

CBO OVERSIGHT: ORGANIZATIONAL AND OPERATIONAL STRUCTURE

HEARING BEFORE THE COMMITTEE ON THE BUDGET HOUSE OF REPRESENTATIVES ONE HUNDRED FIFTEENTH CONGRESS SECOND SESSION

HEARING HELD IN WASHINGTON, D.C., JANUARY 30, 2018

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CBO OVERSIGHT: ORGANIZATIONAL AND OPERATIONAL STRUCTURE

TUESDAY, JANUARY 30, 2018

HOUSE OF REPRESENTATIVES,
COMMITTEE ON THE BUDGET,
Washington, D.C.

The Committee met, pursuant to call, at 10:00 a.m., in Room 1334, Longworth House Office Building, Hon. Steve Womack [Chairman of the Committee] presiding.

Present: Representatives Womack, Cole, Woodall, Palmer, Westerman, Renacci, Smith, Arrington, Black, Lewis, Smucker, Ferguson, Johnson, Sanford, Gaetz, Rokita, Bergman, Brat, Grothman, Yarmuth, Lee, Moulton, DelBene, Wasserman Schultz, Jayapal, Carbajal, Schakowsky, Jeffries, Jackson Lee, Higgins, and Lujan Grisham.

Chairman WOMACK. It is 10:00 and good morning, everyone. The hearing will come to order. Welcome to the Committee on the Budget's hearing on Oversight of the Congressional Budget Office. This hearing will focus on CBO's organizational and operational structure. It is the first of five hearings that the Committee plans to hold regarding oversight of the congressional budget.

The goal of today's hearing is to learn more about CBO, which was created as part of the Congressional Budget and Impoundment Act of 1974. For decades, this agency's primary duty and function has been to assist Congress in the Federal budget making process by providing cost estimates, economic analysis, working papers, and other insightful publications.

Members of the House and Senate Budget Committees rely on CBO as an objective, impartial resource when writing budget resolutions. The agency also plays a key role in advising this Committee as it enforces budget rules. Without question, there are dozens of fine men and women employed by CBO, including analysts, management, and support staff.

But more than 40 years since its founding, Congress has not undertaken a comprehensive review of CBO's structure and processes. In fact, CBO still operates under its original permanent authorization. I say this not to raise alarm about the future of CBO or question Congress' need for it. It is simply a fact that serious oversight has not been exercised to ensure the agency still has the tools it needs to be successful in fulfilling its mandate. That being said, our intention is the same with today's hearing as it will be with upcoming hearings. We want to better understand how CBO carries out its nonpartisan mission in service and support to Congress.

During today's hearing, we will take a closer look at the organizational and operational structure of CBO, including its staffing, assumptions, processes, and work products. To provide an overview on the inner workings of this congressional support agency and how it has evolved over the years, I am pleased to welcome Dr. Keith Hall. Dr. Hall has served as director of CBO since April of 2015, when he became the ninth director of the agency.

Before we hear directly from Dr. Hall, I want to stress again that this series of hearings is not designed to be partisan or to invite cheap shots against the agency so vital to the Congress' ability to budget independently. However, there are legitimate questions about how CBO operates, and I am hopeful that these hearings will shed light on how we can improve its operations to provide Congress what it needs in the 21st Century.

To ensure CBO can effectively and efficiently carry out its mission, I am pleased we are advancing a comprehensive review through these oversight hearings, and I look forward to productive conversations today with Dr. Hall.

Now, before I yield to my colleague, the Budget Committee's Ranking Member, Mr. Yarmuth, I will remind everyone that this Committee will strictly enforce the 5-minute rule. I am a military guy, I like to run a tight ship, and I want to ensure that our hearings are as productive as possible.

So, I will ask that your remarks and your questions are delivered with enough time for our witness to respond. If they are not, answers will be submitted for the record, and I will hold my colleagues and myself to this rule. So, thanks in advance.

I look forward to a productive hearing. And now I would like to yield to the Ranking Member, Mr. Yarmuth, from the great commonwealth of Kentucky for his remarks.

[The prepared statement of Chairman Womack follows:]

**Chairman Womack Opening Statement:
Hearing on CBO'S ORGANIZATIONAL AND OPERATIONAL STRUCTURE**

Washington, January 30, 2018

As prepared for delivery- House Budget Committee Chairman Steve Womack

Good morning, and thank you to everyone for being here as we begin a series of oversight hearings on the Congressional Budget Office. The goal of today's hearing is to learn more about CBO, which was created as part of the Congressional Budget and Impoundment Act of 1974.

For decades, this agency's primary duty and function has been to assist Congress in the federal budget-making process by providing cost estimates, economic analysis, working papers and other insightful publications. Members of the House and Senate Budget Committees rely on CBO as an objective, impartial resource when writing budget resolutions.

The agency also plays a key role in advising this Committee as it enforces budget rules. Without question, there are dozens of fine men and women employed by CBO, including analysts, management, and support staff. But more than 40 years since its founding, Congress has not undertaken a comprehensive review of CBO's structure and processes. In fact, CBO still operates under its original permanent authorization. I say this not to raise alarm about the future of CBO or question Congress's need for it. It's simply a fact that serious oversight has not been exercised to ensure the agency still has the tools it needs to be successful in fulfilling its mandate.

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Dr. Hall has served as Director of CBO since April of 2015, when he became the ninth director of the agency. Before we hear directly from Dr. Hall, I want to stress again that this series of hearings is not designed to be partisan or to invite "cheap shots" against an agency so vital to the Congress's ability to budget independently.

However, there are legitimate questions about how CBO operates, and I am hopeful that these hearings will shed light on how we can improve its operations to provide Congress what it needs in the 21st Century.

To ensure CBO can effectively and efficiently carry out its mission, I am pleased we are advancing a comprehensive review through these oversight hearings.

I look forward to productive conversations today with Dr. Hall.

Mr. YARMUTH. Thank you very much, Mr. Chairman, and congratulations on your new role. I look forward to working with you, and thank you for calling this hearing.

All of us on the Budget Committee take our oversight role seriously, and I am very glad we will be discussing these important issues today. I hope that we will be just as diligent in our responsibilities to develop a budget proposal, and we will hear testimony from the Federal agencies that we expect to be significantly impacted by the President's budget. Director Hall, thank you for your testimony in advance, and thank you for your service.

Congress created the Congressional Budget Office to give us an independent and reliable source of budgetary information and expertise. For more than 40 years, CBO has fulfilled its mission, providing impartial, high-quality analysis to inform our decision making and improve our ability to protect the power of the purse. While everyone here is aware that Director Hall was appointed by congressional Republicans, expectations have always been that the CBO director will carry out his or her responsibilities without allegiance or deference to any political ideology or party.

Same is true of the staff who are hired based on their ability and qualifications, not political affiliation. As a result, CBO produces its best analysis regardless of any desired outcome for an administration, the majority in Congress, or the congressional minority.

Despite that commitment to objectivity, however, CBO has been the target of criticism, and I am sure we will hear some of that today. You have actually heard some of it from me over the years. Director Hall, I do not envy you. You have what I would argue as one of the most thankless jobs in Washington, and that is to be our objective referee. And coming from a basketball State, I know how loved the referees are.

In an arena where passions run deep, your calls will often be embraced by one side while questioned by the other. One day, it is the Republicans complaining; the next, it is the Democrats. That has been a reality in Congress since CBO's inception. But there has been a dramatic shift recently in the treatment of CBO, and as members of the Committee this should be deeply troubling to us all. Questioning and fair criticism of CBO have morphed into more caustic attacks. Many have crossed the line, and much of this friction seems to center on analysis of my Republican colleagues' efforts to repeal the Affordable Care Act.

Look, I get it. I would not want to defend increasing number of uninsured Americans by 20 million, or causing premiums to skyrocket, particularly when there is no viable plan for replacement. But I am not sure what you thought CBO's analysis would show.

The Affordable Care Act expanded coverage through three related strategies: requiring insurance companies to make meaningful coverage available to all, requiring individuals to get covered, and subsidizing premiums to make coverage affordable. If you end the individual mandate, which we have just done, people will go without coverage. If you end subsidies that help families afford insurance, people lose coverage.

If you take away consumer protections and once again allow insurers to play games, premiums will increase for everyone who is not in perfect health. People lose coverage. There is no way around

the fact that repealing the Affordable Care Act will result in millions of American families losing health coverage, and there is no way to defend that to the American people.

So, with nowhere to turn, many of my Republican colleagues unfairly went after the CBO, inappropriately impugning the integrity of the agency and the staff. I want to be clear. I think Congress has every right, even a duty, to review CBO's work and ask questions. And CBO needs to be forthcoming in providing explanations.

Democrats have certainly raised questions about assumptions or interpretations. But what we have not done is call into question the integrity of the institution or individual staff members. It is all too easy these days to take refuge in information that tells us only what we want to hear. But that does not lead to sound policy.

CBO does not exist to give us the information we want to hear. Its job is to give us the information we need to make informed, responsible decisions. It is one of the few institutions in Washington that serves that role. Attacks on the CBO are not just attacks on Director Hall and his staff; they are attacks on our integrity as a deliberative body. They reduce trust in government and undermine the standards on which a functioning democracy depends.

Today, I hope to hear from you, Dr. Hall, about how you ensure your work is objective and the steps you have taken to increase transparency at CBO. I would like to learn more about your expert staff, technical capabilities, and about any need for additional funding or tools. You will likely hear from us disagreements with some of your methodologies.

I think some will challenge you on the process and will encourage you to look at alternative methods. I think that is all fair game and I look forward to that discussion.

Thank you again, Dr. Hall, for your leadership at CBO and for testifying today. I yield back.

[The prepared statement of Mr. Yarmuth follows:]

**Ranking Member John Yarmuth's Opening Statement:
Hearing on CBO'S ORGANIZATIONAL AND OPERATIONAL STRUCTURE**

Washington, January 30, 2018

As prepared for delivery- House Budget Committee Ranking Member John Yarmuth

Director Hall, thank you for your testimony, and for your service.

Congress created CBO to give us an independent and reliable source of budgetary information and expertise. For more than 40 years, CBO has fulfilled its mission, providing impartial, high-quality analysis to inform our decision-making and improve our ability to protect the power of the purse.

While everyone here is aware that Director Hall was appointed by Congressional Republicans, expectations have always been that the CBO Director will carry out his or her responsibilities without allegiance or deference to any political ideology or party. The same is true of the staff who are hired based on their ability and qualifications, NOT political affiliation. As a result, CBO produces its best analysis regardless of any desired outcome for an Administration, the majority in Congress, or the Congressional minority.

Despite that commitment to objectivity however, CBO has been the target of criticism. And I'm sure we will hear some of that today.

Director Hall, I do not envy you. You have, what I would argue, is one of the most thankless jobs in Washington--and that is to be our objective referee. And in an arena where passions run deep, your calls will often be embraced by one side, while questioned by the other. But there has been a dramatic shift recently in the treatment of CBO -- and as members of this Committee this should be deeply troubling to all of us. Questioning and fair criticism of CBO have morphed into more caustic attacks, many that have crossed the line. And much of this friction seems to center on analysis of my Republican colleagues' efforts to repeal the Affordable Care Act. Look, I get it. I would not want to defend increasing the number of uninsured Americans by 20 million, or causing premiums to skyrocket -- particularly when you have no viable plan for replacement.

But I'm not sure what you thought CBO's analysis would show. The Affordable Care Act expanded coverage through three related strategies: requiring insurance companies to make meaningful coverage available to all, requiring individuals to get covered, and subsidizing premiums to make coverage affordable. If you end the individual mandate, people will go without coverage. If you end subsidies that help families afford insurance, people lose coverage. If you take away consumer protections and once again allow insurers to play games, premiums will increase for everyone who is not in perfect health, and people lose coverage.

There is no way around the fact that repealing the Affordable Care Act will result in millions of American families losing health coverage, and there is no way to defend that to the American

people. So with nowhere to turn, many of my Republican colleagues unfairly went after the CBO, inappropriately impugning the integrity of the agency and its staff.

I want to be clear, I think Congress has every right – even a duty – to review CBO’s work and ask questions. And CBO needs to be forthcoming in providing explanations. Democrats have certainly raised questions about assumptions or interpretations. But what we haven’t done is called into question the integrity of the institution or individual staff members.

It is all too easy these days to take refuge in information that tells us only what we want to hear, but that does not lead to sound policy. CBO does not exist to give us the information that we want to hear.

Its job is to give us the information needed to make informed, responsible decisions. It is one of the few institutions in Washington that serves that role. Attacks on the CBO aren’t just attacks on Director Hall and his staff—they are attacks on our integrity as a deliberative body. They reduce trust in government, and undermine the standards on which a functioning democracy depends.

Today, I hope to hear from you, Dr. Hall, about how you ensure your work is objective and the steps you’ve taken to increase transparency at CBO. I’d like to learn more about your expert staff, technical capabilities, and about any need for additional funding or tools.

You’ll likely hear from us disagreements with some of your methodologies. I think some here will challenge you on your processes and will encourage you to look at alternative methods. These are all fair questions and adhere to our committee’s commitment to oversight. But I would remind my colleagues that questioning the character or integrity of Dr. Hall or CBO staff has no place in this Committee or anywhere in Congress.

Thank you again, Dr. Hall for your leadership at CBO and for testifying today

Chairman WOMACK. Thank you, Mr. Yarmuth. In the interest of time, if any other members have opening statements, I would ask that they be submitted for the record.

Chairman WOMACK. I would like to now introduce and recognize the director of the Congressional Budget Office, Dr. Keith Hall. Dr. Hall, thank you for your time today, and let me just say, from a personal standpoint, how enjoyable it was yesterday to visit the fourth floor of the Ford Building and the great staff work that is taking place over there with the Congressional Budget Office under your leadership.

The Committee has received your written statement and it will be made part of the formal hearing record. You have 10 minutes to deliver your oral remarks, and the floor is yours. Thank you, sir.

**STATEMENT OF KEITH HALL, DIRECTOR, CONGRESSIONAL
BUDGET OFFICE**

Mr. HALL. Chairman Womack, Ranking Member Yarmuth, and members of the Committee, thank you for inviting me to testify this morning about CBO's organization and operations. And thank you for your support and guidance. We at CBO have long relied on the Budget Committees to explain our role to others in Congress. We also rely on you to provide constructive feedback and guidance on Congress' priorities. The work on your part has been key to our success over the years.

I would like to make 10 points in my remarks, and then I look forward to talking with you about how we can serve Congress better.

First, lawmakers created CBO to give the Congress a stronger role in budget matters. CBO was established under the Congressional Budget Act of 1974 to provide objective, nonpartisan information that would support the budget process. CBO's mission is to help the Congress make effective budget and economic policy. In carrying out that mission, the agency offers an alternative to the information provided by the Office of Management and Budget in the Executive Branch.

Second, the Congress sets CBO's priorities. CBO follows processes specified in the statute or developed by the agency in concert with the Budget Committees and congressional leadership. CBO's chief responsibility under the Budget Act is to help the Budget Committees with matters under their jurisdiction. The agency also supports other Committees, particularly the Appropriations, Ways and Means, and Finance Committees and leadership.

Among CBO's statutory requirements is producing certain reports, the best known of which is the Annual Budget and Economic Outlook. That report includes CBO's baseline budgetary and economic projections. CBO is also required by law to produce a formal cost estimate for nearly every bill that is approved by a full Committee of either House or Senate. Those cost estimates are only advisory. They can but do not have to be used by it to enforce budgetary rules or targets. Moreover, CBO does not enforce such budgetary rules, the Budget Committees does.

Third, CBO produces a lot of work each year. For example, last year the agency published 740 formal cost estimates, provided technical assistance to congressional staff as they developed literally

thousands of legislative proposals and amendments, and it has published many reports about the budget, the economy, and related issues.

Nevertheless, because of limited resources, the number of estimates and analyses that CBO can produce falls short of congressional requests. Moreover, we must balance our commitment to respond quickly to the Congress with our professional responsibility to release estimates and analysis only when their quality is high enough.

Fourth, in order to provide Congress with the high-quality analysis that it needs, CBO staff has expertise in many areas. Among CBO's roughly 235 people, the largest concentration of expertise is in the area of health. Other areas of focus include national security, labor, taxes, energy, and macroeconomics.

