people at CBO. He said did I plan to do that. And I told him I really didn’t have any intention of doing that because it was very hard to get people to do this...and I’d been there before, and I knew a lot of the people, and I wasn’t about to start firing people and start replacing them with Republican hacks, which I think was his concern.

In fact, the Budget Committees have generally been very responsible with respect to CBO, its directors, and its nonpartisan mission. This is quite surprising, in a sense, given the partisan nature of the Congress. It is not necessarily that these partisans have embraced nonpartisanship as a positive end in itself, however. Rather, the Budget Committees (and especially their leadership and staff) have recognized that a weak CBO (one that does not have a reputation for objective analysis, and whose conclusions are viewed as partisan) is not in their interest. A weak CBO weakens the Budget Committees, and indeed weakens Congress as a whole in its inevitable battles with the executive over budget and economic policy.

In summary, there are three key lessons learned concerning the establishment of CBO’s credibility and influence over its first 40 years:

- CBO was created, in large part, to give Congress more leverage over the White House in key policy debates. Time and again Congress has made use of that capacity to place its own stamp on overall fiscal policy and to respond to particular Presidential policy proposals. In fact, the key events that have established and enhanced CBO’s credibility have virtually all involved its response to Presidential initiatives, such as the Carter energy policy, the Reagan budget proposals, or the Clinton and Obama health reform efforts.
- The influence of CBO cannot be separated from that of the Budget Committees, and having a strong CBO is essential not only to Congress as a whole, but is particularly important to the ability of these committees to fulfill their statutory role. The leadership of those committees, both

Republican and Democrat, has been quite responsible in its selection of CBO directors and in protecting CBO from attempts to politicize and weaken it.

- The story of CBO is as much a story about leadership as about budgeting or technical analytical capacity. Alice Rivlin got CBO off to a strong start by establishing a culture and operating procedures designed to insulate CBO analyses from politics. Subsequent directors—both Democrat and Republican—have continued the nonpartisan tradition, and other managers and CBO staff have responded by consistently producing sound, technocratic analysis.

## CBO’S ROLE IN OVERALL FISCAL POLICY

One of the main goals of the 1974 Budget Act was to give Congress the capacity to chart a path for overall fiscal policy that could potentially challenge that laid out by the President. As a part of that process, CBO was to assist Congress by constructing a budget baseline that would represent a starting point that Congress could use to help gauge the overall fiscal path for the country under current policy, as well as allowing it to determine how policies might be devised to effect changes in that path. Practically, this means that toward the beginning of each Congressional session, CBO presents a report to Congress that describes the path for the budget. The latest of these presented projected federal spending and revenues 10 years into the future—through fiscal year 2025 (CBO, 2015). In order to construct the baseline, CBO needs the following information:

- An economic forecast covering the projection period, including data on factors such as GDP growth, income trends, and trends in employment. This forecast is informed (but not approved) by discussions with a CBO Board of Economic Advisors<sup>3</sup>;
- Largely based on that forecast, a projection of federal revenues over the 10-year period based on current law; and
- Projections of federal spending, for mandatory and discretionary programs, and for interest on the debt. These projections have typically assumed the continuation of current law; in some cases—where the law anticipates a reduction in spending—this means that the baseline assumes such a reduction.

Because the CBO baseline assumes current law, some have advocated a change in the way the baseline for discretionary programs is calculated. The solution of these reformers is to require the baseline to assume current levels of discretionary spending, eliminating inflation and other adjustments. In 2013, the House Committee on the Budget reported a bill out of committee that would have required such a change (H.R. 1871, 2013), but at present, the baseline assumes compliance with the discretionary spending caps enacted as part of the Budget Control Act. The concern of reformers had a lot more salience when the discretionary baseline was adjusted for inflation.

CBO also has routinely provided information on the distributional effects of various policies, especially on the tax side. This has taken two forms. First, CBO has provided information (annually in recent years)

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<sup>3</sup> A listing of the individuals on the Board of Economic Advisors can be found on the CBO website at <http://www.cbo.gov/about/processes/panel-economic-advisers>. The panel includes many eminent economists from across the political spectrum.

on the distribution of the federal tax burden by income group (CBO, 2014I). Second, periodically when Congress is planning for changes in fiscal policy (e.g., a multi-year deficit reduction agreement, as happened several times in the 1990s), CBO will analyze the effect of tax policy changes on the distribution of income.

### CONGRESSIONAL ANALYTICAL INDEPENDENCE AS A RESULT OF CBO ANALYSES

As noted above, perhaps the biggest role that CBO plays in overall fiscal policy is to make Congress less dependent on the executive branch, which gives the legislative branch the ability to challenge the President's numbers. Prior to the Budget Act, the only numbers produced came from the executive branch, and these understandably assumed that the President's economic policies would be successful. The CBO baseline gave Congress the capacity to develop its own path for fiscal policy. If one of the purposes of creating CBO was to give Congress a greater ability to challenge presidential budget proposals, it has been a rousing success. Current Treasury Secretary Jack Lew made this statement in 2004, reflecting on his experience in both the legislative and executive branches (Joyce, 2011, pp. 209–210):

In terms of the relationship between Congress and the White House on budget issues, CBO has empowered Congress in a way that is very significant...just the fact that it's a check on the White House empowers Congress. It creates a choice. A choice of how you measure, a choice of the size of the problem, a choice of comparing options on terms that can be tested.

Of course, the capacity to challenge economic and budget assumption can provide Congress and the President one more thing on which to disagree. The clearest example of this came in 1995, when the new Republican Congress battled with President Clinton over when to balance the budget, and how deep the budget cuts would need to be in order to reach the balanced budget goal. Specifically, the President embraced a budget plan that balanced the budget in 10 years using more optimistic OMB assumptions, while Republicans in Congress passed a budget resolution that balanced the budget in 7 years using CBO assumptions. The disagreement over the path—and over whose assumptions to use—actually precipitated two separate government shutdowns totaling 27 days (November 14 to 19, 1995, and December 16, 1995, to January 6, 1996). The second shutdown only ended when the President agreed to a 7-year plan using CBO assumptions (Joyce, 2011, pp 69–74).

CBO has not only played a role in overall fiscal policy when there are major disagreements, but has sometimes helped facilitate agreement, especially between the President and Congress. For example, CBO was heavily involved at a staff level in the deliberations at Andrews Air Force Base that resulted in the 1990 budget agreement between President George H.W. Bush and Congress. CBO played a similar role in supporting the budget committees specifically, and Congress in general, in 1993 and 1997.

As there have been no major deficit reduction agreements in the past 17 years, CBO's influence has become a bit less obvious. Given that Congress has only managed to enact a budget resolution 7 times over that period, CBO's more limited role is partly a function of the "hit and miss" character of the budget process itself. While CBO continues to inform Congress on the path of future baseline policy and the risks of failing to reduce debt levels, its specific role has been more focused on providing estimates of the effects of individual policies rather than assisting Congress in plotting an overall course for the budget.

One important lesson from CBO's history, buttressed by some of the examples above, is that CBO's numbers are influential when Congress (and sometimes the President as well) acts to change the overall path of fiscal policy, focuses on the costs of policies, or has otherwise directed CBO to systematically analyze the effects of legislation.

As noted above, the deficit-reducing decade of the 1990s involved three separate uses of the budget resolution's reconciliation process to cut the deficit. In that context, the work of CBO is very significant. While the deficit reduction legislation did not happen because of CBO, it was influential in shaping the final package. In 1990, this was due both to the distributional analyses and the fact that CBO had a major role to play in estimating the deficit effects of the packages being considered.

- In 1993, an additional role for CBO was to certify that the package achieved President Clinton's stated goal of balancing spending cuts and tax increases (Rivlin, 1993).
- CBO played an important role in enforcing deficit-reducing laws in the 1980s, under Gramm-Rudman-Hollings Act (GRH), in the 1990s, when the Budget Enforcement Act was in effect, and since 2010, when the Statutory Pay-As-You-Go Act (PAYGO) was passed.
- Periodically, Congress will ask CBO to report on the broader effects of policy, and these analyses can be influential. A key example of this occurred after 2009, when CBO was required by statute to report on the employment effects associated with the American Recovery and Reinvestment Act (CBO, 2010A).

CBO analyses are less important when Congress is not focused as much on the deficit and the budget. Experience with both GRH and pay-as-you-go rules shows that budget rules are readily waived when Congress decides it has higher priorities than deficit reduction. During the brief period in the late 1990s when the budget was in surplus, CBO cautions about the budgetary effects of policies had less of an impact. However, its baseline budget projections continued to be influential in 2001, in particular, as projections of future surpluses helped establish the environment for revenue reductions.

### **EFFECTS OF CBO PROJECTIONS ON LEGISLATIVE OUTCOMES—THE BUSH TAX CUTS**

Perhaps the most famous (or perhaps infamous) example of CBO projections affecting a major change in fiscal policy came in 2001. In January of that year, CBO's annual baseline projection estimated cumulative surpluses of \$5.6 trillion between fiscal years 2002 and 2011 (CBO, 2001). Although these were only projections (as always), and CBO was clear that there was substantial uncertainty around the out-year numbers, Congress treated this \$5.6 trillion as if it was real money, and proceeded to make policies to "spend" it. The largest policy change was a tax cut with a price tag of \$1.3 trillion over 10 years. At the time, Congress and the President argued that they could enact this tax cut and still continue budget surpluses that would reduce the accumulated debt. This turned out not to be true, and by January 2002 (only 1 year later) CBO revised its 10-year projection downward by \$4 trillion (CBO, 2002). While part of this deterioration in the outlook since the prior year was because of the tax cut itself, an even larger portion represented deterioration in the economic outlook.

While no one can state with certainty that anything would have been different if CBO had presented 5-year estimates (or none at all), there is no question that the projection of these apparent large future surpluses made it easier for Congress to ignore uncertainty and enact this tax cut. There were some,

including Senator Domenici, who advocated “turning off” the tax cuts if future projections did not come true, but these warnings were not heeded. Thus, despite CBO’s caveats concerning uncertainty (in this case and others), Congress is not inclined to focus on such uncertainty; rather it tends to follow the imprudent practice of treating point estimates as precise.

### UNCERTAINTY OF BUDGET PROJECTIONS

The 2001 tax cut debate illustrates a basic truth about CBO projections. They are wrong. The only real question has ever been about the direction and magnitude of the error. Even though everyone knows they are wrong, it is common for Congress to embrace the point estimate that CBO provides. While CBO does not do a systematic analysis of the accuracy of its 10-year budget projections, it routinely analyzes its own economic forecasting record<sup>4</sup> and compares it to that of various Presidential administrations and the average of the private sector “Blue Chip” forecasts (CBO, 2013A). CBO’s analysis of its economic forecasting record indicates that CBO, the administration, and the Blue Chip average forecast of real output (GDP) growth have been almost equally accurate for both 2- and 5-year forecasts. CBO and the Blue Chip have exhibited a greater tendency to underestimate growth, while various administrations have tended to overestimate it.

Budget projections are a different story, since they are influenced not only by economic forecasts but by legislative changes and various “technical” factors. They also must follow rules that are spelled out in law and guidelines established by the Budget Committees. There has been no systematic effort to evaluate the accuracy of budget projections, but it is undoubtedly true that the further out the projection goes, the more tendency there is for the projection to be wrong. Therefore, for all of the advantages that 10-year projections might have over 5-year projections, they can further encourage a false sense of precision.

In fact, the uncertainty of budget estimating can be shown in stark relief by comparing the 2001 projection of surpluses for fiscal years 2002 through 2011 with actual results (see Table 1). Rather than the \$5.6 trillion in projected cumulative surpluses, the actual result was cumulative deficits of \$6.1 trillion, a staggering \$12 trillion difference in fiscal outcomes. A later CBO analysis showed that almost three-fourths of this \$12 trillion difference resulted from legislative changes, as opposed to economic or technical ones (CBO, 2012B). The difference between the 2001 projection and the actual result is almost precisely the same figure as the total debt held by the public at the end of 2013. A large part of the difference stems from two recessions (one in 2001–2002, and the “Great Recession” of 2007–2009), neither of which was anticipated in the 2001 economic forecast. There are also many costly differences in policy that occurred between 2002 and 2011, including the Bush tax cuts, but also two wars, an expansion of Medicare to include prescription drugs, and various costly responses to the Great Recession.

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<sup>4</sup> Economic forecasts, of course, are key components of budget forecasts.



**Table 1: CBO Projected Deficits Versus Actual Surpluses, 2002–2011**  
*Billions of Dollars*

	January 2001 Projection	Actual	Difference
2002	313	-158	-471
2003	359	-378	-737
2004	397	-413	-810
2005	433	-318	-751
2006	505	-248	-753
2007	573	-161	-734
2008	635	-459	-1,094
2009	710	-1,413	-2,123
2010	796	-1,294	-2,090
2011	889	-1,300	-2,189
<b>Total</b>	<b>5,610</b>	<b>-6,141</b>	<b>-11,751</b>

Sources:

CBO, January 2001, *The Budget and Economic Outlook*, Fiscal Years 2002–2011.  
 CBO, February 2014, *The Budget and Economic Outlook*, 2014–2023.

## DYNAMIC SCORING AND OVERALL BUDGET POLICY

Finally, there is the issue of dynamic scoring, which has been debated in budget circles, not only recently but going back more than 30 years. In a very real sense, the dispute between the Reagan administration and CBO was over dynamic scoring, although at the time it had a different name: “supply-side economics.” The notion of dynamic scoring is that the macroeconomic feedback effects of policies should be taken into account when estimates are made. At the level of individual policies, this means that if economic behavior changes as a result of a policy (for example, if an increase in taxes leads to less of the taxed behavior) that behavioral change would be accounted for. In a broader sense, however, the dynamic scoring debate has to do with estimating the positive and negative effects of policies on macroeconomic outcomes.

There are a few common misunderstandings about CBO and dynamic scoring:

- CBO does not develop the estimates of individual changes in tax law (these are, by law, done by the Joint Committee on Taxation, or JCT). Therefore, to the extent that behavioral effects are (or are not) accounted for in individual pieces of revenue legislation, it is not CBO—but JCT—that is responsible.
- Despite some claims to the contrary, both JCT and CBO take behavioral effects into account when developing cost estimates of legislation. Therefore, in the case of tax policy, JCT would not assume a static world, but would generally assume that people engage in less of the taxed behavior as a result of the tax change. In the case of CBO, if a change in spending policy would result in changes in behavior, the cost estimate would account for that change. An example is when the provision of more generous benefits for veterans caused fewer veterans to access Medicare, as was true when veterans’ health legislation was considered in the summer of 2014.