Maintaining a broad array of expertise allows CBO to respond to policymakers needs quickly. Analysts are organized into a number of divisions but much of CBO's work requires work from more than one division. CBO analysts always pursue high quality and accuracy. They approach issues with a detailed understanding of Federal programs and the tax code.

They carefully and critically read the relevant research literature. They painstakingly analyze data collected by the government, statistical agencies, and by private organizations. And they regularly consult with a diverse range of outside experts, including professors, analyst think tanks, representatives of industry groups, other private sector experts, and government employees of the Federal, State, and local levels. Some of the consultations occur during periodic meetings with CBO's panel of Economic Advisers and panel of Health Advisers.

Fifth, CBO's analysis is objective, impartial, and nonpartisan. We maintain our objectivity in a number of ways. One is that we make no policy recommendations. Another is that we hire people on the basis of their expertise—nearly 80 percent of CBO's employees have advanced degrees—and without regard to political affiliation.

We carefully consider whether potential analysts can perform objective analysis, regardless of their own personal views, and we enforce strict rules to prevent employees from having financial conflicts of interest and to limit their political activities. We aim to reflect the full range of experts' views as we present the elected consequences of proposals being considered by the Congress. Our estimates are inherently uncertain, but our goal is to produce estimates that are in the middle of the distribution of possible outcomes.

Sixth, the models do not produce CBO estimates, CBO does. CBO's estimates often require projections of how people and institutions would respond to proposed changes in law. A computer model is one tool that analysts may use to make such a projection. There are various kinds of models, such as complex simulation models, regression models, and calculations in the spreadsheets. CBO's models are constantly being enriched and improved.

Nonetheless, models often cannot show the full scope of the effects of the legislative proposal. Analysts must routinely go further, combining what could be learned from a model with other informa-

tion so the estimates correspond as closely as possible to what the best available research suggests.

Seventh, CBO has a rigorous system of checks and balances. All of CBO's cost estimates and reports are reviewed internally for objectivity, analytical soundness, and clarity. That process involves many people at various levels in the agency. Analysts' consultations with outside experts help them hear all perspectives on an issue, and we continually revisit our past work and learn from the differences between our projections and actual outcomes. We also compare our analysis to others work and incorporate outside feedback into our projects.

Eighth, CBO prioritizes transparency. Since its inception, the agency has used many approaches to be transparent. To begin with, CBO's cost estimates and publications include documentation of the basis of their findings.

In addition, we document the revisions through our budget projections and estimates. We report on the accuracy of our projections, including our projections about the economy, spending, revenues, and health insurance subsidies. We publish analysis of how sensitive our estimates are to key parameters and we seek external review of our reports before they are released and of the methods in which are products are based.

CBO allows promotes transparency by providing broad access. When CBO completes a formal cost estimate, it is made immediately available to all Members of Congress, their staff, and the public on CBO's website. Furthermore, CBO's analysts regularly explain their analysis to congressional staff. For instance, earlier this month, in collaboration with the Congressional Research Service, my colleagues gave a presentation to 150 congressional staff members about how CBO develops estimates of health insurance costs and coverage.

Unfortunately, the pace of congressional action sometimes limits the time available for providing extensive explanation of estimates. And because the overall demand for CBO's work is high and our resources are constrained, we need to balance requests to explain more about finished analysis with requests for analysis. And with our other responsibilities, such as regularly updating our baseline projections.

Ninth, CBO evolves as the needs of Congress evolve. Though CBO has remained true to its original mission, we work with the Congress in ways probably not envisioned when the agency was first created. For example, as legislation has grown more complex, we found ourselves spending more time providing preliminary analysis and technical assistance during the drafting stage. And we are being asked more often to prepare cost estimates for bills that are heading for votes without being marked up by Committees first.

To accommodate the Congress' needs and agendas, CBO shifts staff and develops new analytical tools. For example, we developed significant resources to strengthen our ability to analyze healthcare issues, so we would be prepared for large-scale legislative proposals on that front. Similarly, we improved our capability to study how legislative proposals would affect the economy and thus the budget as the Congress' desire for dynamic analysis intensifies.

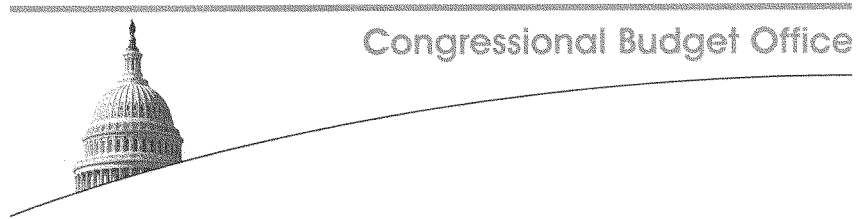
Tenth, CBO's always looking for ways to do things better. For example, we are reviewing and updating every aspect of our simulation model of health insurance coverage which forms the backbone of our budget projections related to Federal healthcare spending for people younger than 65.

In addition, we will further improve our capability to perform dynamic analysis, as well as our ability to analyze how changes in Federal regulations affect the economy and the budget.

Responsiveness and transparency are top priorities of mine and CBO has plans to bolster them further. The agency will make greater use of team approaches to handling surges in demand for analysis of particular issues. We will increase the public documentation of our computer models. We will also do more to explain how analysts employ models while producing estimates.

The extent to which CBO can accomplish these objectives will depend partly on whether we receive the funding we requested for them. As always, we look for ways to serve you better. I welcome your suggestions.

[The prepared statement of Keith Hall follows:]



Testimony

The Congressional Budget Office's Work in 2017 and Plans for the Future

**Keith Hall
Director**

**Before the
Committee on the Budget
U.S. House of Representatives**

January 30, 2018

This document is embargoed until it is delivered at 10:00 a.m. (EST) on Tuesday, January 30, 2018. The contents may not be published, transmitted, or otherwise communicated by any print, broadcast, or electronic media before that time.

Overview

Chairman Womack, Ranking Member Yarmuth, and Members of the Committee, thank you for the opportunity to discuss the work of the Congressional Budget Office. As you know, CBO's mission is providing nonpartisan budgetary and economic analysis to support the work of this Committee and the Congress as a whole. My colleagues and I are devoted to that mission, and this testimony describes how CBO has executed it this year and how we plan to expand our work in the future.

I also want to take this opportunity to thank you for your support and guidance. We at CBO have long relied on the budget committees to explain to others in the Congress what our role is, to provide constructive feedback on how we can best serve the Congress, and to provide guidance on what legislative developments are occurring and what the Congress's priorities are. That work on your part has been key to our success over the years.

CBO's Work in 2017

In the past year, we have provided the Congress with 740 formal cost estimates and mandate statements, thousands of informal cost estimates, 128 scorekeeping tabulations, 86 analytic reports and working papers, dozens of files of data underlying budget and economic projections, and numerous other publications.¹ Many of the cost estimates were produced under very tight time constraints and required extraordinary efforts by our staff to meet legislative deadlines.

We also undertook new initiatives to enhance our responsiveness and transparency. We reorganized work processes and shifted resources to areas of high demand. We published more evaluations of our projections about the economy, spending, and health insurance subsidies. We documented more of our analytic methods—about flood insurance, pension benefit guarantees, and health care for the military, for example. And we gave more explanations of changes in our estimates, addressing issues ranging from Social Security to options for changing Medicare.

CBO's Future Plans

In the next two years, CBO plans to continue to support the budget committees and the Congress by producing

budget and economic baseline projections, reports about those projections, and cost estimates for many proposals, including all legislation reported by committees. Other major products will include a volume of policy options that would reduce budget deficits, reports on the long-term budget outlook, analyses of the President's budget proposals, monthly budget reviews, and policy analyses on a broad array of topics of interest to Congressional committees. CBO is reviewing and updating every aspect of its simulation model of health insurance coverage, which forms the backbone of its budget projections related to federal health care spending for people younger than 65. In addition, CBO will further develop its capabilities to assess the macroeconomic effects of fiscal policies and the ways that changes in federal regulations affect the agency's baseline budget projections.

Responsiveness and transparency are top priorities of mine, and we have plans to bolster them further. We will make greater use of team approaches to handle surges in demand for analysis of particular issues. We will increase public documentation of our computer models. We will also do more to explain how analysts employ those tools as part of the process for producing estimates. For a cost estimate, for example, an analyst identifies the ways in which a proposal might affect the budget and assesses which of them would probably have substantial effects. The analyst also consults experts and examines the most relevant data and research to form a basis for the estimate—which includes determining which models to use (if any), what information to put into those models, and how to use their output in combination with other available information. In short, estimates are produced not by models but by analysts; a model is only one of many tools that they might use.

We will be able to make significant progress on our plans to boost responsiveness and transparency if we receive funding for fiscal year 2018 within the range that the Senate and House Appropriations Committees have recommended (\$48.1 million and \$48.5 million, respectively). If we receive the funding available under the continuing resolution currently in effect for this year (\$46.2 million), we will make less progress. Moreover, CBO's ability to buy data and research and to pay for other standard activities would be severely limited under the funding specified in the continuing resolution, and the agency's performance of its mission would be degraded.

Many initiatives of great interest to the Congress could be undertaken only if CBO had more employees, so

1. For more detail, see Congressional Budget Office, *The Congressional Budget Office's Work in 2017: A Report to the Congress* (January 2018), www.cbo.gov/publication/53460.

we have submitted a budget request to hire 8 new staff members in 2019 to bolster our responsiveness and transparency, as part of a plan to hire a total of 20 by 2021. The new staff would help CBO respond to requests for information more quickly when there is a surge in demand. They would also allow CBO to supply more information about its analysis and models without reducing the valuable services that it provides to the Congress at its current staffing level. In the next two years, CBO also proposes to expand analytical capacity by adding new health care analysts and creating additional on-site capacity to use sensitive data securely.

I am delighted to talk with you about our work today and would be at any time in the future as well. I am always happy to meet with Members of Congress or to chat on the phone. In addition, our employees meet frequently with Congressional staff to explain our analyses and to answer questions individually and in groups, and we have plans to be in still better contact. For instance, earlier this month, in collaboration with the Congressional Research Service, my colleagues gave presentations to 150 Congressional staff members about how CBO develops estimates of health insurance costs and coverage. We are constantly looking for ways to serve your needs better, and I welcome your suggestions.

CBO's Role in Support of the Congress

CBO was established under the Congressional Budget Act of 1974 to provide information that would support the Congressional budget process and help the Congress make effective budget and economic policy. CBO's work follows processes specified in that law and subsequent laws or developed by the agency in concert with the budget committees and the Congressional leadership. The agency's chief responsibility under the Budget Act is to help the budget committees with the matters under their jurisdiction. CBO also supports other Congressional committees—particularly the Appropriations, Ways and Means, and Finance Committees, as the Budget Act requires—and the leadership of the House and Senate.

The agency is committed to providing information that is:

- Objective—representing not the personal opinions of CBO staff but the consensus and diversity of views of experts from around the country;
- Insightful—applying the best new evidence and innovative ideas as well as the lessons of experience;

- Timely—responding as quickly as possible to the needs of the Congress; and
- Clearly presented and explained—so that policymakers and analysts understand the basis for the agency's findings and have the opportunity to question the analysis and methods used.

In keeping with CBO's mandate to provide analysis that is objective as well as impartial, the agency makes no policy recommendations. Instead, it strives to present fully and fairly the likely consequences of alternative proposals being considered by the Congress so that lawmakers can make informed policy choices.

All of CBO's estimates and reports are reviewed internally for objectivity, analytical soundness, and clarity. That rigorous process involves multiple people at different levels in the organization. In addition, CBO consults with numerous outside experts who represent a variety of perspectives. The experts include professors, analysts at think tanks, representatives of industry groups, other experts in the private sector, and people working for federal agencies and for state and local governments.

Maintaining high-quality work in the face of its many demands is a task that CBO takes very seriously. The agency must constantly balance its commitment to respond quickly to the Congress's needs with its professional responsibility to release reports and estimates only when they reach sufficient quality. Part of CBO's success is built on its ability to strike that balance. Unfortunately, the conflicting demands of speed and quality mean that CBO's analyses may sometimes take longer than the Congress hopes.

CBO is also committed to maintaining a level playing field with regard to the information and analysis that it provides—ensuring that its work is made widely available to the Congress and the public. The agency releases publicly all of its formal cost estimates and analytic reports. It delivers its work to interested Members of Congress and their staff, including in particular the sponsor of legislation or requester of a report, the Chairman and Ranking Member of the committees with jurisdiction over the subject at hand, and the budget committees. At about the same time, the agency posts the work on its website. In addition, an email service, Twitter announcements, and RSS (really simple syndication) feeds notify subscribers when the agency publishes work. And CBO

continually strives to make its work more accessible on its website and on its social media platforms. For example, the agency has had a constructive dialogue in the past year with a group of nonprofit organizations about how to present online information about cost estimates more clearly.

In some circumstances, though, the needs of the Congress lead CBO to keep the results of an analysis confidential. Such analyses include informal cost estimates and other types of information that are often prepared when committees and leadership are evaluating alternative proposals to accomplish their goals, have not made any specific proposals public, and need the flexibility to modify their proposals—sometimes in response to CBO's preliminary estimates—before they become public. In fact, CBO's analysts often provide informal, preliminary estimates to committee staff for a broad range of legislative options, making possible the consideration of different approaches before a specific legislative path is decided upon. In such situations, CBO recognizes that the confidentiality of its work is critical to committees' deliberations, so it keeps its informal estimates confidential as long as the proposals are not made public. (Such confidentiality generally does not apply to proposals that differ only in minor details from ones that are in the public domain.) However, once such a proposal becomes public—as introduced legislation or through public discussion of its major elements—CBO makes its estimate for that proposal available to any interested party in the Congress.

Despite high productivity by a dedicated staff, CBO expects that the number of estimates and other analyses it can produce will fall considerably short of the number of Congressional requests. The demands on the agency remain intense. For example, the workload associated with the analysis of appropriations continues to be heavy, and the Congress remains acutely interested in analyses of the Affordable Care Act and numerous proposals for changes to that law, to Medicaid, and to the Children's Health Insurance Program. Other issues arise frequently and create a heavy demand for analysis; for example, over the past year, CBO analyzed legislation related to immigration, veterans' health, water rights, opioid abuse, education, and nutrition. Analyzing the possibilities and proposals has strained the agency's resources in many areas. CBO regularly consults with committees and Congressional leadership to ensure that its resources are

focused on the work that is of highest priority to the Congress.

CBO's Goals for 2018 and 2019

In 2018 and 2019, to carry out its mission of serving the Congress, CBO will focus on meeting three goals:

- Continuing to provide the Congress with budget and economic information that is objective, insightful, and timely;
- Continuing to present and explain the methodology and results of CBO's analyses clearly and pursuing opportunities to enhance the transparency of the agency's work; and
- Continuing to improve CBO's internal operations.

This section describes CBO's plans if standard activities are funded and the agency's current staffing level is paid for. The ways in which additional funding would bolster CBO's responsiveness and transparency and expand its analytical capacity are discussed in the following section.

Continuing to Provide the Congress With Budget and Economic Information That Is Objective, Insightful, and Timely

In 2018 and 2019, CBO will continue to provide estimates and other analyses to assist the Congress in making budget and economic policy. To make its work more responsive, and in particular to increase its capacity to accommodate surges in demand, CBO has recently shifted some of its existing resources. For example, the agency has reorganized the way it approaches various topics: Teams now have more people prepared to share work in certain areas, such as immigration, health insurance coverage, nutrition programs, and veterans' programs. CBO has become more efficient in reporting the effects of intergovernmental and private-sector mandates and in providing administrative assistance, which has allowed it to increase the number of employees in areas with persistently high demand—the analysis of appropriation bills and of legislation affecting health insurance coverage, nutrition programs, and natural resources. And an editor is now dedicated to assisting with cost estimates, giving analysts and managers more time for other aspects of the work.

As it has throughout its history, the agency will ensure that its work is objective, insightful, and timely. For

example, the agency's cost estimates will nearly always be available to the Congress before a floor vote on legislation. Moreover, the agency will make no policy recommendations but will strive to present fully and fairly the likely consequences of alternative policy proposals.

Many of the products that CBO will produce in the next two years are specified by statute—for instance, the annual report on the outlook for the budget and the economy and cost estimates for bills reported by committees. The rest of CBO's analyses address issues being considered by the Congress, provide background information on budgetary and economic conditions that are relevant for the consideration of legislation, or explain the tools that the agency uses in making projections and estimates. Accordingly, the specific projects that CBO undertakes this year and next will depend on budgetary and economic developments and on requests from Congressional committees and leadership. CBO regularly consults with Members and staff about what topics and types of analyses would be most valuable to the Congress, and the agency responds as rapidly as possible to shifts in Congressional interest.

In each of the next two years, CBO plans to produce the following types of output:

- More than 600 formal cost estimates, most of which will include not only estimates of federal costs but also assessments of the cost of mandates imposed on state, local, and tribal governments or the private sector;
- Thousands of preliminary, informal cost estimates, the demand for which is very high as committees seek a clear picture of the budgetary impact of proposals and variants of proposals before they formally consider legislation;
- More than 100 scorekeeping tabulations, including account-level detail for individual appropriation acts at all stages of the legislative process, as well as summary tables showing the status of discretionary appropriations (by appropriations subcommittee) and running totals on a year-to-date basis;
- Dozens of analytic reports and papers—generally required by law or prepared in response to requests from the Chairmen and Ranking Members of key committees—about the outlook for the budget and

the economy, major issues affecting that outlook under current law, the budgetary effects of policy proposals that could change the outlook, and a broad range of related budget and economic topics in such areas as defense policy, infrastructure, Social Security, and housing;

- Numerous files of data documenting detailed 10-year baseline budget projections, 10-year economic projections, long-term budget projections (spanning 30 years), and other information underlying analytic reports—all of them posted on CBO's website; and
- Descriptions of policy options that would reduce budget deficits, as well as publications that increase the transparency of CBO's work and communicate about that work graphically.

The analyses requested by the Congress often involve new and complex issues, and the context for recurring issues is constantly changing. CBO expends substantial resources to understand those issues and estimate the impact of policy proposals. Many of CBO's analyses involve assembling evidence from numerous sources, synthesizing the implications of that evidence, and building models to quantify effects of specific proposals and variations of them. To be ready to provide timely responses to requests, the agency makes ongoing investments in that process. For example, the agency is now in the process of updating and refining its models for analyzing potential changes to Medicare.

Continuing to Present and Explain the Methodology and Results of CBO's Analyses Clearly and Pursuing Opportunities to Enhance the Transparency of the Agency's Work

CBO routinely works hard to make its analysis transparent, but of late, the agency has shifted existing resources toward making it still more so. CBO will publish new reports in 2018 describing its processes for producing economic forecasts, budget baselines, and cost estimates for major legislation affecting health insurance. Key staff will also make presentations on Capitol Hill about those processes.

And CBO will increase public documentation of its modeling efforts by publishing more slide decks, working papers, appendixes, supplemental data, related spreadsheets, and other technical material. The efforts to explain models better will include the following:

- The agency will explore ways to make more of the supporting documentation for the methods used in baseline projections and cost estimates publicly available. Such documentation could provide information about key variables underlying particular cost estimates—inflation rates, for instance. It also could show detailed results and associated formulas underlying estimates and link published estimates more copiously to supplemental information.
- In updating its simulation model of health insurance coverage, CBO will get systematic feedback from the research community by making presentations about different aspects of the model as they are developed. The agency will publish conceptual overviews and documentation of all parts of the completed model as well as more detailed information—including computer code—of key aspects of the modeling. (Some aspects of the modeling must not be released publicly so that CBO can maintain the confidentiality of the data.)
- CBO will develop an interactive version of its model for projecting spending on discretionary programs. That interactive model will help researchers understand and replicate the methods that underlie roughly 40 percent of CBO's formal cost estimates.
- The agency will update elements of its long-term budget model and provide technical documentation and computer code explaining the updates.
- CBO will create a publicly available tool to allow users to examine how certain changes in economic projections can affect projections of the federal budget.
- The agency will revise its model for projecting the budgetary effects of changes to laws governing medical malpractice—after carefully reviewing the literature, consulting experts, and analyzing changes in laws in various states and the results of those changes. The agency will publish revised estimates of the budgetary effects, explain the reasons for making revisions to the methodology, document how the revised model works, and make computer code for it available.
- CBO will post on its website a tool for examining the costs of different military force structures (with different numbers of fighter squadrons and ships, for instance).
- The agency will release a working paper about CBO's model of the maximum sustainable output of the economy and the computer code that generates results discussed in that paper, helping interested researchers replicate the agency's analytical results.

The shifts in resources that will allow CBO to perform those activities involve trade-offs. For example, between surges in demand for analyses of particular topics, CBO will use time to document existing models—time that might otherwise have been spent developing new modeling capacity.

Although CBO is undertaking many new initiatives, transparency has long been a standard part of its work. To begin with, its publications go well beyond simply presenting results; instead, CBO explains the basis of its findings so that Members of Congress, their staff, and outside analysts can understand the results and the methodologies used. In particular, although much of the work that CBO does is extremely technical in nature, the agency devotes substantial time and energy to presenting the work as clearly and nontechnically as possible. It continually seeks feedback about those efforts in order to ensure their effectiveness.

CBO also seeks extensive external review of its analytic reports before they are released and of the methodologies on which its products are based. In the coming two years, input from outside experts and extensive external review will remain an important component of transparency:

- CBO will continue to solicit external professional review of its work so that the agency's analyses reflect both the consensus and diversity of views of experts from around the country.
- The agency's cost estimates will often draw on consultation with outside experts.
- CBO's Panel of Economic Advisers will meet twice a year to provide input on the agency's latest economic forecast and other issues, and CBO's Panel of Health Advisers will meet to discuss key issues affecting the agency's baseline projections and analyses of proposals and examine new research in health care and health

care financing. CBO will also regularly consult with those distinguished experts and other experts for guidance on the agency's work on a broad range of topics.

CBO always tries to clearly present the evidence underlying its analyses and the way that the agency assesses that evidence. To that end, CBO's documents and related information will aim to go well beyond presentations of results:

- Formal cost estimates will describe their basis—that is, the information that CBO collected and how that information was used in constructing the estimates.
- The agency will document and explain the revisions to its budget projections in each successive baseline, and it will report on the accuracy of its projections.
- Many of CBO's reports will provide substantial discussions of the relevant research literature and CBO's modeling approaches.

And the agency will continue to promote transparency by providing broad access:

- When CBO completes a budget or economic projection, a cost estimate for a public piece of legislation, or another type of analysis, it will make the results of that analysis available immediately to all Members of Congress, their staff, and the public.
- CBO's analysts will regularly explain details underlying the agency's estimates and other analyses to interested Congressional staff. Immediately after a major cost estimate is released, CBO often reaches out to staff of key committees. Beginning this year, CBO will invite a wider range of Congressional staff to participate in telephone calls, allowing them to ask questions soon after an estimate is released.
- CBO will regularly update pages on its website about the status of appropriations, methods for analyzing health insurance coverage, and dynamic analysis to make its work in those areas easier to find.
- To promote discussion among experts in the field, CBO's analysts will present their work—including descriptions of their modeling approaches—in working papers and at professional conferences.

CBO undertakes and publishes analyses of the sensitivity of its estimates to key parameters. For example, an analysis of options to improve the financial condition of the Pension Benefit Guaranty Corporation's multi-employer program showed how the results would vary if key inputs to the analysis differed from CBO's expectations. Similarly, the agency's analyses of the economic effects of fiscal policies include alternative estimates that would apply if various effects were stronger or weaker than expected—such as the amount of short-term restraint provided by higher taxes or lower government spending or the response of the labor supply to changes in tax rates.

The agency often responds to questions from Members of Congress about the methods used in its analyses. CBO's analysts spend a great deal of time meeting with interested Members of Congress and their staff to explain the details underlying cost estimates and reports. In its blog, CBO also highlights answers to questions that have frequently been raised by Members, sometimes explaining what the limitations of its analyses are and how new data and results from well-designed studies could help the agency better predict the potential effects of legislative proposals.

Even though CBO devotes substantial time and energy to presenting its work as clearly and nontechnically as possible, the pace of Congressional action often requires the agency to produce analyses quickly. So the amount of explanation that can be provided when an estimate or analytic report is released is sometimes limited by the time available. And because the overall demand for CBO's work is high and its resources are constrained, the agency needs to balance requests to explain more about finished analyses with requests for new analyses and with its other responsibilities, such as regularly updating its baseline budget and economic projections.

Continuing to Improve CBO's Internal Operations

In addition to focusing directly on serving the Congress, CBO devotes resources to attracting and retaining talented employees, developing their skills, and providing the support services and other infrastructure needed to help them be as productive as possible.

CBO faces considerable competition in attracting and retaining highly educated and skilled employees. More than two-thirds of CBO's staff consists of economists and budget analysts, and CBO also requires managers

with the technical skills to lead and manage those employees' work. Talented economists and analysts are highly sought by government agencies, private analytic organizations, and other private companies. Many of CBO's economists and budget analysts could earn significantly more compensation working in the private sector.

To evaluate the competitive market for its employees, CBO routinely compares their salaries with those of employees with similar backgrounds at organizations with which CBO competes. Those organizations include other government agencies, such as the Office of Management and Budget, the Government Accountability Office, the Federal Deposit Insurance Corporation, and the Federal Reserve. They also include academic institutions and private companies.

The compensation gap between CBO and other federal agencies has become substantial. For instance, in recent years, the Federal Reserve paid about \$35,000 more than CBO could offer to people who had recently received their Ph.D. Among economists with doctorates who work in the federal government (excluding the Federal Reserve), about one-third earn more than \$160,000; CBO's highest-paid analysts can earn \$165,000.

Academia is another strong competitor for economists. Several of CBO's senior staff over the years have been former faculty members, and CBO regularly seeks to hire people who have just received their Ph.D. and loses many strong candidates to positions in academia. Over the past three years, more than 60 percent of those to whom CBO has made offers have chosen to take an academic position instead. Compensation is an important factor in that decision; since 2000, pay for economists in academia has increased substantially, whereas the maximum salary that CBO can offer, adjusted for inflation, has fallen.

To attract and retain talented employees, CBO also relies heavily on the nonmonetary rewards of working at the agency. Fortunately, the appeal of the agency's mission to provide objective analyses, the intellectual challenges, the open and collaborative culture that the agency has maintained since its founding, and the satisfaction of public service have enabled CBO to build a dedicated and skilled workforce. However, with the current limits on the salaries that CBO can pay in the competitive markets for economists, budget analysts, and other professionals,

retaining strong performers will be difficult over the long term. Compounding the problem is that the agency is seeing an increase in the retirement of experienced staff.

Staff development both improves work products and helps CBO retain employees. For both purposes, the agency will continue to fund professional development, information technology training, and efforts to improve communication skills. Of course, to remain fiscally prudent, CBO will develop employees' skills by means of internal resources and those of sister agencies to the extent possible.

How Additional Funding Could Bolster CBO's Responsiveness, Transparency, and Analytical Capacity

In response to proposals that CBO provide information even more quickly and transparently than is possible with its current staffing—while continuing to meet its goal of providing objective, insightful, high-quality information—the agency proposes to dedicate additional resources to those efforts. Specifically, CBO proposes to hire 8 new employees in 2019 and a total of 20 over the next three years—or more quickly, if the Congress chooses to appropriate the necessary funding more quickly than CBO is requesting. Certain proposals related to CBO's speed and transparency would require even more resources to implement to the extent possible.

More resources would also help CBO improve its analytical capacity. Currently, the agency is putting special emphasis on two areas: analysis of federal health care spending and expanded access to data. CBO has already shifted some resources to bolster its work in those areas, and it is requesting additional funding for three new health care analysts and for on-site capacity to use sensitive data securely.

Responsiveness

With additional resources, CBO would be able to pursue three main strategies to produce cost estimates more quickly. First, the agency would hire more assistant analysts, who could move from one topic to another and provide support to more senior analysts when demand surged for estimates or analysis about a particular topic, such as health care, natural resources, or banking. Second, CBO would hire analysts to develop deeper expertise about certain topics, such as cybersecurity and higher education policy, so that the agency would be better positioned to analyze new proposals in those areas.

Third, the agency would hire analysts to expand its use of team approaches, in which work on large and complicated proposals is shared.

Furthermore, CBO's proposed expansion of its analytical capacity, which is discussed below, would bolster the agency's responsiveness in the long term by creating a stronger base on which to build when starting new analyses.

Transparency

The agency is actively exploring ways to provide additional information about its modeling that would be useful to the Congress, such as furnishing more public documentation, presenting the sensitivity of budgetary effects to changes in key parameters of policy proposals, and writing accessible source code for computer programs used in analyses. Additional funding would help CBO provide more information about models that examine health insurance coverage, the individual income tax system, labor force participation, how changes in the economy affect the budget, and many other issues. Also, cost estimates often involve creating extensions of old models and building new ones, and substantial additional documentation could make information about those models useful to people outside CBO, who lack access to the agency's internal data systems.

In many cases, CBO produces cost estimates and baseline projections through complex processes that integrate information from numerous models and other analytical tools. Additional resources would allow CBO to explain more about those processes in reports, slide decks, and presentations. Such explanations would show how computer programs used in CBO's modeling fit into the broader scope of the agency's analysis, which consists mainly of identifying how proposed legislation would affect the budget; assessing which types of effects would be substantial enough to quantify; and integrating different types of research, on the basis of historical data, to project people's and institutions' responses to legislative changes. The processes generally differ for each estimate so that CBO can make the best use of different types of research to model the effects of a particular legislative proposal. The complexity of CBO's analysis, and the different analytical tools that are often brought to bear, make documentation and explanation important—but also time-consuming and resource-intensive.

Added resources would also allow CBO to produce other kinds of information that would aid transparency. For instance, the results of models often depend on key parameters used in them, and CBO could provide more information about the basis for the values used. Additional funding would also help the agency turn its internal comparisons of projections and actual results—for the economy, revenues, spending, deficits, and debt—into public documents.

Analytical Capacity

Under current law, federal spending on the government's major health care programs will continue to rise substantially. Accordingly, in 2019, the agency anticipates spending a great deal of effort in projecting the costs of federal health care programs and in analyzing proposals to change those programs. Adding analysts to CBO's team would help the agency produce a greater range and volume of analysis.

Interest in legislative proposals related to health care—on the part of committees of jurisdiction, the Congressional leadership, and the budget committees—remains very great. The enactment of the Affordable Care Act in 2010 was followed by strong Congressional interest in analysis of that legislation and possible modifications to it, as well as in potential changes to Medicare or Medicaid. Recently, the Congress has devoted substantial time to discussing proposals to repeal and replace the Affordable Care Act. Those developments have already boosted CBO's workload, and the agency anticipates that the Congress will request much more analysis of such proposals, related executive actions, and other potential changes.

In addition to responding to those immediate concerns, CBO is engaged in longer-term projects, analyzing various aspects of the health care system and enhancing its future analytical capacity to assess the effects of legislation on that system and on the federal budget. Additional staff would enable CBO to make more rapid progress on the important effort of updating its simulation model of health insurance coverage without constraining its work on current legislative proposals.

Furthermore, CBO would like to have access to more data—both data that analysts already use regularly and sensitive data that the agency hopes to obtain. Such on-site capacity would make CBO's use of data speedier

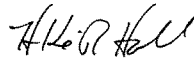
and more consistent. For example, expanded access to data would allow CBO to:

- Enhance its projections of educational attainment, thereby improving its projections of total factor productivity and economic growth;
- Improve its modeling of various demographic characteristics—including marriage patterns and variation in fertility and mortality rates by socioeconomic status—which would bolster its projections of Social Security benefits and income tax receipts;
- Better its understanding of the resources available to people in retirement, which would allow the agency to expand its analysis of families' wealth to include Social Security income and income from defined benefit pensions; and
- Enhance its understanding of labor force participation by older people and changes in earnings inequality over time, which would improve its projections of Social Security benefits and people's behavior in claiming benefits.

The additional resources needed for secure on-site capacity would increase the quality and timeliness of CBO's work—its budget projections for the next 10 years and the long term, its cost estimates for legislative proposals, and its policy studies of issues that have significant budgetary and economic impacts.

This testimony incorporates information from CBO's budget request for fiscal year 2019, which was prepared with contributions from Leigh Angres, Wendy Edelberg, Joseph E. Evans, Jr., Theresa Gullo, Mark Hadley, Deborah Kilroe, Jeffrey Kling, Ciera Liles, Terry Owens, Benjamin Plotinsky, Stephanie Ruiz, Mark Smith, and Robert Sunshine.