- What CBO and JCT do not do (at least systematically) is evaluate the effect of every policy change (or even every comprehensive budget proposal) on the overall economy. In its annual analysis of the President's budget, CBO does analyze the effect of the President's proposed budget policies on the overall economy (CBO, 2014C). It also periodically does such an analysis for Congressional budget plans, such as that proposed by Congressman Paul Ryan (CBO, 2010B).

In fact, when Holtz-Eakin became Director of CBO in 2003, he became convinced that CBO should do a dynamic score of President Bush's fiscal year 2004 budget. The resulting analysis presented nine different dynamic models that illustrated the general lack of consensus around a single macroeconomic model, and the majority of these indicated that future deficits were not significantly lessened because of these macroeconomic effects (Joyce, 2011, pp. 80–81).

A rare recent example of where a CBO spending estimate took broader macroeconomic effects into account for a particular proposed legislative change was in the analysis of immigration legislation (S. 744) in 2013. In this case, because the economic effects were central to accurately estimating the budgetary effects of the legislation (and because those effects were so large), assumptions were made that affected both the revenue (as estimated by the Joint Committee on Taxation) and spending (estimated by CBO) effects of the legislation. To quote from the CBO cost estimate (CBO, 2013B):

Following the long-standing convention of not incorporating macroeconomic effects in cost estimates—a practice that has been followed in the Congressional budget process since it was established in 1974—cost estimates produced by CBO and JCT typically reflect the assumption that macroeconomic variables such as gross domestic product (GDP) and employment remain fixed at the values they are projected to reach under current law. However, because S. 744 would significantly increase the size of the U.S. labor force, CBO and JCT relaxed that assumption by incorporating in this cost estimate their projections of the direct effects of the bill on the U.S. population, employment, and taxable compensation.

If CBO did a “dynamic” analysis of this immigration legislation, why does it not do a similar analysis of every bill, as Congress proposed in 2013 (H.R. 1874)? First, the macroeconomic effects are not as central to accurate estimation in many cases, but they clearly were in the case of the immigration legislation. Second, these “dynamic” estimates take time, and introduce even more uncertainty into the estimating process. Thus, the effect of making estimates more “dynamic” might actually be to provide more uncertain estimates more slowly.

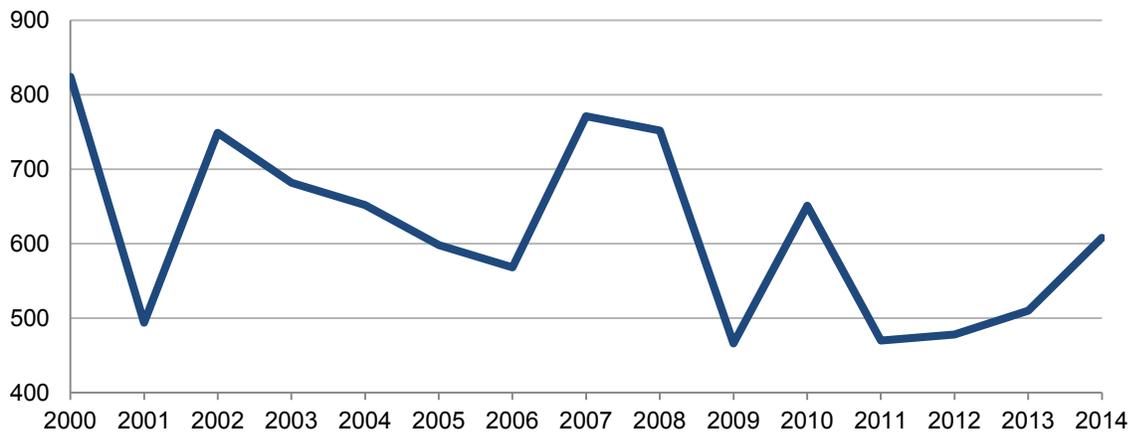
An intermediate option emerged with adoption by the House of Representatives on January 6, 2015, of a rule that requires both CBO and JCT to provide estimates of the macroeconomic effects of selected legislation. Under this rule, “major legislation” (legislation where the budgetary effect is at least .25 percent of GDP) in any year covered by the budget resolution must include an analysis of macroeconomic effects. In 2014, that threshold would have meant that such an analysis was required for any bill that resulted in a budgetary effect of \$43 billion or greater. In a typical year, one imagines that there would be less than a handful of bills (primarily some revenue legislation and changes to the large entitlement programs) subject to the new requirement (United States House of Representatives, Committee on the Budget, 2015).

## CBO COST ESTIMATING (“SCORING”) OF INDIVIDUAL LEGISLATIVE PROPOSALS

When CBO was established, perhaps the most important routine process that needed to be developed was producing cost estimates of pending legislation. This required opening the lines of communication between CBO and Congressional committees. At that time, the committees were not accustomed to having to coordinate with CBO when reporting a bill, and CBO staff had no established relationships with committees.

The law does not require an estimate of every bill introduced. Instead, Section 402 of the Budget Act requires each bill ordered to be reported (eligible to be considered on the floor) by a Congressional committee to include a CBO cost estimate, excluding appropriation bills. While an average of more than 4,600 bills were introduced per year between 1995 and 2009, an average of only 531 of those were reported out of committee (Joyce, 2011, p. 103). CBO was required to do estimates of these reported bills, in addition to formal estimates of bills (resulting in an actual letter from CBO listing the cost) after they pass the House or Senate, and of various other proposals. Figure 1 shows the number of such formal cost estimates annually between 2000 and 2014. The figure indicates some fluctuation in cost estimates—the lowest total over this period was 466 (2009), the highest was 824 (2000), and the average number per year was 618. It is worth repeating here that while CBO communicates the cost estimate, JCT produces the numbers for revenue legislation.

Figure 1: Number of Formal Cost Estimates Per Year



Source: CBO



CBO cost estimates start with the baseline, since costs that are identified in these fiscal notes must be compared to some presumed current level. At the present time, the baseline and cost estimates for mandatory spending and revenues cover a 10-year period; if costs are discretionary only, the estimate would cover only 5 years. Here is an example of how that is applied:

- The cost for a bill that would make additional people eligible for Social Security or Medicare benefits would represent the *marginal* cost compared to the *baseline*.

- Conversely, a bill that narrowed eligibility for one of these programs would result in *reduced cost* compared to current law.
- For discretionary programs, an authorization that would expand a program beyond the level currently funded (adjusted for inflation) would be counted as a *cost*.

In addition to these formal cost estimates, CBO does many informal cost estimates each year. In fact, the typical pattern for a given piece of major legislation involves a substantial amount of back-and-forth between CBO and the relevant committee or committees. It is not at all unusual for a given committee to change a piece of legislation if CBO's preliminary analysis indicates that the bill is more costly than the committee intends or believes to be politically palatable.

Below are the three most common criticisms of CBO's cost estimates:

1. Everyone knows the estimates are wrong.
2. A focus on federal budgetary costs discourages consideration of other factors, such as effects on other actors, the overall economy, or public well-being.
3. CBO estimates are biased because they are overly conservative, or because they frequently appear to hit almost the precise number that policy advocates have identified in advance.

In the remainder of this section we will consider each of these arguments in turn.

### **CBO ESTIMATES ARE WRONG**

At the most basic level, everyone knows that CBO estimates—like virtually all budget estimates—are wrong. More broadly, the criticism is that they communicate a false sense of precision. In point of fact, CBO cost estimates almost always represent the midpoint of a possible range of costs associated with a particular change in policy. Given the many factors that go into calculating these costs, and the fact that the costs must be presented over 10 years, there is almost no chance of estimating correctly. Rather, it is CBO's goal to be both *unbiased* and *consistent* across similar policies.

This last criterion (consistency) is not well understood or appreciated. Often Congress is considering many different pieces of legislation in the same policy area in the same congressional session. If CBO is to provide valuable information to Congress, while being fair to the proponents of various policies, the policy alternatives must be scored using a consistent set of assumptions. For example, when comprehensive health care reform was being debated in 1994 and in 2009, CBO needed to make sure that it not only got the costs at least approximately correct for each individual bill, but that each specific proposal's costs could be compared to other proposals. Anticipating the probability that health care reform would be considered in 2009, CBO had been working in 2008 on a "road map" of sorts describing how it would evaluate various health care reform elements, including issues such as the choice of plans, efforts to limit insurance premiums, changes in medical practices, and the budgetary treatment of mandated insurance payments (CBO, 2008A). Separately, it presented a volume of health care reform options, including the costs of each (CBO, 2008B). The importance of these documents cannot be overstated. For proponents of various plans, they took some of the guesswork out of the process of developing proposals, since CBO had already provided guidance concerning how they would be scored.

If everyone knows that the point estimates are wrong, why present point estimates as opposed to ranges? It is not that CBO leadership and staff actually believe that the point estimate is the one and only possible number. In fact, during the debate over health care reform in 2009, CBO analyst Phil Ellis was quoted as saying “We’re always putting out these estimates. ‘This is going to cost \$1.042 trillion exactly.’ But you sort of want to add, you know ‘Your mileage may vary’” (Montgomery, 2009).

In fact, at a Hutchins Center event in December 2014, Professor Charles Manski of Northwestern University made a thoughtful case for focusing on ranges rather than point estimates. He encouraged CBO to increase the transparency of the estimating process by reporting two estimates for each bill—a high one and a low one (Manski, 2014). At the same conference, CBO Director Doug Elmendorf cited several reasons that CBO presents point estimates, and not ranges. The first, and probably most important, reason is that both the enforcement of the budget resolution and the statutory pay-as-you-go law enacted in 2010 rely on point estimates. It is difficult to imagine a substitute procedure that could work if an estimate was provided that said, in effect, “the cost is somewhere between X and Y.” Moreover, Elmendorf argued that presenting such ranges would invariably further “muddle” the budget process, as advocates of a given policy would choose to cite X as the cost, and opponents would tend to gravitate toward Y (Elmendorf, 2014).

Beyond not being precise, people argue that CBO estimates are not just wrong, but systematically wrong. Of particular concern is the possibility that there is a tendency to underestimate costs, resulting in later surprises. CBO itself has attempted no study of its costs estimates in general, for two very simple reasons. First, most legislation estimated by CBO is never enacted, so it is impossible to ascertain how good or bad the cost estimates were. Second, most of its estimates concern changes that are being made to ongoing programs, and it becomes almost impossible later on to separate spending that is associated with the change in the program from other pre-existing factors. This is particularly true for mandatory spending programs.

The exception is where legislation creates a new program, or new spending. Thus, CBO has compared its cost estimate for Medicare Part D (which passed in 2004 and provided for prescription drug coverage) to actual spending. At the time of enactment, CBO estimated that the program’s cost through fiscal year 2013 would be \$552 billion; the actual cost has been almost \$200 billion lower over that same period. The difference between the two estimates occurred for two main reasons. First, CBO had assumed in 2003 that recent high inflation rates for prescription drugs would continue, while in reality, those costs have declined substantially. Second, participation rates for the program have been lower than expected (CBO, 2014E).

Let’s look at a final point concerning the accuracy of estimates. CBO, along with OMB and the Budget Committees, has been heavily involved in discussions on “budget concepts” that evolve over time as a result of desires to improve both accuracy and appropriate measurement of costs. One specific change in budget concepts resulted in the Federal Credit Reform Act of 1990, which had the goal of putting loan guarantees and loans made by the government on consistent footing. The current debate over “fair value accounting” (FVA) is another example of the debate over budget concepts, although there is a substantial difference of opinion among budget technicians about whether FVA is appropriate, and how far to go with it (Lucas, 2014; Kogan, 2014).

**BUDGETARY COSTS TRUMP OTHER CONSIDERATIONS**

The second major criticism of CBO cost estimating is that too much weight is placed on costs to the federal government, and not enough on effects on other sectors of the economy or on the benefits of legislation. There are two primary manifestations of this argument:

1. CBO cost estimates pay little attention to the costs that legislation has on nonfederal actors—such as state and local governments and the private sector—or on the overall economy.
2. CBO cost estimates do not appropriately account for the positive effects of legislation, such as its broader societal impacts.

Impact on Nonfederal Actors. CBO's federal cost estimates are just that: they represent CBO's estimate of the cost to the Federal government of proposed legislation. They explicitly do not take into account the costs that might occur to other, nonfederal actors, with two exceptions. The first is the requirements that exist for CBO to provide information under the Unfunded Mandates Reform Act of 1995 (UMRA). The second is the broader work of CBO's program divisions, who conduct broader policy analysis of legislation.

UMRA was the first bill introduced by the new Republican majority in the House of Representatives when they took control in 1994. The concern underlying the legislation was that Congress, in an attempt to reduce federal costs (a key goal of the new majority) would simply pass on those costs to lower levels of government in the form of unfunded mandates. The law does not prohibit unfunded mandates, but requires CBO to notify Congress of any requirement in proposed legislation that would impose an intergovernmental mandate (an "enforceable duty" on state, local, or tribal governments) that exceeds a statutory threshold. It also requires CBO to identify mandates on the private sector that exceed an established threshold.<sup>5</sup> The law creates a point of order against considering a bill if such a mandate statement is not included; it does not in any way prohibit the mandate from being enacted, or require it to be "funded."

CBO's program divisions also may discuss the broader economic effects of legislation, and of federal policies in general. CBO's work on health care has routinely analyzed the effect of federal policies (such as the Affordable Care Act) on national health care spending. In July 2014, CBO issued a report that analyzed the effect of President Obama's proposed budget on key economic variables, such as national output and employment (CBO, 2014F). Still, these program division efforts differ from CBO cost estimates in two main ways. First, they tend to represent effects of some overall policy after the fact, rather than the effect of an individual piece of legislation at the time of Congressional consideration of that bill. Second, they do not present a specific, enforceable cost that enters the Congressional budget process in quite the same way that the federal cost estimate does. Therefore, a cost that is known to exist, but does not enter the budget process in an enforceable way, is more likely to be ignored.