The testimony is available on CBO's website at www.cbo.gov/publication/53501.



Keith Hall
Director



Chairman WOMACK. Thank you, Dr. Hall, for your opening remarks. I look forward to the questions. The chair expects to be here for the entire duration of the hearing and as such I am going to defer my time until later in the sequence of Q&A.

So, I will be yielding first to our members who I know are on a tough timeclock today because of the number of things that have been crammed into one day and the fact that the Republican retreat begins tomorrow. So, I will withhold my questions at the present moment and use those as we clean up the hearing at the end. Now I yield to my friend, the ranking member from Kentucky, Mr. Yarmuth.

Mr. YARMUTH. Thank you, Mr. Chairman. I intend to do the same thing. I will sit to the bitter end with you. Thanks.

Chairman WOMACK. For the first round of questions, I go to my friend from Oklahoma, Mr. Cole.

Mr. COLE. Thank you, Mr. Chairman. I want to begin by thanking you for this hearing. I think this is something I know my good friend, the former Chairman, was planning to do as well.

But it is really important for us to do and I want to begin, Dr. Hall, by thanking you and your staff. I have dealt with a lot of different CBO directors since I have been on this Committee, and with the staff, and it has been unfailingly professional and courteous no matter who was at the head of it. So, I think you head a very fine agency.

I do not always agree, but I have never had any difficulty getting the explanations and the judgments, and that is fair enough. I do want to ask a couple of things, and my good friend from Kentucky talked about the Affordable Care analysis, and there is one area that I want to ask about. And it is sort of down in the weeds, and then I want to build on that and ask you how you come to assumptions, and models, and what kind of input if any Congress has as you build your predictions on a series of assumptions and models.

As I recall—and I think I have mentioned this to you before when you were kind enough to come by office—in the model that was used there was an assumption that non-Medicaid expansion States would all become Medicaid expansion States. And therefore, people would get insurance; and therefore, they would lose insurance later on down.

I quibble with that just because—and I am not basing this on a policy argument either way—I mean, I am not arguing for or against Affordable Care Act. I can just tell you, politically, in my State, that is just not going to happen. There was no way it was ever going to become a Medicaid expansion State. The population was heavily opposed. Just politically, it was not feasible. And frankly, the State did not have the money even for a 10 percent match at the time.

So there are, literally, in that model of how many people would lose insurance, a bunch of people that do not have it now in the State of Oklahoma, would not get it because you would not have the Medicaid expansion, so therefore could not lose it.

So, walk me through how you make those kind of assumptions, because I think when you make assumptions like that sometimes it would be helpful to—and maybe you do this, just talk to the Committee itself, both sides of the aisle, and say, “Okay, this is

what we are doing. Do you have a problem with this? Or do you think there is some fault in this or something else we should be thinking about?" We should not be making the final decisions, you should, but just a way in which you got more input back and forth between members and the institution which is here to serve them.

Mr. HALL. Well, thank you for that question. That was actually a tricky part of the ACA for us because initially all States were required to expand. So, our initial estimates had 50 States expanding. Then when that was overturned, we, of course, did not anticipate that. So, we are now into an area we now have to sort of predict how many States will voluntarily expand and will not expand. Now, we have never been so extreme that we think all the States are going to expand. I think right now we anticipate that enough States right now have expanded that is covering about 50 percent of the population that could potentially be eligible. We see it going up to about 70 percent. So it is not so extreme where we go from 100, from 50 percent to all the States will take it. So it is much lower than that.

And that is a tricky thing because what we have done is we have looked at States, looked at their past behavior, looked at a number of things, how they have taken Federal money in the past. And sort of put them into categories. Buckets, if you will. And then from those buckets we assign some probability with each bucket that they will expand at some point over the next 10 years.

Although we put States in the buckets, State A could actually be in a different bucket in reality. And State B could be moved back to that other bucket in reality. So, there is uncertainty in that. And we try not to focus too much on the individual States. Once we have States categorized, we then calculate the population in those three buckets and put some probabilities on that.

Mr. COLE. Well, I am not going to ask an additional question. My time is limited here. But please tell us who made these decisions and is there any political dimension? I mean, literally, I think in a lot of these States the members on both sides of the aisle give you a pretty good opinion. Again, reserving for you to make the final decision; it is your estimate after all.

Mr. HALL. Well, first of all, we spend some time deciding what are the different things that could influence whether a State expands or not. We had our large number of sort of dimensions under which we did that. And used that to sort of, I say, sort of put them in the buckets. Now, we work that up with consultation with folks. I had a briefing talking about how that was done, that sort of thing. I do not know exactly who we wound up talking with. We probably talked with some State insurance companies—

Mr. COLE. I do not want to be the first guy the Chairman chastises for running over time.

Mr. HALL. Okay.

Mr. COLE. So, thank you, Mr. Chairman. Thank you and we will visit about this again but thank you very much.

Chairman WOMACK. Ms. Lee of California.

Ms. LEE. Thank you very much. Thank you, Mr. Chairman, and our ranking member for this hearing. And I also thank you, Director Hall, for being with us today. Today's hearing gives us an opportunity to really discuss how important CBO's impartial analysis

is to Congress and to the American people. And I would like to reiterate the fact that Congress created CBO, so we could have clear guidance on budgetary matters to inform our work here and for the public, and it was not created so Republicans or Democrats could smear the organization's impartial and nonpartisan analysis just because we do not like CBO's scores.

Last year, Director Hall and our ranking member mentioned the ACA. It is a fact the Republicans spent weeks attacking your organization's score of their, quite frankly, terrible ACA repeal bill. They found it ridiculous when Speaker Ryan jammed through an updated repeal bill without a score in May. And that upon your analysis, though, it would reduce healthcare coverage by 32 million while increasing premiums for older Americans by as much as 850 percent.

So, can you just explain how your organization comes up with just the basic analysis of how many people will go uninsured? How you came up with that, and what else do you need from us in order to ensure that these attacks no longer happen? What is it you think we could do to make sure that your job could be accomplished without the partisan attacks?

Mr. HALL. Well, I will start with the last question first briefly, it is things like the oversight hearings are really helpful to us. I would love the chance to talk about things, and one that I wish were able to do more is come to visit individual's offices and make little presentations on things. I have never turned that down, but I think in hindsight I would have pushed into offices more when somebody has an issue to come in and talk about where we got the numbers and what we were thinking.

On the ACA repeal, there are various versions of that. But there were some things that were kind of clear, right? There were aspects of it that were essentially reducing subsidies for people; things that were to reduce the expansion of Medicaid that would eliminate the mandate.

So, those are things that are going to work to lower the coverage relative to our baseline. Even just saying those things without modeling it, and I think you are talking about a decline of probably tens of millions of people from coverage without the modeling. And with our modeling, we spent a lot of time doing this very, very carefully, very different aspects of it, and our best estimate, I think, on the final bill was something like 23 million-person decline in coverage overall.

But it involved actually a very long process. There were a lot of steps to it. We used the famous healthcare simulation model. That was just a piece of it. We had to create several other models. We had to use models looking at the interaction with Medicare. We had to use a tax model-the Joint Committee on Taxation.

So, it was a very complicated process. I cannot do it justice here, but we did make a presentation that I mentioned at the Congressional Research Service going through exactly what we did to get to that estimate. I can make those notes available to you, and we can think about doing another presentation if folks want to hear it.

Ms. LEE. So, do you think that it is the process that appeared flawed by those who attacked this? Or do you think it was the outcome of your analysis that was not liked?

Mr. HALL. Yeah, I cannot guess. I think the numbers were very large for folks. And personally, I am not sure they should have expected anything but pretty large numbers. But we certainly can try to do better in explaining what we have done.

Ms. LEE. Okay. And also—I have a few more minutes—I just want to ask you about the Trump administration and their criticism of the CBO. I remember they had indicated their budget would kick off with 3 percent growth and end the deficit within 10 years, and CBO found that it would do no such thing. I think it was boosting growth instead, I think you came up with 1.8 percent or 1.9 percent.

So, what is it? Again, is it the process or is it the outcome of your analysis that the administration also believes was not accurate?

Mr. HALL. Well, I do not know that much about how they did their economic forecasting. They have not provided a lot of information on it. But certainly, this is part of the value, I think, of CBO. We did our own independent analysis. We did our own forecast on the economy. We looked at a lot of data. We are very, very careful about that.

And when we publish our budget outlook, we have a lot of detail in there about how we get to our economic forecast and how that economic forecast affects our budget forecast. So, we are very transparent about that.

Ms. LEE. Thank you, Mr. Hall. Thank you.

Chairman WOMACK. Thank you, Ms. Lee. The gentleman from Georgia, Mr. Woodall.

Mr. WOODALL. Thank you very much, Mr. Chairman, and thank you for holding the hearing today. You have got your work cut out for you, Mr. Chairman. I am reading from today's Washington Post. They say, "If you are already bored with State of the Union coverage, tune in this morning for what we are dubbing Republicans versus the Congressional Budget Office."

It is hard to see how we get from where we are to where we want to be, and I thought my friend from California accurately expressed her frustration about partisan attacks on the Budget Office and then went in to use the CBO data to make partisan attacks on bills. And I think that is a challenge.

When I go back and look at the '74 Act—I think you said in your opening statement, Director—the CBO was created to give Congress a stronger role. I think what was actually true is the Budget Committee was created to give Congress a stronger role, and the CBO was corrected to advise and counsel the Budget Committee. In fact, under the original legislation, you were to be the staff of the Budget Committee—joint shared staff between the House Budget Committee and the Senate Budget Committee. Is that not the original incarnation of the CBO?

Mr. HALL. Yeah, I am not sure about what the original intent was, but certainly that characterization is right. That we are here only to assist the Budget Committees and the rest of the Congress.

Mr. WOODALL. My reading of history tells me the Senate found it beneath them to share a staff with the House Budget Committee.

And so, once they insisted on having their own staff, we insisted on having our own staff, and you were left to advise us both there on the side. You talk about hiring people irrespective of political outlook, and I think that is very challenging to do.

My experience with CBO directors is I tend to learn more about their politics after they are gone than while they are there. We see a lot in hindsight. But I look at—I am reading from a CBO cost estimate of the American Healthcare Act—and the top line says this: “CBO and JCT estimate that enacting the enacting the American Healthcare Act would reduce Federal deficits by \$119 billion over the coming decade and increase the number of people who are uninsured by 23 million in 2026 relative to current law.”

Mr. HALL. Yes.

Mr. WOODALL. What you could have said is that we are going to increase healthcare freedom for 12 million people between now and 2026 relative to current law. You could have said we are going to expand the choices that the American people have and repeal the mandates in their life. Every single sentence has a political flavor to it, you rightly describe your role as scorekeeper.

But because words have meaning, every single line takes on a political connotation. How do we scrub to prevent that? And specifically, for example, did folks talk about describing the American Healthcare Act in healthcare freedom terms instead of people lose insurance because they decided it is not right for them and so they leave it on their own volition?

Mr. HALL. Of course, I respectfully disagree that our language at all was political. And one of the things that we tried very, very hard to do was to be very factual about this——

Mr. WOODALL. Well, let me interrupt you, because my time is limited. Because that is critically important. The top line says, “Americans lose something.” The fact is Americans have the right to choose something new. They lose nothing. They make new choices.

And if you do not recognize that line as being political, then we have a much harder challenge. If you recognize that just by nature of words having meaning, they will be political. Someone will take those and use them politically. Then it may not have been your intent, but at least we recognize the outcome of that.

Mr. HALL. Like I said, we do not use language like lose. We talked about how the number of people with coverage would change over time relative to the baseline. I think part of what happens is we have no control over how the press reads our work, and interprets it, and translates it. And I think sometimes some of the language that people use in describing it is not really our language and it gets attributed to us.

We try very hard. This was a document written for members of Congress. We have lots of detail in there about where that change in coverage——

Mr. WOODALL. Well, yeah. Those are the winds of change blowing here, Director. But you make a very interesting observation. CBO was, in fact, created to advise Congress.

And I would expect that you would probably get more attention from outside of Congress than you do from inside of Congress these days. And though we will not have time to do it in this hearing,

I look forward to having that conversation. I think Congress could benefit more from your work if it was less the object of a political conversation and more policy.

Mr. HALL. Right. Well, let me just say one thing about that, that it was a conscious decision. When we put out these estimates, while the debate was going on, I got so many offers. We got so many offers to go appear on TV and talk about things.

We deliberately chose to let our report speak for itself. That would be like interviewing the referee at halftime. Right? We made our estimate, we did our best to describe it, and then it was up to you all to deal with the politics and the decisions about it. And again that, to me, is very consistent with the idea that we are just providing advice. We are not trying to get attention at all. Except by you because we want to help you make good decisions.

Chairman WOMACK. Mr. Moulton from Massachusetts.

Mr. MOULTON. Thank you, Mr. Chairman. Thank you, Director, for being here. I appreciate your presence and your work. I am reminded of when I lost my dog, whom I loved very much, and people expressed their condolences. And I said, "Oh no, no. I just have the freedom from my dog." And that is how I looked at it. Can you tell me what are some of the transparency initiatives that you have taken to help the public better understand your work? I mean, you have admitted that this is a place where you could do better to help Congress and the public understand your analysis. So, what are some of the things you are working on?

Mr. HALL. Sure. Well, we always relied upon trying to write up our estimate as clearly as we possibly can with as much detail as we possibly can. And we have always counted on being able to come in and talk to members if they have questions and that sort of thing.

We are hearing concern over transparency, and we are trying very hard to increase transparency. And we are doing it really in a number of ways, where there has been a lot of talk about the health insurance coverage model, where we are completely revising that. We are going to be making presentations about different aspects of that publicly, so we get feedback on it.

And we are going to provide documentation and we are going to provide some computer code. That is a big lift. We have been planning on doing this since I came on board 3 years ago. We have been too busy doing healthcare estimates. We had hoped to be done literally a year ago. We have been too busy doing healthcare estimates and having to do that with the old model to take the time to sort of update things and try to be more transparent. That would help, I presume, a bit for people to understand where we get our healthcare estimates.

Although again, we have also made some presentations. We are trying to document our processes. We are increasing that. We are trying to document our models more. We are doing things like our long-term budget model. We are redoing parts of that and we are going to make that publicly available—

Mr. MOULTON. Director, what kind of formal review does CBO's work undergo? Do you consult outside experts? How do you decide whom to consult? What are some of the ways that you check your work?

Mr. HALL. Well, part of what we do is we train people very carefully that they need to go out and get information from various different sources with different points of view, and people who have some understanding not only of how the legislation would work but how it would be implemented. So, we do that very carefully with training. And then once we get that down, we try very carefully to rely on all the data we found and have a general opinion on how things are going to work.

We have a very careful review process. Everything we produce is reviewed at several different levels. For big things, we have a huge number of people involved. For the healthcare estimates, we probably had two dozen people involved. So, a lot of it is getting a lot of viewpoints inside CBO but also trying to get a variety of viewpoints outside CBO.

Mr. MOULTON. Are there analytical tools that you lack that you would like to have? Are there places where you feel like you could improve the robustness of your analysis if you had access to more materials or more resources?

Mr. HALL. Certainly, with the analytical tools, the answer is yes. Always. Because we have so many models, we are always trying to update them. They always need to be adapted. To give you some idea of the range of work that we have got, we did a count of our models. And not just the models that exist, but the models that we recurring use over, and over, and over again. We got up to about 215 different models, and we are constantly updating those things.

So, this gives you an idea of the challenge that we have, right? In sort of keeping these things up to date. We have a lot of people doing that. And it is also a challenge for the transparency part because it takes time to make these things publicly available.

Mr. MOULTON. Director, my final question is about a relatively new challenge you face, which is all this outside criticism of CBO. As anyone who has led a team knows, morale is important, and morale affects the quality of work. Has your morale, the morale of your team, suffered as a result of these attacks? And how do you see that affecting your work going forward?

Mr. HALL. I think our morale has held up pretty well because, I think we have people who are professionals. And they expect that people criticizing the analysis or disagreeing with the analysis, that is fair game. We do have some trouble when people call us biased or something like that, which is going just too far because we are actually trying very, very hard to do our work carefully.

I think for the most part people understand. And we have had quite a few people come to our defense. People who actually know CBO's work and use CBO's carefully have really come to our defense in some of these criticisms.