Failure to Account for the Benefits of Legislation. Even where the work of CBO may focus on the broader effects of proposed legislation beyond the short-term, federal budgetary costs, it is still true that

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<sup>5</sup> This threshold is adjusted annually for inflation. Upon enactment, the limits were \$50 million (intergovernmental) and \$100 million (private sector). In 2013, the limits were \$75 million and \$150 million, respectively (CBO, 2014B).

most of those focus on costs, not benefits. There can be some exceptions to this (such as the analysis of the effect of particular policies on military readiness, or an estimate of the effect of the Affordable Care Act on the number of Americans who have health insurance) but by and large, CBO does not tend to focus on benefits.

The criticism of the lack of focus on benefits is simple and practically unassailable. By focusing on federal budgetary costs, CBO cost estimates encourage federal costs to trump other, arguably more important, considerations. As a result, in an effort to reduce the federal budgetary cost, Congress may enact ill-advised or short-sighted policies, and many policies are redesigned in an effort to reduce their costs. To cite the key example, there is no question that the Affordable Care Act would not look the way it does now if there had been less focus on the federal cost. To be fair, it was the President, not CBO, who encouraged that focus by establishing a ceiling on the total cost and by saying that he would not sign a bill that would “add one dime to the deficit” (White House, 2009). When he did that, he (in the words of one longtime Congressional staff person) “just handed...CBO the keys” to health care reform (Joyce, 2011, p. 209). If a different criterion had been put at the center, the legislation would undoubtedly look different.

Health estimates present a particularly fitting example of this dilemma. If successful, health reforms may provide benefits in the form of improved health care. People may be healthier, and live longer, than they would have been had the benefit not been provided. They may also have lower health care costs, per capita, in a given year. However, a health benefit to an individual, or even to a lot of people, is not at all the same thing as a reduction in the federal cost. In fact, when people live longer they may spend more time receiving government-funded health care (Medicare, Medicaid, or veterans health, for example), thus increasing the federal government’s cost.

In 2012, CBO itself did an analysis that illustrates this problem very clearly (CBO, 2012A). The analysis showed the effect of raising the excise tax on cigarettes and small cigars by 50 cents a pack (adjusted for inflation). There are presumably two main effects of this policy change: (1) it could bring in more revenue and (2) it could discourage some people from smoking, thus leading to better health and longer life. For our purposes, the relevant point here has to do with the spending effects, which are complicated, and highly dependent on the time period analyzed:

- Over the traditional 10-year cost estimating window, the policy would result in a \$730 million reduction in outlays, mostly from improved health through reduced smoking, leading to lower per capita health spending by Medicaid recipients.
- Over the longer term, this reduction in per capita health care spending would accelerate, but would be offset by the effects of increased longevity (virtually none of these longevity effects show up in the 10-year window), requiring the federal government to pay out benefits for programs such as Medicare and Social Security over a longer period. For each year after 2025, the policy would result in a net increase in outlays, because the increased spending as a result of people living longer would outpace the savings from lower per capita health care costs.

The bottom line on this policy is that while it is good for the people whose lives are being improved or saved, it is bad for the federal budget (excluding the revenue effects, which are irrelevant to the current point). This does not mean we should not enact policies that save lives, but it does seem to mean that the

cost estimate can present a radically incomplete picture of the effects of a given piece of legislation. Moreover, this has to do with the question that the Congressional Budget Act asks CBO to answer—what is the cost to the federal government of the legislation under consideration? In recognition of this fact, Westmoreland (2007) advocated that Congress evaluate the effects of health legislation on the benefit side (at least in addition to costs, if not instead of), using a measure such as quality-adjusted life years (QALYs).

In addition to wanting more attention to be paid to the positive (but perhaps nonbudgetary) impacts of legislation, Congress also tends to want to downplay the costs of policies when responding to an immediate political crisis. A recent example occurred in the summer of 2014 when Congress was considering expanding health coverage to veterans. This certainly is another example of where focusing only on costs presents an incomplete picture. Beyond that, however, it demonstrates both the value of having an independent cost estimate (in this case, proponents had every incentive to lowball the cost) but also how initial cost estimates can result in a change in the structure of the policy—in this case, to lower the federal government’s exposure. Box 2 presents more detail on this case.

### **BOX 2: VETERANS HEALTH LEGISLATION IN 2014**

Perhaps the highest profile recent CBO cost estimate involved the costs associated with expanding access to health care for veterans. The impetus for this estimate was the desire of Congress to pass legislation that would enable more veterans to receive timely health care. This came after revelations surfaced that the Veterans Health Administration (VHA) had been falsifying data concerning the timeliness of its services. In the wake of this scandal during summer 2014, both the House (H.R. 3230) and Senate (S. 2450) produced their own bills.

CBO needed to consider a number of highly uncertain factors to come up with the cost of full implementation, which ultimately became the basis for the estimate. These factors included the number of current VA health care enrollees, how use of the VA health system would change among those currently eligible but not currently enrolled, projections of the future veterans population, how many veterans would require services, and the cost per enrollee. Then CBO needed to estimate what percentage of the additional VA health population would avail themselves of the new benefit.

There were substantial differences between the House and Senate legislation, which resulted in differences in the cost estimates. H.R. 3230 created discretionary authorizations for 2 years from enactment, which CBO estimated would represent a net cost to the federal government of \$44 billion<sup>6</sup> between 2014 and 2016 (CBO, 2014D), 2014). S. 2450 created an entitlement (through fiscal year 2016) for veterans to receive health care in a timely fashion (within 30 days of contacting the VA for services). CBO estimated the total cost of S. 2450 at \$35 billion through the end of fiscal year 2016 (CBO, 2014G).

In the case of both the House and Senate bills, CBO assumed the VA would not be able to have a system up and running that would provide all of the benefits authorized by the legislation. For example, while the full cost of S. 2450 in fiscal year 2016 would have been \$50 billion, CBO assumed that only about half of the veterans able to receive benefits would actually be able to do so in that year. Therefore, while the annual costs of full implementation was an important factor used by CBO in calculating the estimated cost, neither the House nor Senate bill was assumed to reach this full cost during the roughly 2-year window covered by the legislation.

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<sup>6</sup> This consisted of costs to VA of \$51 billion, less Medicare and Medicaid savings of \$7 billion, since it was assumed that many veterans would choose the more generous VA benefits.

**BOX 2: VETERANS HEALTH LEGISLATION IN 2014 (CONTINUED)**

Members of Congress did not universally understand the detailed assumptions behind the estimate. Senator Ron Johnson (R-WI), in explaining why he voted against S. 2450 in its original form, cited a cost of “\$435 billion over 10 years” (*National Journal*, 2014). This \$435 billion figure appears nowhere in any CBO cost estimate; a reasonable assumption is that it represents the 2-year cost of \$35 billion, plus an additional \$50 billion per year over the next 8 years. Aside from this misunderstanding, however, many members of both houses were surprised at the cost of the legislation, and some criticized CBO’s cost estimate as inflated. Senator Richard Burr (R-NC), the ranking Republican on the Senate Veterans Committee, said it was “impossible for us to even start an intelligent discussion on what we put in legislation when we’ve got numbers that are just so grossly out of line” (Lawder, 2014).