Mr. MOULTON. Thank you.

Mr. HALL. Some have been very helpful.

Mr. MOULTON. Thank you, Mr. Chairman.

Chairman WOMACK. The gentleman from Alabama, Mr. Gary Palmer.

Mr. PALMER. Thank you, Mr. Chairman. I want to get away from the partisan jabs and get to issues that I think all of us ought to take very seriously, and one of them is your report: 2017 Long-Term Budget Outlook. And you pointed out that—this was about,

obviously, a year ago—that the GDP was currently about 77 percent. Is that where we are?

Mr. HALL. Yes.

Mr. PALMER. And you also pointed out that in 30 years that the GDP will be 150 percent.

Mr. HALL. Yes.

Mr. PALMER. And for anybody who is still awake at this point watching this, I just want to point out that that means our debt will be approximately half again bigger than our entire economy. Is that correct?

Mr. HALL. That is right.

Mr. PALMER. Is that a serious problem?

Mr. HALL. It is a serious problem. It is a serious issue that it is not getting better.

Mr. PALMER. Would you suggest that this Committee might ought to be taking a very serious look at how we scale that back instead of talking about what we did last year or year before last?

Mr. HALL. Well, I want to be careful about making recommendations to the Committee. But we prepared—

Mr. PALMER. Well, you put out the report.

Mr. HALL.—to support that work.

Mr. PALMER. You put out the report and it is a serious report. And I assume you are planning to release another long-term budget outlook in a month or two? Is that—would that be fair?

Mr. HALL. That is fair.

Mr. PALMER. Okay. You are obviously looking at the numbers now and I do not know if you can speak to that. But roughly what would we need to do in the next budget to get us on track to, say, get us back to the historic 50-year average for debt-to-GDP, which I think is about 40 percent? Is that correct?

Mr. HALL. That is right. We actually have some of those scenarios in our budget outlook that will be coming up. We actually do have some scenarios about sort of what it would take if you start now, and that sort of thing. I do not know those off the top of my head, but we—

Mr. PALMER. About \$680 to \$700 billion, I think, is it not?

Mr. HALL. Okay. Okay, you read the last one. That sounds right.

Mr. PALMER. Yeah. So, my point, Mr. Chairman, is that since you are now the Chairman of the Budget Committee, we have some serious work to do if we want to get our fiscal house in order. And it is going to require that we make some tough decisions in regard to budget, particularly mandatory spending. And that would include healthcare. Also, I want to ask you, in your last report that we were looking at, I think you were projecting economic growth at 1.9 percent? Is that correct?

Mr. HALL. Well, yeah, the long-term economic growth would settle in at 1.9—

Mr. PALMER. What is long-term, 10 years? Or are you saying averaging 1.9 over 10?

Mr. HALL. That is right. Before 10 years, 7 or 8 years, and then going forward it would remain at about that level.

Mr. PALMER. So, are you optimistic or pessimistic that that number might improve?

Mr. HALL. Well, I think part of what I would like to do is point out the sort of things that would be needed for that to improve.

Mr. PALMER. What would that be?

Mr. HALL. Well, it would be supply side things. It would be the capability of the economy to increase production past its sort of potential. So, the biggest single problem we have is a slowly growing labor supply because of the aging population.

Mr. PALMER. Well, I was going to try to get to that. I appreciate you preemptively bringing that up because I think that is, again, part of the work that we have got to do in the Budget Committee in regard to making sure that the able-bodied are in the workforce. And that we then take a look at what we might need to do in regard to bringing in other people to work.

I have only got a little over 1 minute left, and I want to change directions just a little bit here and ask you: I appreciate the work you are doing towards trying to enhance a culture of transparency at the CBO. In addition to those efforts that you have listed there, has there been any discussion of including some sensitivity analysis with estimates so that members can see how small changes and assumptions could drastically impact the estimate?

Mr. HALL. Yeah, I am a fan of that, and we do that certainly in the reports where we have more time, like the outlook. That can be really hard to do in cost estimates where there is a real time constraint.

And then sometimes there are these so called "unknown unknowns" where there is some statistical uncertainty. But also, there is some just uncertainty. We just do not know what it is.

Mr. PALMER. Is this because of limited bandwidth or insufficient tools? I mean, limited bandwidth for the staff? I mean, what do you need? Because if we are going to start talking about how we resolve the longer-term issues, 30 years down the road, these minor changes that could help make big differences will matter a lot to this Committee.

Mr. HALL. Yeah, sure. To be honest, that is one of the reasons why we have a fair number of technical economists who are there to sort of help us work through some of this methodology and develop some ways to be more transparent on things like the uncertainty.

Mr. PALMER. I thank you, Mr. Chairman, and I yield back.

Chairman WOMACK. Thank you, Mr. Palmer. Ms. DelBene from Washington.

Ms. DELBENE. Thank you, Mr. Chair, and thank you, Director Hall, for being here with us and for your time. Before coming to Congress, I was a businesswoman and I also ran the Washington State Department of Revenue, and I know that an organization cannot move forward if they only have limited visibility. A business would not stay in business if it only planned 30 or 60 days at a time.

Yet here we are, 4 months into the fiscal year and have passed four continuing resolutions. Would you agree that this very short-term approach to budgeting undermines the budget process? And introduces unnecessary uncertainty into government programs and agencies?

Mr. HALL. Well, I appreciate the question, but I want to try to back off on offering advice to the Budget Committee beyond sort of the technical work that we do. It is part of how we establish our objectivity.

Ms. DELBENE. Well, does uncertainty make it harder for you to provide long-term budget projections?

Mr. HALL. Sure. I mean, it poses challenges I spent some time as the head of a Federal agency, the Bureau of Labor Statistics, and the budget challenges there from not knowing the budget was not trivial.

Ms. DELBENE. And what about your own ability to plan for this year and hire staff?

Mr. HALL. That is an issue for us. We had some extra expenses last year, and right now our continuing resolution is not what it needs to be. And if we were to continue with this continuing resolution for the rest of the year, we would actually have to cut back on staff, and in training, and some things like that, and it would make it very difficult for us.

Ms. DELBENE. Thank you. Also, my district is a district on the northern border in Washington State. It is a very politically diverse district. Yet everyone seems to agree that we need to pass comprehensive immigration reform. We have farmers, the business community, the faith-based community, across the law enforcement, across the board want to see comprehensive immigration reform. And in your prepared testimony, you mentioned that the CBO will publish new reports in 2018 describing your processes for producing economic forecast for major legislation affecting health insurance. I wonder, do you plan to do the same for any major legalization affecting immigration?

Mr. HALL. If we have specific proposals, we will do our thing and estimate the likely impact.

Ms. DELBENE. So, in 2013 CBO released a report on the economic impact of comprehensive immigration reform. That report said that "the cost estimate shows that changes in direct spending and revenues under the legislation would decrease the Federal budget deficits by \$197 billion over the 2014 to 2023 period, and by roughly \$700 billion over the 2024 to 2033 period."

Folks are talking about debt and deficit, and so, as there are several proposals for immigration reform in both houses of Congress at the moment, are there any key takeaways from your 2013 analysis and modeling that will be helpful for members to know as we work to craft a new immigration bill?

Mr. HALL. The main takeaway is fine. I do not recall too many specifics at this point. But, obviously, immigration reform really depends upon a lot of the specifics. That is one of the things that we are very, very careful about, is that sometimes the details matter when you do not think they matter. That makes a big difference. And we rely on research literature, what the most current research literature is that talks about the effect of immigration on the labor force and some things like that.

Ms. DELBENE. Well clearly, there is a lot of work that went in from the CBO in the past on this issue, and it has shown that it would decrease the budget deficits. And obviously is an important part of the conversation when we are looking at a tax bill that just

passed that would increase our debt and deficit by over \$1.5 trillion. So, I think this is an important conversation.

I want to emphasize that the Congressional Budget Office is a nonpartisan office and it is tasked with objectively looking at the facts. And so, I want to thank you for your work. And I yield back.

Chairman WOMACK. Thank you, Ms. DelBene. Mr. Renacci from Ohio, the witness is yours.

Mr. RENACCI. Thank you, Mr. Chairman, and I want to congratulate you on your selection. I look forward to working with you in 2018. I appreciate this hearing. I hope we can also go back and look at the or Budget Committee reform that we did a few years back and look at some of those issues as well over the coming year.

I want to thank you, Director Hall, for being here. I appreciate you coming to my office, I know a few months ago, when talking about how you can be more transparent.

We talked about my career. I mean, I spent almost three decades in the business world. I had 3,000 employees at one point in time. I had to wake up every morning making decisions on how I could make sure that their livelihoods were maintained. And I relied on people to help me do that, just like we rely on your organization. And I think that is important.

But what you and I talked about in our meeting was the biggest concern I have is that in the business world you make a decision, and then you look back and see where you failed or where you did not fail. And my concern, as it has always been with CBO, is that you do a lot of good work and you put out a plan, but then we never go back and look at where we made a mistake and how we can correct it.

Because it is easy to say, "This is what is going to happen." And I realize it is difficult for you because, as you make those decisions, you are moving on to another issue and another issue. But at the same time, I think it would be best for members, especially in the Budget Committee, to realize that some of your decisions are right, some of your decisions are wrong, where you made your mistakes and where you made your failures, where you were right, and so that we can learn better.

So, I am hoping that at some point in time we can talk a little bit about how that transparency can be better—can be better informed for us. Because I still do not know how you do that and—every time we do have mistakes—can you kind of talk about how you are going to change that transparency?

Mr. HALL. Sure.

Mr. RENACCI. Why do we not talk a little bit about that?

Mr. HALL. One of the things that we have actually done this past year, we actually produced a report that looked at how we have estimated outlays, how accurate we have been after outlays.

So, for example, between 1984 and now, our estimates of outlays were off by about 1.7 percent on average within the first budget year. And over 6 years, we are off by about 3 percentage points. So, this gives you an idea when we make an estimate, on average, that is how far we are off, up or down. It is hard to say whether that is good or bad. We would like it to be zero. But that is a pretty good comprehensive look.

It gets hard when you look at individual pieces of legislation because they wind up being thrown into a bigger budget category and you cannot always follow them. But we are doing that sort of thing. We did a pretty careful report on how we did on the budget estimates on the ACA. So, that is something I actually look forward to because there has been a lot of focus on that. So, we went back and did our, I think nice, objective look about how we did and how others did.

Mr. RENACCI. Sure. The problem is 1 or 2 percent on a \$3.5 trillion budget is a big number in many cases. So, I look at those dollars as well. I know that the Social Security Trustee Report and the CBO differs on Social Security Trust Fund and the shortfall. Can you tell me why there is differences there and how you are reconciling that out?

Because as a member of the Ways and Means Committee, I am very concerned about Social Security. I am very concerned about the shortfalls and the outlays. But we also have two reports that differ.

Mr. HALL. Well, actually we had a hearing a little while back that was really helpful for us to understand how Social Security comes up with its numbers and we talked to them about how came up with our numbers. And I am hoping that after we produce the next long-run budget outlook that we go back to compare ourselves a little bit to the Social Security folks. The biggest difference starts with their economic assumptions, which are sort of basic.

We do have some differences there. Some differences in labor force. But then, there are some other things like mortality rates and that sort of thing where we have some differences. But we did write up a report that has some of the details of where we differ, and I would like to update that.

Mr. RENACCI. So, you would admit though—because I know I talked to you a little bit about your predecessor. I had the CARERS Act out there, which I had outsiders do kind of a preparation of the cost differences and CBO scores are different than my outsider scored it.

And when I met with CBO, I really did this to get a learning model for myself. And it was simple math. CBO was saying, “Well, this is what we believe,” and my outsiders were saying, “This is what I believe.” You admit that we could have those differences on anything? On any issue, right? So that is why the transparency is so important.

Mr. HALL. Sure.

Mr. RENACCI. I appreciate it. Again, I yield back and thank you.

Chairman WOMACK. Thank you, Mr. Renacci. Next, to Florida, Ms. Wasserman Schultz.

Ms. WASSERMAN SCHULTZ. Thank you, Mr. Chairman, and congratulations on your ascendancy. It is good to see a fellow appropriator leading this Committee. And Director Hall, it is good to be with you.

For a little historical context for some of my colleagues, you may know that I was the chair and ranking member of the Legislative Branch Appropriations Subcommittee for 10 years.

In that role, I was responsible in part for the oversight of CBO’s budget. And we spent a lot of time working with your predecessors

to make sure that CBO had exactly what you said you needed, in terms of expertise, in terms of the staffing levels, so that you could really do an objective and expert analysis of all the workload that you have. And that is something that Congress has endeavored to continue to make sure you have because if you hamstrung by not having enough staff, then there is a concern.

And I have had CBO analyses I have agreed with, some that I disagreed with; in fact, I remember when you came before us for the first time. And you were appointed by Speaker Ryan, I believe, and you worked in the George W. Bush administration, and you subscribed to the idea of the practice of dynamic scoring, which is an analytic process with which I disagree. Yet, I do not malign you and your staff's analyses, even when I disagree with them.

Facts can be annoying. Especially when they are presented to you and they do not line up with your beliefs. But we are in a world of alternative facts. And so, to me, it is absolutely essential that we have CBO's objective analysis in the majority and the minority so that we can at least have some objective facts.

With that predicate, I want to just ask you. Under your leadership, do you feel like—given who you worked for previously and who you were appointed by—that CBO or that members of Congress should read bias into your analysis that are generated by unduly favorable projections, or unfavorable projections, of the likely effects of Republican policy proposals?

Mr. HALL. I have about 25 years of managing policy, policy analysis, and policy research. I have worked with a lot of very great technical people who are professional and do their work objectively. CBO is the top of that. They are just outstanding people. They are very, very professional. We have always done a really good job of hiring very capable, professional people. And the culture there is very strong to try to do objective work and get all sort of viewpoints and try very hard to be objective about things.

We have value because we are credible. And that is why, I will tell you, I have been particularly bothered about the efforts to sort of attack our credibility because we spend so much time trying to be objective and impartial and do our work middle of the road and always have. I think, again, with the people who are really familiar with us, I think, we have a very strong reputation for doing non-partisan work.

Ms. WASSERMAN SCHULTZ. Thank you. And please send our best wishes and support and thanks to the folks that work for CBO. You work excruciatingly long hours. I have had many conversations with two or three directors before you, and your work is really second to none, whether I agree with it or not. And I will again stress that you are currently using a practice of dynamic scoring with which I and most Democrats do not agree. And yet we still have faith in your analysis.

Before I run out of time, I just want to ask a question that is more granular. In the 2014 long-term budget outlook CBO projected that with the continuation of current policy, the life expectancy gap between those with high incomes and those with low incomes will continue to grow. Director Hall, is there any reason for us to believe that this projection was erroneous and had it been improved, CBO organizational and operational structure would have

resulted in a more, which is the subject of today's hearing, would have resulted in a more accurate projection?

Mr. HALL. Well, that gap in the life expectancy is something we have certainly seen in the literature and in the data. And we are actively researching that a bit to see that we get it right in our forecast because that is an important part of our long-term forecast.

Ms. WASSERMAN SCHULTZ. I yield back the balance of my time.

Chairman WOMACK. Thank you. Mr. Arrington from Texas.

Mr. ARRINGTON. Thank you, Mr. Chairman. And I look forward to serving under your leadership and congratulations on your appointment. And Dr. Hall, thank you for your service to this Committee and to our country.

The topic, as I understood it, was organizational and operational in nature. And so, I am going to be a little boring but in my series of operational questions. But just because they may be boring does not mean they are not extremely important.

So, let me start with Peter Drucker sort of philosophical question. And let me ask you if you subscribe to this: if you cannot measure it you cannot manage it. Do you subscribe to that?

Mr. HALL. Yes, actually. Developing metrics about how we are doing it is very important.

Mr. ARRINGTON. Well, how do you measure success in your organization for the work that you do and for the people you manager? Just succinctly, if you could, please.

Mr. HALL. Sure. A part of it is judging the quality of the end product. Everything that comes out of CBO has my signature on it. We have a very strong review process. We want to be comfortable with it. And we now do some things and we are going to try to do more things to assess how we have done. I mentioned the report looking about we have done in projecting outlays we have done on revenues. We do one on economic forecasts—

Mr. ARRINGTON. Would you say quality—and, pardon me, for interrupting but just to be more specific. When you are talking about quality do you mean accuracy, impartiality? Would those two be at the top of the list of quality?

Mr. HALL. Yes.

Mr. ARRINGTON. How do you measure accuracy? Do you go back and look at what you projected? What you estimated? And then within a margin of error that is reasonable how far you hit the target or how far away from the target you were?

Mr. HALL. Yeah, that is right, we do. And one of the things that we have done privately for years, which I think there has been an increased interest in; we may start to make public. Once a year we do what is called an "analysis of actuals" where we get down into all the small budget categories and see how did we predict those numbers this past year, and what was the actual number? And we have an analyst go through that, and we have always done this, and talk about where they were off or they were not off. And that is part of how we judge their performance.

Mr. ARRINGTON. I commend you for that exercise. I am comforted to know you do that. So, do you have like a success rate on your timeliness? Success rate on your accuracy? Success rate on impartiality or something, whatever the metrics are, do you have that?

And could I look at that to see how often you are hitting the target so we can work together to make improvements? If you cannot measure it, you cannot improve it, right.

Mr. HALL. Yeah, I can see what we have. But one of the things that we are really hampered by is pieces of proposed legislation are such a small part of budget categories. That once we make an estimate quite often we have no idea how it actually worked out, because the data is just not there to do that. So, one of the things that we try to do is try to do more of that individual analysis. But a lot of it is we just cannot do it.

Mr. ARRINGTON. Thank you for all that. Let me jump to culture. I am big on culture. I think it has a tremendous impact on your success and outcomes, desired outcomes. You said you had a strong culture. Where is your weakness? Where culturally can you improve? And just be very transparent about that would be helpful to us.

Mr. HALL. I think one of the most complicated things we do is this sort of trade off when we are under really severe time pressure, we have to decide what is a good high quality analysis and try to hold to that. And so, sometimes there is this real tradeoff between feeling like we got a high enough quality, we are comfortable enough with an estimate.

And, frankly, being leaned on sometimes pretty hard by Committee staff, "Hurry, hurry, hurry." And now we are throwing in this transparency part and that is another third area. And that is a really tough trio of things to manage.

Mr. ARRINGTON. Let me just run through this list. Thank you for answering the question. Are you all unionized? Okay. No union members. And what are you doing now from a sort of product standpoint, or line of business, that you were not doing in your stated mission in 1974? That is what are you doing additionally to what you have been authorized to do in terms of products?

Mr. HALL. Well, the biggest single thing is the technical assistance we provide. We spend more time offering technical assistance talking with Committee staff, giving them little estimates of what proposed legislation. We spend way more time on that probably than we do on our formal cost estimates. And I think that is a difficult thing, right? Because there is no output for that except, I hope, that Committees find it valuable because they spend a lot of time asking us these technical questions. That is a real difference from the old days. And a lot of that is because legislation gets to be so complicated and complex.

Mr. ARRINGTON. Thank you, Dr. Hall. My time has expired. I will follow up with the rest of my questions and, Mr. Chairman, I yield back.

Mr. HALL. Okay, great. Thank you.

Chairman WOMACK. Let's go now to Ms. Jayapal from Washington.

Ms. JAYAPAL. Thank you, Mr. Chairman. And thank you, Dr. Hall for being with us. I want to just echo how important we know the Congressional Budget Office is, and thank you and your staff. I do share the concerns of some of my colleagues that we are operating in an increasingly partisan environment where actual institu-

tions are being undermined and you mentioned some of the accusations of bias.

And I think, you know, I found several statements OMB Director Mick Mulvaney who questioned the analysis of a version of the ACA Repeal Bill last June. And said if the same person is doing the score of undoing Obamacare who did the scoring of Obamacare in the first place, my guess is that there is probably some sort of bias in favor of a government mandate.

And then, last year the White House tweeted that the CBO continues to prove its model simply cannot be trusted to accurately predict the outcomes of important healthcare legislation. I want to give you a chance to respond to those charges once again.

But also just say that I think it is important to recognize, with all due respect to my friend from Georgia who is commenting on Ms. Lee's questioning, that there is a difference between what the Congressional Budget Office does and how members choose to use the results of that. And we all understand that we have different perspectives, different political philosophies.

We may use the numbers that you come up with in different ways. We may believe different conclusions can be drawn from those numbers. But your job, as I understand it, is to provide us with the numbers of any proposed legislation.

So, I want to give you just a quick minute to respond again to the charges of bias against the agency. And while you do that, please tell us if your staff are career or appointed, and explain to the public that might be watching, what that means to be career staff.

Mr. HALL. Well, first of all we hire people at CBO purely on their technical abilities. We do not ask anybody about their politics or their views in anything. In fact, we try very hard to avoid that. And part of our process is, you know, I have worked for many, many years in the executive branch where I helped hire lots of people who were very technical, unbiased, people who were able to work objectively.

We go even a little further, and it is part of the culture we will actually go back and look at some of the places where some of our employees worked. And if they had been in political jobs relatively lately we do not hire them. We check their social media. If they post a lot of things that would be inappropriate for someone at CBO to post, then it puts doubt as to whether they can work objectively. So, that part is really important to us.

And then, you know, we do not just throw analysts out there by themselves. We have a review process that involves lots of people. And, you know, ultimately the director is responsible for all the work at CBO.

And I, you know, I think the CBO has processes in place and we try very hard to make sure that we are objective and it works like that. And, frankly, if there were signs of someone not being objective in their work, that would be a problem. That would be against CBO policy. And we are like congressional offices. People work at the pleasure of the director.

Ms. JAYAPAL. Thank you. I appreciate that. Let me talk about the importance of the CBO score. My colleague, Mr. Higgins, and I introduced a bill to say that for major legislation we should have

a CBO score before it goes to the floor. Tell us what Members of Congress miss when we do not have a CBO score in front of us as we are evaluating a major piece of legislation like healthcare or taxes.

Mr. HALL. Well, I think one of the most important and underrated things that we do is we describe the legislation very carefully and in detail about what exactly it does. And if you have ever looked at that actual text and then read a CBO, well, you can tell there is a lot of work. They just describe exactly what it does and what it involves and what is impacted. I think that is a real help right off the bat in addition, of course, to, then, us going further and trying to look at the effects on the budget.

Ms. JAYAPAL. Thank you. And let me just end by asking if there is anything you want to say on the recent tax bill and how you built all the wide ranging impacts into your baseline. You only have about 30 seconds left.

Mr. HALL. Sure. Well, the estimate of the tax bill itself was done by the Joint Committee in Taxation. We are required to take their estimate. But now, we are going to work it into our own economic and budget forecast; we have been doing that. We normally would close our economic forecast in early December. It is still open.

I think we are going to close it by Friday, hopefully, and it will include the full economic impact of the tax bill. And then on top of that we are now going to overlay the budgetary impact. So, it will be fully scored, in a sense, in our baseline.

Ms. JAYAPAL. Thank you so much, Director, and I yield back.

Chairman WOMACK. Thank you. Next, we go to the former distinguished chair of this wonderful Committee, Gentlelady from Tennessee, Ms. Black.

Ms. BLACK. Well, I congratulate my friend, my colleague, and my classmate on your new role as the budget chair, and I wish you the best of luck. And I will certainly be a team player with you. I also want to thank you, Mr. Hall, and all of your members of your staff for the hard work they do. I know as the budget chair and also being on the Ways and Means Committee the many, many hours that you all spend and you have a very dedicated staff.

However, I think it is good and healthy for us to have these hearings. And I do not want to have this hearing to go away with the title in the newspapers saying that we are picking on or totally disagreeing with the Congressional Budget Office.

But I think it is healthy for us to have discussion. And we are not talking about whether we agree or disagree we are talking about getting it right. I mean, that is really what we want to do. Because, honestly, we have to set policies and those policies that we think are good and we get a score back that we do not necessarily think is an accurate score is difficult for us.

So, when we look at some of those scores, you know, they are off a little bit. I know the economic forecasts of the CBO was growth somewhere between 1.6 and 1.9 and the growth this year was 2.3. And we had two-quarters of 3 percent or over. So, we know that there are going to be some differences there.

But where I want to go, and it concerns me the most and I do not really know that I understand exactly how you get these assumptions. The economic models are numbers so they are a little

easier to do. But when you get into behavioral assumptions is where I have the question, because I have seen on more than one occasion an estimate come out from CBO where I do not agree with the assumptions that they are making on the behavioral side.

So, for instance, on that was one of the bills that I had about making sure that our dollars under Title 10 would, first of all, go to those organizations that do not provide abortions. And there was an assumption that if we did that then, perhaps, those organizations that do provide abortions would close down and then we would have X number more pregnancies. And those pregnancies would result with more children being on Medicaid.

Well, I have a real problem with the assumption that if one provider closes that women are not intelligent enough to go to another provider to get the services of birth control. And, in addition to that, that the children that would be born as a result of those additional pregnancies would necessarily all go on Medicaid.

So the number was so high on that of what the costs would be that the policy then is difficult because we have to pay for it. And that is where I really have a problem is how we get to these assumptions that are behavioral assumptions. So, if you can talk just briefly about that I would really appreciate it.

Mr. HALL. Sure. We try very hard to see what sort of economic literature there is, what sort of literature there is on how these things are working, what is likely to happen, and what sort of data is available. On things like what you are describing it can be really hard to make an estimate. But we do as thorough a job as we can, you know, when we are looking at the healthcare providers, you know, how many are in regions where they are the only provider, how many are in regions where they are not.

One of the things I think that would be always helpful, especially if it is something you do not agree with, is we love the opportunity to come in and tell you how we got our numbers and how it happened. And, to be honest, if you feel like we are missing something, if there is some research literature that we did not see, we will take a look at it.

Ms. BLACK. So, there I thank you for that. And I appreciate that. And I hope that that message gets out to all of the colleagues here in Congress so that we can have more of that dialogue. And that gets to my second point is about transparency. I think that we have to look at a way that the Members of Congress can get more transparency from the CBO to make sure that we are looking at what you are deciding and what we think is not exactly accurate and have that dialogue.

So, I would say one thing I continue to hear from my colleagues, and I have even heard it from my colleagues across the aisle, that they would like to see how you got to where you got to. And sometimes you can just say once you see the information, "Oh okay, I agree with that more."

But we have got to have an environment here where when we are making decisions and policies that affect the people, not only in our own States and our own districts but across the entire country, that we have full transparency. And that probably is a dialogue that we need to have more conversation on, Mr. Chairman.

And I know that as you move forward on additional hearings that that may be also something that is talked about a little bit more.

But many times you can accept what it is that someone is saying or have that argument if we at least have the transparency. And with that I am right on time and I yield back, Mr. Chairman

Chairman WOMACK. Thank you, Ms. Black. To California, Mr. Carbajal.

Mr. CARBAJAL. Thank you, Mr. Chair, and thank you, ranking member. Thank you, Dr. Hall for your testimony today. And thank you for the objective nonpartisan analysis that you provide our Committee. The recent tax bill made substantial changes to the tax code that will have wide-ranging impacts on the budget and the economy. Can you walk us through how you build that into your baseline?

Mr. HALL. Well, sure. It starts, of course, with the economic forecast. I will walk through all of the details of the bill. You know, of course, JCT did the estimate on the legislation. But we are tasked with putting our own estimate into our baseline. We have spent weeks and weeks already going through the tax bill and working through how we think it is going to affect the economic forecast. And preparing, then, for the budget side of things once we get an economic forecast then we have the budget forecast on it.

There are just so many steps on it. But we have a bunch of really dedicated people. We have a really good tax group in there. And we are going to try to produce something that is understandable and as accurate as possible.

Mr. CARBAJAL. Do you ever have third party outside people that look over your analysis?

Mr. HALL. Absolutely. We have a very good panel of economic advisors and they meet twice a year. They actually sort of approve our economic forecast for us. We actually make a presentation to them; they will make comments. And they are a diverse group. And whether they realize it or not when they volunteer to be on the panel, they give us their phone numbers. And we call them up and we will have discussions with them on aspects of the analysis or the forecast that we are unsure of.

Mr. CARBAJAL. And how do you go about selecting those advisors?

Mr. HALL. Well, we have got if you sort of look at our panel, it is up on our website. We have a panel of very impressive people from different schools. And we actually make an effort of people who have sort of a diverse background with respect, possibly, to politics. We try to avoid that part of it. But we try to get people who have different points of view certainly on some of the things that we have to deal with.

Mr. CARBAJAL. Have you ever gotten any criticism or objection from anybody on this Committee about any of those advisors?

Mr. HALL. I am not sure about this Committee. Not during my time, I do not know. We have been pretty transparent about who they are and that sort of thing. But I have not heard anything.

Mr. CARBAJAL. Thank you. What is the CBO's best estimate of the impact of the recent tax bill on the deficit? I understand that it is \$1.5 trillion.

Mr. HALL. Well, that was JCT's estimate. We are in the process right now of working through our estimate. It will be a little while before it comes out in our budget outlook, but it will be there.

Mr. CARBAJAL. So, you do not have an estimate today.

Mr. HALL. No, I do not.

Mr. CARBAJAL. Okay. Do you know if the estimate that JCT has put out there includes the compound interest over the next 10 years?

Mr. HALL. I think we did a version of that that included the interest.

Mr. CARBAJAL. And what is that version number that you came up with?

Mr. HALL. I would have to get back with you. It added a little bit more to it from the deficit. But I do not remember right off-hand. I should know, but I—

Mr. CARBAJAL. I believe the number was \$2.3 trillion, but I appreciate you getting me that information later.

Mr. HALL. Okay, I will be happy to follow up.

Mr. CARBAJAL. Thank you very much. I yield my time back my time.

Chairman WOMACK. Thank you, Mr. Carbajal. Let's go to Minnesota, Mr. Lewis.

Mr. LEWIS. Thank you, Mr. Chairman, and congratulations, looking forward to working with you. And, Director Hall, thank you so much for being here. I am little perplexed at the other side of the aisle's hammering you over dynamic scoring. It is only a model about a century old when Alfred Marshall came up with supply and demand curves. I do not think anybody doubts the elasticity of work savings and investment. We saw that reaction in the '20s when we had tax policy changes, in the '60s, in the '80s. I think we are seeing it now.

But if you were to ask anyone on this panel if they wanted to reduce smoking, which we all want to do, for our young people. What is the first thing they would do? They would raise the cigarette tax. Well, but prices do not have any effect on people's behavior. Well, of course they do. I understand you have got a very tough job. If I could predict interest rates or the Super Bowl winner I would be in a different line of work. But the bottom line is there are things that we can predict with historical accuracy.

I understand you have a very tough job as I say monetary policy is something that you have no control over and would have to be a problem for some of your models. But let's get back to the baseline you issued last year of 1.9 percent growth if we made. The Atlanta fed now today came out with their first quarter estimate of 4.2 percent GDP growth.

You mentioned in your analysis and today that you had concerns over the labor supply. But as we all know, the GDP, economic growth made up of two principal parts, productivity, and people. Either one goes up you are going to get more economic growth. Did you take into account, from a historical perspective, the increases of productivity when there is more capital invested, when there is more incentive to invest capital? You were sticking with 1.9 percent or at least a year ago—we will see this year—but 1.9 percent

growth when we are clearly seeing faster growth, at least right now.

Mr. HALL. Yeah, well like you say the productivity has been really slow. But we do actually have in our long-term forecast productivity getting back to its historical levels; something like 1.3, 1.4 percent. So, actually that is in part of what is baked into that long-term growth. It is why really is that labor supply part that is big distraction.

Mr. LEWIS. Then how would you account for the increases in GDP growth in the last few quarters?

Mr. HALL. Well, part of it in the last few quarters has been a number of things. Part of it has probably been anticipation of the tax bill. Part of it is probably demand side because we are getting stimulus. And we still think there has been some slack in the economy so there is room for sort of demand stimulus. And that is clearly a bit of what is going on.

Mr. LEWIS. You know that is really an interesting point you make, and I am glad you did. And that is really why some of us have concerns about this. We can go through the debate over Keynesian analysis versus supply side or classical economics all day long. But we have had that experience. We had it with the stimulus package in the previous administration and we did not get growth.

And I think some of us would like to see a little bit more supply side analysis in there in restoring productivity and growth. To quote a famous economist, Jean-Baptiste Say, that "Supply will create its own demand" and we do not need to go down this Keynesian road time and time again. And is that not a value judgment that the CBO makes that we are going to use demand side analysis?