CBO and the conference committee engaged in substantial informal discussions concerning ways to reduce the cost of the final legislation. As a result, the cost of the final conference agreement, passed by the Senate on July 31, 2014, was much lower—\$10 billion over the 2014–2024 period. The lower costs resulted not from a reconsideration by CBO of errors that had been made in its original cost estimate, but because the final legislation differed in substantial ways from both the House or Senate bills. Most importantly, the bill limited the cost by including a 2014 appropriation of only \$15 billion (and assumed reductions in budget authority of almost \$2 billion in 2015 and 2016), which provided a ceiling for the additional services funded by the bill.

Most of the outlays from this \$15 billion would occur in 2015 and 2016. In addition, the bill included a substantial number of offsetting reductions. Therefore, while the 10-year cost of providing additional care was estimated at \$13 billion, this was offset by a net reduction of \$3 billion resulting from other provisions of the bill (CBO, 2014H).

The bottom line from the perspective of CBO’s cost estimate had much less to do with the quality of the estimate itself, and more to do with the fact that the original estimate led to a fairly typical dialogue between CBO and the relevant committees. This interaction ultimately resulted in substantial changes being made to the final bill to lower its cost. One major difference in this case is that the back-and-forth between CBO and the committees of jurisdiction happened after bills were both introduced and passed by either House, rather than behind the scenes before legislation was introduced, which represents the more typical kind of interaction.

**CBO ESTIMATES ARE BIASED**

Beyond the argument that CBO estimates are wrong, a separate line of argument sees them as biased. Aside from discussions of whether behavioral effects are taken into account (the dynamic scoring argument referenced above), the main case made here is that CBO tends to provide advocates (for example, committee chairs) estimates that enable them to move legislation forward. Exhibit A for critics is CBO’s analysis of the Affordable Care Act, where some opponents of the law criticize CBO for a cost estimate that enabled the President and other proponents to argue that the law did not add to the deficit, and that it also came in under President Obama’s target for additional spending.

On the broader question of bias there are myriad cases where proponents of legislation have criticized CBO for the opposite reason: they thought the cost estimate was too high. This was clearly the case with the original veterans health estimates in 2014 (as documented in Box 2) and the Clinton health reform discussed earlier in this paper. Another was CBO’s estimate of the effect of Vice President Al Gore’s “reinventing government” initiative; the administration had argued that it would save \$5.9 billion over 5

years, while CBO estimated the savings would be \$305 million, or about 5 percent of that figure (*Washington Post*, 1993).

These two Clinton-era policies have another thing in common. They were dropped in CBO's lap as more or less fully formed proposals, with no back and forth within Congress, or between the President and Congress. This brings us to the specific case of the Affordable Care Act. It seems clear that the original Obama proposal was drafted in part with an eye toward what CBO would score. There is nothing unusual or nefarious about that; CBO had signaled publicly in advance what types of changes were likely to get scoring "credit." And there were those in Congress, such as Senator Christopher Dodd (D-CT), who were frustrated because the CBO analysis did not give enough credit to the positive effects of preventive measures funded by the legislation (Stolberg, 2009):

How they evaluate costs and benefits is very frustrating. They can tell you how much a treadmill costs, but they're unwilling to calculate what the benefit is if somebody actually uses it, loses weight and therefore reduces premium costs. So you get a kind of one-dimensional view of budgeting.

Further, when earlier versions of the legislation resulted in costs that were higher than desired by the administration, changes were made to bring it back into line with these desired costs. There are legitimate differences of opinion about whether those changes represented good policy. However, the fact that the final answer was in line with the wishes of the President and congressional supporters of the ACA is a reflection of the usual back-and-forth of the congressional process, rather than of bias. Paul Ryan, then ranking Republican on the House Budget Committee, understood that as well as anyone, arguing that while staff at CBO were "great professionals" who "do their jobs well....their job is to score what is placed in front of them. And what has been placed in front of them is a bill that is full of gimmicks and smoke-and-mirrors" (Ryan, 2010).

Another aspect of bias is also worth mentioning. CBO has a clear characteristic (call it a bias, if you will) that is shared with virtually any competent budget office. Budget offices are constantly confronted with proposals where opponents and advocates have preconceived notions concerning what the costs "should" be. This most frequently involves situations where proponents want the CBO analysis to estimate a lower cost, or fewer negative effects. Certainly this was true with the aforementioned veterans legislation. Another recent example was when CBO argued that an increase in the minimum wage was likely to result in some job losses. The Obama administration criticized that conclusion as based on outdated economic thinking (Paletta, 2014). But CBO, as a budget office, is likely to require a higher level of proof than policy proponents sometimes desire—and if it thinks that some people are looking for a free lunch, it is probably because they are. As former CBO Deputy Director James Blum put it (Joyce, 2011, p. 211):

It is the role of budget institutions to be skeptical. Certainly both OMB and CBO share this, in the sense that they are constantly on the lookout for someone who is trying to put one over on them. In the case of the Clinton health plan, it is possible that the reason CBO reacted the way that it did was because it saw itself as the protector of budget concepts. That is, if you are trying to be cute and make something that could be called a tax look like something else, it is the tendency of the scorekeepers to see themselves as the gatekeepers—protecting the public against obfuscation by elected officials.

## THE FUTURE OF CBO IN THE BUDGET PROCESS

What does all of this tell us about the future of CBO? Several questions are worth pursuing in closing:

- Is there any way that CBO could better assist Congress in confronting the nation's fiscal policy challenges?
- What could be done to change the quality of CBO's analyses?
- How might Congress use information coming out of CBO to make better policy?

### CONFRONTING THE NATION'S BUDGETARY CHALLENGES

How might CBO better encourage the nation's leaders to confront the nation's future budgetary challenges? Given that debt has increased from 31 percent of GDP in 2001 (CBO, 2014A) to 74 percent in 2014, and is projected to approach 79 percent of GDP by 2025 (CBO, 2015), many people are alarmed at the continued failure of Congress to come to grips with this imbalance (Committee for a Responsible Federal Budget, 2014).

While there is general agreement on these facts, there is much less consensus on what to do, and when. Throughout its history, CBO has been consistent in sounding the alarm (in fact, some would say too much) about the effects of an increasing federal debt. It would be surprising, in fact, if a budget office did not raise these concerns. CBO has routinely been providing the following information, designed both to inform Congress and give it data, should it decide to act:

- Ten-year baseline estimates three times each year (generally January, April, and August);
- A long-term budget outlook report annually; and
- A listing of both revenue and expenditure options for Congress and the President to consider (normally annually).

While CBO has provided information, it has not tended to tell (nor is it empowered to force) Congress to act. In point of fact, CBO was set up as a provider of information, not a spur to particular action. If it is an impetus for action, it is only as a result of the political impact of the data they provide. There are similar budget offices in other countries that are given the authority to certify whether the government is engaging in fiscally responsible policies. The British Office for Budget Responsibility (OBR) both evaluates the government's progress toward meeting its stated fiscal objectives and assesses long-term fiscal responsibility (Chote, 2014). But this sort of evaluation is not without pitfalls. In Hungary, when the relatively new Fiscal Council declared the government's policies unsustainable, the government moved to de-fund the Council (Feher, 2010). The real question is whether CBO should go further in exhorting Congress and the administration to take action. While there is an argument to be made for it being more direct in confronting its masters with their irresponsibility, such a move would be potentially dangerous in terms of its continued nonpartisan impact.