Mr. HALL. Not really because I think certain aspects of any legislation is demand stimulus and other aspects affect the supply side. So, we do not assume at all that supply side, that labor supply and productivity, is just fixed. That, in fact, there can be some policy things that affect that.

Mr. LEWIS. Do you think you have a demand side bias?

Mr. HALL. No, I think one of our challenges is we have to work through the demand side in the near term years and then slip into the long-term, which is supply side and that part is just tricky. But it is two different models really, two different approaches.

Mr. LEWIS. It certainly is. It is a great debate. In 2012, you came out with the exchange coverage rates for the Affordable Care Act. And that estimate updated from 2010, you said that by 2016 you predict, I think, around 23 million would be covered under the exchanges. The Center for Medicare and Medicaid Center said 10.4 was the actual number. What happened there?

Mr. HALL. Well, the first thing that happened was the Supreme Court decision that took away the requirement that States expand Medicaid. So, that threw a big kink into things. Once we corrected that, we have still been off a little bit. Let me mention a little bit of the talk about the exchange stuff just really quickly is a little bit of cherry picking because the most important thing was getting the budget effect correct. We were not—

Mr. LEWIS. Okay, I will cut you off. I have to go. But thank you so much for being here looking forward to a healthy debate. I would just hope you understand that you were created by a political branch of government. You serve the political branch of government. This is a political exercise, and so we have got to get the referee to make the most accurate call as possible. Thank you so much. I yield back.

Chairman WOMACK. Thanks to the gentleman. And reference to his remark about the Super Bowl there is one other thing you can take to the bank and that is the Minnesota Vikings will not be winning the Super Bowl.

Mr. LEWIS. No, that is low. I miss Chairman Black already.

Chairman WOMACK. I am going to hear from all the Minnesota people now. Mr. Higgins of New York.

Mr. HIGGINS. Thank you, Mr. Chairman. And coming from Buffalo the Super Bowl is not a good subject.

Dr. Hall, thank you very much just a couple of questions. And the previous speaker had talked about supply side, and these are all very fair debates that should be debated rigorously. And, you know, supply side trickle down. And I think the new term for all of that is dynamic scoring. And that is what the future economic impact from tax policy will be which is, you know, it is not an exact science and I guess that is why it is subject to a lot of interpretation.

But a couple of things that concern me, you know, the treasury secretary had stated explicitly—explicitly—that the tax cuts as proposed that are now in the bill, particularly the corporate tax cut, which was about 14 percentage points, but the percentage change was actually 40 percent. The tax cuts generally pay for themselves. Do you believe that?

Mr. HALL. I want to be really careful because different tax changes have different effects. Some can have an effect probably on supplies and some on the demand side.

Mr. HIGGINS. Okay.

Mr. HALL. I think the literature, we need to look at the literature, and how things have been affected going forward. And we are going to have our own estimate of it is not an effect of just the bill, but we are going to work in the tax cuts into our economic forecast, so you will see how we view that particular bill, how it is affecting—

Mr. HIGGINS. Okay, well I appreciate your cautiousness. But I would remind you that there is not a tax cut in human history that has ever paid for itself, not once, ever. The best literature in that area comes from Harvard and Yale economists who say that best-case scenario that you could recapture in economic growth about 30 cents for every dollar in tax cut. And I would challenge you to challenge me as to whether the literature says anything differently, but let me move on.

The White House Council of Economic Advisors came out with a report saying that the corporate tax cut would result in increasing annual household income. I am not talking about a one-time bonus but annual household income of between \$4,000 and \$9,000. Do you believe that?

Mr. HALL. I have not read that report but I can tell you we will have our own analysis, independent analysis, of the effects of that.

Mr. HIGGINS. But you are familiar with that report.

Mr. HALL. I am not really, to be honest.

Mr. HIGGINS. You are not familiar with that report? Everybody in America is familiar with that report. That has a direct impact on the Federal budget. Because if you increase household income, that increases aggregate demand in an economy. Where aggregate demand is increased in an economy that increases employment. As head of the Congressional Budget Office, this issue has been discussed, debated, in various publications over the last 6 months. I am shocked that you have never heard of that.

Mr. HALL. I can tell you in a few months' time we will have our own analysis and our own view of that. And we will be very careful to explain why we have come up with whatever estimate we come up with.

Mr. HIGGINS. Okay, just switching topics infrastructure investment. I think the President will talk a little bit about tonight, presumably, about an American infrastructure investment of some \$200 billion, which will be used to leverage somewhat of a trillion dollars in infrastructure through the combination of State and local contributions in the private sector.

I think all of us agree that an infrastructure investment is desperately needed. But I would remind people that the \$200 billion is woefully inadequate. And I would provide, as an example of that is the United States deficit financed \$180 billion over the last decade rebuilding the roads and bridges of Iraq and Afghanistan. Those were off-budget, they are deficit financed, they add directly to the debt. So, what would be the ideal infrastructure investment to really have a positive impact on job growth in the American economy?

Chairman WOMACK. Give the witness about 20 seconds to answer.

Mr. HALL. Okay. Really quickly we are prepared to analyze any proposal that comes forward. We will do it carefully and in detail. I do not want to make recommendations. We do not do that.

Mr. HIGGINS. Thank you, sir. Thank you. I yield back.

Chairman WOMACK. Next, we go to the keystone State, which could produce a Super Bowl winner, Mr. Smucker.

Mr. SMUCKER. Thank you, Mr. Chairman. Yes, that is one other given. One thing that we know is that Philadelphia will be there. So, thank you and congratulations.

Dr. Hall, I would like to thank you for the work that you do, the work that your staff does. And I have some comments. Some of my comments have already been addressed but I would like to start by just saying how important I think CBO is to the Committee and to the budget process within the Committee and within Congress. And it is important, really, to asserting the proper constitutional role of Congress in developing a budget. And I say that from the perspective of having served in the Pennsylvania State Senate.

During my time there initially we had no equivalent to the CBO in the Senate. And even when negotiating with a governor of the same party we had to rely entirely on the executive branch data in regards to decision making. And it changed the dynamic dra-

matically when we established the independent fiscal office of the legislative branch, similar to your role. So, yes I disagreed with some of your analyses about healthcare but we cannot lose sight of the fact of the importance of the initial intent of the CBO that was laid out in 1974, and of the importance of the work that you do to what we do.

I do think the effectiveness of the CBO is almost entirely dependent on its perception of Members of Congress. And number one, it has to be perceived as nonpartisan. And number two, it has to be perceived as accurate as possible. I like your idea of more communication with Members of Congress to talk about what CBO does. You said you come to congressional offices if they request at any time. But I think what you should see as part of your role is to continue to talk about what you do and the importance of what you do. Is that part of your strategic plan at all?

Mr. HALL. Yes. You see, the only time that I think I shy away from that is I do not want to talk about legislation as being debated. I do not want to get involved in the political process, but otherwise, yes, absolutely.

Mr. SMUCKER. Have you ever brought members to your facility to show the operations? I think is something I would like to do at some point.

Mr. HALL. Yes. And you are welcome to come over.

Mr. SMUCKER. We have talked about the part there has been a lot of discussion about the importance of being nonpartisan. I think it is equally important that we can believe that we have the best thinking out there in regards to policies in regards to your analyses. And we know that predicting is tough, and it reminds me of a quote that has often been attributed to Mark Twain when he said, "Predicting is difficult, particularly about the future."

But, I guess, in terms of experts that you bring in, could you characterize to me what you look for. Are you looking for the best thinking in the country? Would you say that the group you have really does provide some of the best experts in terms of policies that we are looking at that?

Mr. HALL. Absolutely, I do. I think we get people who are very smart and very capable who have a lot of technical skills. And part of how we get them is because we work for Congress. They feel like they can make a difference by helping inform Congress that we have an important job. And one of the things I think is underrated is we spend a lot of time, our folks, keeping in touch with experts around the country. So, we have a really good understanding—

Mr. SMUCKER. How do you choose those experts?

Mr. HALL. Well, part of it starts with our panel of economic advisors. We have a really good panel. They are all very well smart, connected people. And we do a lot of calling and say, "Well, here is a topic we are concerned about. Who should we talk to?" And we make an effort to get literally we get some of the opposing views.

If you look at some of our analytical research reports that we put out, you will see us list the names of the people who reviewed it. We treat it like it is a journal article.

So, we try very hard to sort of multiply ourselves and use research—

Mr. SMUCKER. I am running out of time, and I am sorry to interrupt you. I have a number of other questions but one that I really wanted to get to was CBO was first put into place 43 years ago. I think we should look at the entire Budget Act of 1974 and update it and improve it. As a part of that how can we ensure CBO is more effective, more efficient, in its operations? You cannot answer that now, I do not think. But I would love to hear from you at some point about whether you had specific ideas or specific recommendations for updating the act and improving your operations.

Mr. HALL. Sure.

Mr. SMUCKER. Thank you.

Chairman WOMACK. Ms. Schakowsky from Illinois.

Ms. SCHAKOWSKY. Thank you, Mr. Chairman. I also want to associate myself with the comments and the questions of Mr. Smucker. We are all interested in CBO being able to do the best job. And I want to thank you for the work that you do and associate myself with all the "thank yous" that we have made.

After the passage of the Republican Tax Bill in December, CBO revised its cost estimate for the expenditures for the Children's Health Insurance Program. In fact, the new estimate showed that reauthorizing CHIP for 10 years would save the government about \$6 billion. So, why did passage of the GOP tax bill change the CBOs for CHIP so dramatically?

Mr. HALL. Well, the elimination of the mandate had an effect. And one of the short versions is the elimination of the mandate, we think, will raise the average premiums in exchanges. And since if children are not covered under CHIP they are likely to be covered in exchanges or through Medicaid, then it will cost the government more by having children covered that way as opposed to CHIP directly.

Ms. SCHAKOWSKY. So, essentially the CHIP savings are a side effect of the increased costs that Americans are going to face due to the Republican effort to undermine the Affordable Care Act.

Mr. HALL. I would not word it that way, but it is an effect of the mandate.

Ms. SCHAKOWSKY. Eliminating the mandate. CBO looked at the effect of repealing the individual mandate, the number of uninsured Americans, and premium costs. What did the CBO estimate?

Mr. HALL. We estimate that after 10 years, the number of people covered with insurance will be down by about 13 million people, relative to the baseline. And that premiums would be about, in exchanges, be about 10 percent higher at the end of that time period.

Ms. SCHAKOWSKY. And what about the administration's decision to end cost-sharing reduction payments, the ACA Outreach Budget by 90 percent, allow work requirements for Medicaid? Were those part of that calculation as well?

Mr. HALL. No. We have treated the cost-sharing reductions as actually as an entitlement, at least so far until we get other direction from the Budget Committee. So, since it is an entitlement it was not affected.

Ms. SCHAKOWSKY. Beyond the tax bill, how does the CBO account for administrative action that change implementation of the ACA? Is that a consideration as well?

Mr. HALL. It is and that is one of the more difficult things sometimes to estimate, that certainly was with the ACA because there was a great deal that had to be done to implement the ACA. And we had to make some assumptions about how it would be implemented, how well it would be implemented. And, you know, clearly some of that did not happen so well. And so, we have updated. We update it every year. We update our estimate of the operations of the exchanges and that sort of thing to try to take that into account.

Ms. SCHAKOWSKY. So, was there consideration of the fact that there was a reduction in the amount of publicity, of telling people about it, a shortening of the enrollment period. Was that prior to the calculation?

Mr. HALL. It will be. We have not. It has been a little while since we updated it. We will probably do that this spring. We will talk about that and see if we think that is having some really solid impact that we can measure.

Ms. SCHAKOWSKY. Thank you. Is the CBO updating scores of other health legislation following the passage of the tax bill and the temporary authorization?

Mr. HALL. Yeah, there are some proposals out there. If we are working on anything it might be technical assistance, in which case I cannot talk about it. But if we are asked to update any of those by the Committee of jurisdiction we will do an update on those.

Ms. SCHAKOWSKY. So, you initiate or are you always responsive to inquiries from the Congress?

Mr. HALL. We do not initiate very much at all. We respond.

Ms. SCHAKOWSKY. Okay, and that goes for the administration as well? No, I am talking about looking into acts of the administration; executive orders, et cetera.

Mr. HALL. Sure. Yeah, no we actually we do certainly every year we go down and look to see if there has been some changes in implementation, whether it is executive orders or et cetera, that are going to have a big enough impact to change our baseline. And we will change our baseline if we see those. And we will try to detail it in our Budget Outlook Report if they do.

Ms. SCHAKOWSKY. I appreciate your work. And I yield back.

Chairman WOMACK. Thank you, Ms. Schakowsky. Let's go now to Georgia, Mr. Ferguson. The witness is yours.

Mr. FERGUSON. Thank you, Mr. Chairman. Dr. Hall, thank you. And I want to thank you for taking time to come to my office. I have taken you up on that offer. I would encourage other members of the Committee to spend some time with you and your staff in their offices, or in your office, really talking about the process. And I want to thank you for the direct and candid responses that you gave me. I found it helpful and look forward to continuing that.

One of the things I want to go to. I want to get back to process here. If you could go back and pick a 5-year window in the budget process, okay? And it does not matter to me where it is. Let's go back 10 years, 12 years, 15 years and look at the estimates that you made in year one and what they actually turned out to be 10 years later. And do that to the second year and go out another 10 years, and third year, and all the way out year five.

Mr. HALL. Right.

Mr. FERGUSON. What is the accuracy at the 10-year mark when we are making a decision on the budget, we are making it on this 10-year budget window, okay? So, if you go back historically what is the accuracy at 10 years from the date that this Budget Committee acted on those recommendations or those assumptions?

Mr. HALL. Yeah, just this past year we looked at our record for estimating outlays. And, you know, it is in kind of broadish categories but it gives you an idea of the average error. We looked at it at the budget year and then we looked at it 6 years down the road rather than 10 years down the road. But, after 6 years, our average error was about 3 percent.

Mr. FERGUSON. Three percent?

Mr. HALL. Three percent.

Mr. FERGUSON. Yeah.

Mr. HALL. So, that, of course, that means for individual smaller parts some could be higher, some could be lower but they averaged out to be about 3 percent error.

Mr. FERGUSON. Yeah, we are making decisions on a 10-year window.

Mr. HALL. Right.

Mr. FERGUSON. Okay? Which is where, you know, it becomes harder and harder the further you go out to predict, correct?

Mr. HALL. Right. Yeah, I mean, maybe when we update this report we will consider trying to do it for a little bit longer.

Mr. FERGUSON. Well, and let me say I would encourage you to do that because I think it is important. If we are going to make decisions based on a 10-year assumption it does us very little good to only have six years worth of historical data. I mean, we are missing, you know, a significant portion of the equation in doing that.

So, when you look at it and you look at the results during that window what tools do you need to close that gap? Because, you know, 3 percent may not sound like a big number but, you know, when you have got a \$4 trillion budget hanging around that is a pretty big number.

Mr. HALL. Right.

Mr. FERGUSON. So what do you need to be more accurate in that?

Mr. HALL. Yeah, you know, that is a good question because we, you know, we have a lot of challenges. One of which is that we just have so much more work than we can handle. But that is not really an issue of being able to just throw resources at it because we suffer from a real peak load problem, right? When healthcare gets popular, our poor healthcare well, not our healthcare people they are not poor because they get energized with this. They are working full time.

Mr. FERGUSON. So, can you talk very briefly about maybe developing, or should we consider developing a new model for scoring. You know, we are in this debate right now demand side versus supply side. You know, you have heard it here today. But, you know, do we need to look more at what the private sector does to predict using predictive algorithms to anticipate changing consumer behavior? I think the private sector does that in a very, very effective way and should we look at doing that more here, or your office do that more, to give us a better outlook?

Mr. HALL. We certainly could, you know, we really do look to research and we do try to talk to private sector folks. So, you know, we can continue to make an effort to sort of see how we can improve our accuracy by talking with other people, like the private sector, who does similar sort of work.

Mr. FERGUSON. I think it would be important that we look at two things I want to push on this. Again, I think we need to look at the 10-year accuracy. Okay, if we are going to operate in a 10-year budget window we need that 10-year data out there. I think that is pretty important because we need to see what those outlying years are actually like. And then to look at right at, you know, look at different modeling programs that use predictive algorithms to look at consumer behavior and how that may change these budget outlooks.