One intermediate option would be for CBO to include longer-term projections (beyond 10 years) as a part of its annual budget outlook report to Congress. The Peterson-Pew Commission on Budget Reform recommended that both the President's budget and CBO's annual report include such analyses (Peterson-Pew Commission on Budget Reform, 2010, p. 27). On the other hand, Henry Aaron (2014) makes a convincing case that long-term budget projections, even 25 years out, rely on so many uncertain

assumptions about the future as to render them almost arbitrary. More importantly, he argues, the extent to which such projections exhort policymakers to act may cause them to take the wrong actions. Indeed, Elmendorf (2014) noted in late 2014 at a Hutchins Center event that the uncertainty of long-term estimates caused CBO to back away from highlighting its 75-year projections in favor of those that look out only 25 years (Hutchins Center, 2014).

This is probably as good a place as any to raise the issue of CBO's public profile and role in educating both Congress and the public. Since the beginning, CBO directors have had to walk a tightrope between being the public face of the agency's analyses and behaving as behind-the-scenes Congressional staff. Early on, Congress took Director Rivlin to task because she was perceived as taking positions that were too public, and in forums that were too visible (she sometimes held press conferences and appeared on national network news programs). Later in her tenure, she toned down her public profile, and subsequent directors have generally stayed out of the (non-C-SPAN-watching) public eye.

This does not mean the agency hasn't played a visible educational role, however. Numerous directors have cultivated relationships with journalists (mostly 'off the record') in an attempt to put an accurate face on CBO analyses and on general fiscal and economic challenges facing the country. Further, CBO products have always been available to anyone who requested them. Clearly materials have become much more accessible in the age of the internet. Anyone with access to the web can now get immediate access to CBO cost estimates and studies. CBO also is active on Facebook and Twitter. The extent to which CBO has played a public education role (either directly or through the media) has probably been more significant and certainly has been more surprising than the more anticipated role that CBO has played in educating Congress on the budget and economy.

In addition to being accessible to the public, CBO products are generally readable. That is, a relatively informed consumer can actually understand what is being said in a CBO cost estimate or study. This attention to readability again goes all the way back to Alice Rivlin. At an early organizational meeting that laid out the issues that would be most important to CBO's success, one of the goals of the agency was to produce written products "in a form readable by Congressmen" (Ad Hoc Advisory Committee, 1975). Practically speaking, this has meant that the agency has paid a lot of attention to the editing and presentation of its products, including (more recently) producing more short papers and infographics. It also employs a full-time editorial staff.

### **IMPROVING THE BREADTH AND QUALITY OF CBO ANALYSES**

Over the years, CBO has remained relatively transparent concerning the uncertainty surrounding its estimates. CBO is well aware, and tends to communicate, that the point estimates it comes up with are more appropriately thought of as midpoints in a range of analytically likely outcomes. Regardless of this fact, the Congressional budget process relies on point estimates, and Congress has tended for this reason to view CBO numbers as somewhat more precise than is appropriate.

It might be useful for CBO to be more systematically explicit about the ranges around its estimates and the level of uncertainty involved. The downside of this is that it might, as suggested above, encourage supporters to choose the low estimate of costs and opponents the high estimate. Some more specific information on the level of uncertainty might be useful, however. The type of information presented by the OBR in Britain suggesting the level of uncertainty (in effect, the size of the confidence interval)

surrounding a particular number would communicate useful information and might discourage Congress from treating estimates with a false sense of precision.

Moreover, CBO could go further in presenting information on the government's broad role in individual policy areas, rather than focusing on individual policy changes. For example, there are many different policy "tools" available to effect changes in education, health care, or housing policy. A comparison of the costs and effectiveness of these various kinds of measures might assist Congress in making better use of resources. As suggested by some members of Congress, CBO could also go further in trying to evaluate the macroeconomic effects of policies, with the caveat that there is even more uncertainty about these effects than there is about the budgetary cost.

One additional caution here is that any attempt to introduce into the budget process more information, and more nuanced information, could come at the cost of slowing the process down. Macroeconomic estimates, for example, could not be done quickly and might not fit well into the legislative timetable, which sometimes relies on quick turnaround at the last minute.

### **MAKING APPROPRIATE USE OF INFORMATION FROM CBO**

Perhaps the most important thing that Congress can do to ensure it makes better use of CBO products is to more explicitly recognize both the limitations and benefits of the analysis that CBO provides. On the former point, Congress should be more explicit about considering the broader societal and economic implications of policy. This is true whether CBO does these analyses or not. In short, Congress could step back from its emphasis on the budgetary consequences of policy and understand that those consequences are one (but only one, and probably not the most important) thing to consider when deciding whether to adopt legislation, and what form it should take. Congress should stop short of a "one size fits all" policy, where macroeconomic analysis or cost-benefit analysis is required for every piece of legislation. Certainly, however, there are major policies (immigration reform and entitlement reform, to name two) where it is crucial to consider factors besides federal budgetary cost. The more those factors can be considered when the policy is under development, the greater the chance of avoiding narrow, short-sighted policies.

CBO's main role at present is to provide information on costs. CBO often takes a broader view through its policy analysis work, but it is less likely that these analyses will find their way into the Congressional debate, as they are not tied to any specific budget proposal or budget enforcement. This does not prohibit Congress from widening its perspective. If costs end up trumping other considerations, it is because Congress has chosen to downplay those other factors.

It is important to recognize CBO analyses—especially cost estimates—for what they are, and what they are not. For all the positives that have come from having CBO, perhaps the main caveat is not to take its analyses too seriously. They are not the answer, they are an input—one that Congress can make effective use of only if it recognizes the limitations.

Finally, as CBO reaches middle age, it is particularly important that Congress not contribute to a CBO "mid-life crisis." The U.S. political environment is at present bitterly partisan. The gap between objective analysis and "ammunition" to be used in political debates has perhaps never been greater. In such a partisan environment, policymakers will continue to be tempted to try to move CBO in a more partisan

direction, and use CBO analyses (or portions of those analyses) to further their own political agendas. As explored in this paper, substantial disagreements with CBO have come from both sides of the political spectrum, and it is important for Congress to recognize that a credible, nonpartisan CBO is vital to the ability of Congress to both set its own fiscal policy and challenge the President—any President—on policy. If CBO becomes viewed as one more source of noise in a cacophony of partisan voices, it will be of only limited use to either Congress or the nation.

**REFERENCES**

- Aaron, Henry J., 2014. “The Economics and Politics of Long-Term Budget Projections,” Hutchins Center on Fiscal and Monetary Policy, Working Paper #7, The Brookings Institution, December 15, 2014.
- Ad Hoc Advisory Committee, 1975. Meeting notes, from National Archives, College Park, MD, Accession Number 520-98-0003, Box 1, March 8, 1975.
- Chote, Robert, 2014. “Recognising Uncertainty,” presentation at the Hutchins Center on Fiscal and Monetary Policy, The Brookings Institution, December 15, 2014.
- Committee for a Responsible Federal Budget, 2014. “Deficit Falls to \$483 Billion, but Debt Continues to Rise” (October 15, 2014).
- CBO, 2001. *The Budget and Economic Outlook: Fiscal Years 2002–2011* (Washington DC: GPO, January 2001).
- CBO, 2002. *The Budget and Economic Outlook: Fiscal Years 2003–2012*, Washington DC: GPO, January 2002.
- CBO, 2008A. *Key Issues in Analyzing Major Health Insurance Proposals*, Washington DC: GPO, December 2008,
- CBO, 2008B. *Budget Options I: Health Care* (Washington DC: GPO, December 2008).
- CBO, 2010A. *Estimated Impact of the American Recovery and Reinvestment Act on Employment and Economic Output from January 2010 through March 2010*, May 2010.
- CBO, 2010B. Letter to the Honorable Paul Ryan, January 27, 2010.
- CBO, 2012A. *Raising the Excise Tax on Cigarettes: Effects on Health and on the Federal Budget*, June 2012.
- CBO, 2012B. *Changes in CBO’s Baseline Projections Since January 2001*, June 2012.
- CBO, 2013A. *CBO’s Economic Forecasting Record: 2013 Update*, January 2013.
- CBO, 2013B. *Cost Estimate of S. 744, The Border Security, Economic Opportunity, and Immigration Modernization Act*, June 18, 2013.
- CBO, 2014A. *The Budget and Economic Outlook: Fiscal Years 2015–2024*, February 2014.
- CBO, 2014B. *A Review of CBO’s Activities in 2013 Under the Unfunded Mandates Reform Act*, March 2014.
- CBO, 2014C. *An Analysis of the President’s Fiscal Year 2015 Budget*, April 2014.
- CBO, 2014D. Letter to the Honorable Jeff Miller, June 17, 2014.
- CBO, 2014E. *Competition and Cost of Medicare’s Prescription Drug Program*, July 2014.
- CBO, 2014F. *The Economic Effects of the President’s 2015 Budget*, July 2014.
- CBO, 2014G. *Cost Estimate, H.R. 3230, Veterans Access to Care through Choice, Accountability, and Transparency Act of 2014*, As passed by the Senate on June 11, 2014, July 10, 2014.
- CBO, 2014H. Letter to the Honorable Bernie Sanders, July 29, 2014.
- CBO, 2014I. *The Distribution of Household Income and Federal Taxes*, November 2014.
- CBO, 2015. *The Budget and Economic Outlook: Fiscal Years 2016–2025*, January 2015.

- Dewar, Helen, 1981. "CBO Analysis to Show Administration Falling Short of Budget Goals," *Washington Post*, March 24, 1981, A4.
- Elmendorf, Douglas, 2014. "Communicating the Uncertainty of CBO's Estimates," CBO Director's Blog, December 15, 2014).
- Feher, Margit, 2010. "Hungary to Disband Fiscal Council," <http://blogs.wsj.com/emergingurope/2010/11/22/hungary-to-disband-fiscal-council/>, accessed February 10, 2015.
- Hutchins Center on Fiscal and Monetary Policy, 2014. "The Long-Run Outlook for the Federal Budget: Do We Know Enough to Worry?," December 15, 2014, materials found at <http://www.brookings.edu/events/2014/12/15-long-run-outlook-federal-budget>.
- Jackson, Harold, 1982. "Sum Lady," *The Guardian*, April 3, 1982, 13.
- Joint Study Committee on Budget Control, 1973A. *Recommendations for Improving Congressional Control over Budgetary Outlay and Receipt Totals*, Report, 93<sup>rd</sup> Cong., 1<sup>st</sup> sess., April 18, 1973.
- Joint Study Committee on Budget Control, 1973B. *Improving Congressional Control over Budgetary Outlay and Receipt Totals*, Interim Report, 93<sup>rd</sup> Cong., 1<sup>st</sup> sess., February 7, 1973.
- Joyce, Philip, 2011. *The Congressional Budget Office: Honest Numbers, Power, and Policymaking*, Washington, Georgetown University Press, 2011.
- Kates, Nancy D., 1989. *Starting from Scratch: Alice Rivlin and the Congressional Budget Office, Part A*, (Cambridge: John F. Kennedy School of Government, Harvard University, 1989).
- Klein, Ezra, 2009. "The Number-Cruncher-in-Chief," *The American Prospect*, January 14, 2009. <http://www.prospect.org/cs/articles?article=numbercruncherinchief>, accessed January 26, 2009.
- Kogan, Richard, 2014. "Altering Accounting for Federal Credit Programs Would Artificially Inflate Costs, Raise Risk of Cuts," Center on Budget and Policy Priorities, February 10, 2014.
- Lawder, David, 2014. "Lawmakers Slam Veterans Health Bill Cost Estimate," *Reuters*, June 24, 2014.
- Lucas, Deborah, 2014. "Evaluating the Cost of Credit Support: The OECD Context," *Economic Policy* July 2014, pp. 553–597.
- Manski, Charles, 2014. Remarks related to "Fiscal Uncertainty and How to Deal with It," Conference on Fiscal Uncertainty, Hutchins Center on Fiscal and Monetary Policy, December 14, 2014.
- Montgomery, Lori, 2009. "In Health Debate, Those Numbers are Just Numbers," *Washington Post*, October 19, 2009, A1.
- National Journal*, 2014. "Johnson Comments on VA Bill Vote," August 1, 2014.
- New York Times*, 1981. "Don't Punish the Economic Messenger," April 7, 1981, A18.
- Paletta, Damian, 2014. "CBO Chief Poses Test for White House," *Wall Street Journal* online, accessed February 19, 2014, at <http://online.wsj.com/news/articles/SB10001424052702303636404579393433486576314>.
- Peterson-Pew Commission on Budget Reform, 2010. *Getting Back in the Black*, November 2010.
- Rivlin, Alice, 1993. "More Than Enough," *Washington Post*, A10, July 27, 1993.

- Ryan, Paul, 2010. Comments on health inflation at White House Health Summit, February 25, 2010. Taken from CQ Transcriptions, [www.cq.com](http://www.cq.com), accessed March 28, 2010.
- Schick, Allen, 1980. *Congress and Money*, Washington, DC: The Urban Institute, 1980.
- Seaberry, Jane, 1983. “No-Label Economist,” *Washington Post*, November 13, 1983, G1.
- Stolberg, Sheryl Gay, 2009. “Capital Holds Breath as He Crunches Numbers,” *New York Times*, November 17, 2009, A1.
- United States House of Representatives, Committee on the Budget, 1975. *Organization and Activities of the Congressional Budget Office*, 94th Cong., 1st sess., July 23, 1975.
- United States House of Representatives, Committee on the Budget, 2015. “House Rules and Macroeconomic Scoring,” <http://budget.house.gov/uploadedfiles/house-rules-and-macroeconomic-scoring.pdf>, accessed January 19, 2015.
- United States Senate, Committee on the Budget, 1976. *Congressional Budget Reform: Public Law 93-344, Enacted July 12, 1974, , 94<sup>th</sup> Cong., 2<sup>nd</sup> sess.*, August 1976.
- Washington Post*, 1993. “Reinventing Arithmetic.” November 19, 1993, A28.
- Westmoreland, Tim, 2007. “Standard Errors: How Budget Rules Distort Lawmaking,” *Georgetown Law Review* 95, 2007.
- White House, 2009. “Remarks by the President to a Joint Session of Congress on Health Care,” Office of the Press Secretary, September 9, 2009.
- Williams, Walter, 1998. *Honest Numbers and Democracy: Social Policy Analysis in the White House, Congress and in Federal Agencies*, Washington: Georgetown University Press, 1998.