The final question that I want to ask you is something that when the gentleman from Pennsylvania spoke, Mr. Smucker, and he was asking about your hiring process and you said, "We try to get people with opposing views." Define the view and the opposing view.

Mr. HALL. Sure. And by that I do not mean in our hiring but in our consultations with folks. If it is a topic where we know in the literature there is some debate in the literature, this has a big effect, this has a small effect, they focus on different things. That is the sort of thing we will look at because our real goal is to sort of try to represent the state of research on that topic. And, you know, sometimes there is not full consensus on a research topic. So, that is where we look for that sort of diversity.

Mr. FERGUSON. So, the view would be the process by which you would have a demand side view and a supply side view, right? And I mean I know that is kind of a broad—

Mr. HALL. Yeah, I mean, it would be something—

Mr. FERGUSON. But that is what you are—

Mr. HALL.—like that that is right. That is right.

Mr. FERGUSON. Okay, thank you and Mr. Chairman, I yield back.

Chairman WOMACK. I thank the gentleman. Let's go now to Ohio, Mr. Johnson.

Mr. JOHNSON. Thank you, Mr. Chairman.

Chairman WOMACK. It should be noted that the ranking member has agreed to allow us to take care of the people in the queue before we go to him. So, Mr. Johnson, the floor is yours.

Mr. JOHNSON. Well, thank you very much. And, again, congratulations on your Chairmanship; this is your first hearing, and I think it is a good one. Dr. Hall, I too want to echo my thanks for you and your team coming by my office and having the meeting a few weeks ago that we did.

I do not really know how to frame this question that I have. But I have heard you say a couple of times in your testimony, you know, "We use this model for this. We use that model for that." It seems to me that there is an element of science and an element of art in the work that you guys are doing. There is an element of subjectivity and an objectivity, some fact, some assumption, and speculation.

I am a pretty simple-minded guy. Is there not a way to develop a scoring methodology that applies to everything so that members and their staffs understand? I mean, we have talked extensively

here about the need for budget reforms because we have a budgeting process that does not work. We have got an appropriation process that fails us year after year, not for lack of intent but process.

Seems to me it would be a lot easier to address some of our budgeting and fiscal concerns if we had more clarity and understanding around the methodology. Is there not a way to develop a methodology—the methodology—to score legislation so that members and the American people can understand what we are potentially getting ourselves into?

Mr. HALL. We are certainly willing to talk about ideas that you have. You know one of the things that we actually have coming out, I have talked about documenting models, well, we are trying to also document our processes. We actually have a document coming out that says here is the process that we go through in creating a cost estimate. And so, here are all the steps, here is what we do.

That is a transparency thing, so you can at least see exactly what we do and the process we undergo. And to the degree it gives you ideas on how we could do that differently or how we could articulate the results differently that might be an—

Mr. JOHNSON. A follow up question you just said, “developing a cost estimate.” A cost estimate is not the only thing that we need. I mean, we need to understand the long-term implications on the cost side, certainly, but on all of the other unintended or unplanned consequences of legislation.

Mr. HALL. Right.

Mr. JOHNSON. So, how do we get to that part of it so that we have a clear picture of what legislation is going to do. Not just the cost but the long-term.

Mr. HALL. I think when we do cost estimates, in fact, we were just talking about this a little bit. We have, you know, we have accuracy. How much time do we spend with it to where we are really comfortable with the result? How much time do we have, right? You need to get it accurate, you need to have time to do it, then we need to provide transparency. Those are three things that conflict with each other quite a lot. I always think that the more time we have on an estimate to be able to do the work and do it carefully the better our estimate is, the more precise we can make it.

Mr. JOHNSON. You know in business you look at three factors. You look at time, your money, and quality because you can get two of those in that pyramid but you cannot get all three of them at the same time. A higher quality is going to cost you more, it is going to take more time. If you want to cut time you are going to sacrifice quality or you are going to spend more money.

You have mentioned a couple of times, at least I heard it once, and you just alluded to it there, taking more time. You said earlier that we have more work than you can handle. What drives that?

I mean, the CBO is the organization that we go to get these things scored, and it is a critical part of what we do. And as my colleague from Georgia mentioned earlier, the politics of it is crazy in today's 24-hour a day news cycle. Why do you have more work than you can handle? Is it a resource problem? Is it a time problem? Is it a training problem? Is it a—

Chairman WOMACK. Ten seconds to answer.

Mr. JOHNSON. What is it?

Chairman WOMACK. Ten seconds.

Mr. HALL. Okay, I would say the big issue is so little of our work is getting a piece of legislation handed to us and say, "score this." So much of it is having ideas and helping Committee staff think through things. What are the things that we should be thinking about in this piece of legislation? That technical assistance takes up just a ton of our time. But it seems to be really valuable. There is a reason why they come to us to help with that.

Mr. JOHNSON. Mr. Chairman, I do yield back, and I apologize for running over. That is an issue that we have got to address, I believe, as we talk about budget reforms and oversight of CBO. There has got to be a clear understanding of the process and what they are doing, how much time they take to do it, and whether they have the resources to do it or not because it has such serious implications to the work that we do here.

Chairman WOMACK. That is what the Oversight Hearings are about. And we are going to have three or four of these so more to come.

Mr. JOHNSON. I yield back.

Chairman WOMACK. Gentleman from Indiana, Mr. Rokita.

Mr. ROKITA. I thank the chair and congratulations, this is a great hearing. Dr. Hall, thanks for being here. I want to thank you and your staff, particularly your staff, who always seem to be responsive, especially when there is a lot of things going on. I can particularly remember the healthcare bill last year that we were able to work out some Medicaid issues. Really in the fast lane on that and I appreciate the responsiveness.

Having said all that, when you talk about technical assistance how much would you say, what percentage of your staff's work on technical assistance is given to Committee staff or Committees versus personal offices?

Mr. HALL. Most of it is Committees. That is absolutely true. But when we do help personal staff it tends to be technical help. So, because individual members they do not have legislation that is at a Committee, so it is not typically a formal estimate.

Mr. ROKITA. So again, what percentage of your staff's time is used with personal—

Mr. HALL. I do not know we would have to look into. We probably do 350, 400 informal estimates for individual members during the year.

Mr. ROKITA. Yeah, I would appreciate that in writing just as we go through this debate to understand where you guys are spending your time.

You talked with Ms. Black about behavioral assumptions. And how you looked at available literature and you offered a member of Congress to submit literature if the estimate or the scoring came back and it was not what was expected or assumed or anything like that. Is there a procedure for a member of Congress to submit literature as they submit the bill for scoring to you?

Mr. HALL. I appreciate that question, because that is one of the things that we do when we get some legislation. We ask the Committee staff, whoever gave it to us, now is there some data you want us to look at?

Mr. ROKITA. Okay.

Mr. HALL. Is there some research you would like us to see?

Mr. ROKITA. You were not made to wait. Members of Congress are not made to wait until we receive the scoring back.

Mr. HALL. Oh no, absolutely not. We want to be sure we look at what you are thinking of.

Mr. ROKITA. All right, I appreciate that. When you talk about the economic advisors and the health advisors that you have I want to focus on that process a little bit. You say you use these economic advisors to “multiply” your ability to understand what is going on in the world. What is their objective methodology you use in selecting these people?

Mr. HALL. No, to be honest it is literally a director’s choice to sort of look at the makeup of the Committee and think about whether we want some little strengths in one area or another area and to think about whether we have the right kind of balance.

Mr. ROKITA. So how do you ensure absent any criteria or objective methodology how you are not creating a little echo chamber for yourself or your organization?

Mr. HALL. The best I can say is we put the names of everybody up on our website. You can take a look through the panel to get an idea.

Mr. ROKITA. I have been looking.

Mr. HALL. Yeah.

Mr. ROKITA. And honestly, while I can determine some, perhaps, some of their natural bias or professional bias based on the organization they represent or work for, I do not know any of them personally. I have not peer reviewed their published work. Have you? Or is there any methodology or criteria that would force you to peer review their work to ensure you have a mix of economic ideology and theory and all that sort of thing?

Mr. HALL. Absolutely. We do look through their work, and we do get an idea——

Mr. ROKITA. Okay, so that is what I am asking. When I ask you if there is an objective methodology you responded and said, “Hey, it is kind of a director’s pick. We look to make sure that,” in your mind, “that it looks great.” But is there any objective methodology or criteria or process that your organization goes through——

Mr. HALL. Sure. Well, this is one of the reasons why we have very technically capable people working at CBO because they keep up with literature and read the literature. And we get people on the panel we expect them to be technically capable and to be objective in their advice on things, just like we try to be objective in our working, as well.

Mr. ROKITA. Right, but you understand, sir, if you do not have an objective methodology, if you do not have a set of published criteria for how you are picking these people, you risk at least the attack, if not the reality that you are creating an echo chamber onto yourself. And that if you are using these advisors to inform your work to members of Congress, then you might unintentionally or intentionally create a bias that might cause some of this tension.

We might be seen from time how am I going to give a bill? So, my suggestion to you would be, well, let’s make this process more transparent. I mean, it is a great start to have at least the names

of the people on a website. Let's create and agree on. By a bipartisan way, let's publish a set a criteria or methodology that you might use to select these people, if in fact they are informing your work to such a degree.

Mr. HALL. Well, let me just be clear. I mentioned those folks because they help sort of keep us balanced. We make our own decisions. We make our own judgments. We try to help inform our own judgments, but I do not want to suggest that they are making decisions for us.

Mr. ROKITA. Well, I am not suggesting that in my questioning. My time is up, but the point is, you brought up this panel up as a way to inform you work, which I think is healthy, assuming that that panel is healthy. I yield back.

Chairman WOMACK. All right, thank you. Mr. Brat, Virginia.

Mr. BRAT. Thank you, Mr. Chairman, for holding this hearing. Thank you, Dr. Hall, for being with us. I have four questions I want to kind of get to real quick. I used to be a liberal arts professor, and sometimes what is missing in this city is a connection between pieces of knowledge.

And so, my friends over there, John's a nice Democrat friend, I like all, but they are very smart and intelligent the way they ask questions. We had the Chicago economist up here, they were asked "Does the tax bill pay for itself?"

And the economist correctly said, "No. Probably does not. Probably pays for maybe a third." Right? And then, you get into current law versus current policy, also may give a third. And the key question is, and no one really cares about, does the tax bill pay for itself? I care. Does the economy pay for it? Do all of our policies together pay for it, when you put in deregulation and some of those outcomes as well?

And so, that is what I find missing. And even when you score, the score is always at the Federal level only. It does not include State and local impacts. Right? Which also has a huge impact. I think State and local revenues are about 40 percent of Federal.

And so, if you abstract away from this, it becomes politically misleading, even though you do not intend. You have been asked a narrow question; does the bill itself pay for itself, et cetera, when you score it? So, how do we get at truth in its totality to avoid the politics? And I do want truthful outcome. Right? We are not making decisions on that question. How do you think about that quickly?

Mr. HALL. Sure. No, one of my points was we adapt to what Congress wants. If there is something different that you want that we can do, we are happy to talk with you to try to work it out.

Mr. BRAT. Okay. Well, then it is on us. I mean, I am interested in that, because if you look at the Fed forecasting, which is horrendous after the '08 recession. Partly they were cheerleading, and I do not blame them. Right? But they were always rosy scenario, and it never got there, right? And there is reasons for that. But there is systematic bias for 8 years in a row.

I mean, you have got a problem when you can guess the direction of the error, year after year after year. The second big issue that is coming our way; we just had the budget debate. The CSR bail-outs subsidies, et cetera. What is the assumption of CBO on the

score there? President Trump ended the CSR payments. How is that going to be scored? As if he is ending them, or as if he is continuing them?

Mr. HALL. We have been treating it as an entitlement.

Mr. BRAT. Okay.

Mr. HALL. So, it has remained there, unless we get direction to do something different.

Mr. BRAT. Okay.

Mr. HALL. So, we are assuming, essentially, that the money will be found somewhere, because it is an entitlement.

Mr. BRAT. Right. And that brings us back to the whole healthcare debate. And the score there, again, I just do not feel like we got a systematic account, right? In Charlottesville, I think we got the highest rate quotes in the country. I think \$39,000, all in, before a family of four on the individual side gets to access insurance. That is not sustainable.

And so, we would love your economist to say, "Hey, the way you are going, the economics are not sustainable for healthcare in addition to showing us, you know, the merits of technical bills," and the big programs, too; Medicare, Social Security. And I will just add one other piece that is interesting to me lately. Immigration is a huge issue coming our way, right? We are all debating that. And so, have you guys done any scoring on the total cost of illegal immigration yet?

Mr. HALL. No, we have not.

Mr. BRAT. How do we get these folks to preempt? Right? These studies take long periods of time to do. And so, I mean it is a major issue. Can I request that? Or at what level will a request be acted on if we ask for a score?

Mr. HALL. Well, I will you what a good starting point might be, is I will be happy to talk to our folks. We can come in and talk to you about our take on the literature. What literature is out there, what it says about immigration and the effects. Give you an idea of sort of where we see things at the moment and then, you know, whether or not you want us to do some work.

Mr. BRAT. Right. Right. And I do not want to get, you know, political, but it is pretty well-known in academia. Right, I came from a small liberal arts college, et cetera. And you can go around the country and look at the makeup of who they donate to and who the politics are to.

If you go to Harvard and Yale and Princeton, and it is not bad, it is free country, you can be in a party of one. But if you do not have any economist on a faculty who voted for the current President of the United States, you might call that bias, right, in a certain sense. And that includes even kind of a burning kind of thing, right, and a burning populist thing over on the left that ran through the country. And I am curious to hear your response. How do you track that?

Mr. HALL. Let me give you an example of the challenge for us a little bit. But I think we handle it pretty well. We looked at the effects of minimum wage.

Mr. BRAT. Yep.

Mr. HALL. Ton of literature about minimum wage.

Mr. BRAT. Yep.

Mr. HALL. Lot of it has an agenda. A lot of is not very——

Mr. BRAT. Right.

Mr. HALL. So, we did a lot of sorting through; not who the people are but sorting through the actual research. What was good research, solid research, what was not.

Mr. BRAT. Yeah.

Mr. HALL. We culled that down and focused on things. It was the actual work we tried to focus on.

Mr. BRAT. Right.

Mr. HALL. That was really what got us down to where we had somewhere to go. And I think that is sort of how I think about the people we talk to. We try to let their research speak for them.

Mr. BRAT. Right. Right. I know what is somewhat missing is the normative aspects of economics, right? We try to abstract from that and act like we are doing objective, you know, social science, when it is very hard to come by that. Am I already over?

Chairman WOMACK. Yes.

Mr. BRAT. Sorry, I thought I had 28 left. All right, Mr. Chairman, thank you very much for running the hearing. Thank you very much for being here.

Chairman WOMACK. Thank you, Mr. Brat, for your commentary. We have two that have joined the dais. Ms. Jackson Lee, you can be next. Are you prepared?

Ms. JACKSON LEE. I am.

Chairman WOMACK. Okay, Ms. Jackson Lee, from Texas.

Ms. JACKSON LEE. Thank you, Mr. Chairman, and congratulations to your position. And Mr. Yarmuth, ranking member, thank you for this important hearing. To Dr. Hall, thank you so very much for your patriotic service to this Nation. I was just in the Judiciary Committee, voting on the need for transparency and to view something called the Nunes memo and the underlying materials, in as much as my colleagues on the other side of the aisle have chosen, in certain Committees, to issue statements without facts. Is it the role and the mission of the CBO to present whatever they present on the basis of facts?

Mr. HALL. Absolutely.

Ms. JACKSON LEE. I recall being here in 1997 and, in actuality, it was the budget resolution of 1997 that created the Children's Health Insurance Program. I am not sure if you were on staff or you might be aware of that, but good things can come out of a budget resolution we have offered to save lives.

But allow me for a moment just to create the atmosphere very quickly. Unlike in a dictatorship, autocracy, or monarchy, where the king is law, in a constitutional democracy, such as the United States, the law is king. And you can judge the soundness and health of a constitutional democracy not by the physical health, the mental health of the chief magistrate, but the vitality, robustness, strength, and resilience of its critical institutions.

The President began his term in office by disparaging and distrusting the intelligent community. He learned that the FBI was investigating this Russian interference of the elections and whether the Trump campaign personnel were involved.

The President tried to coerce the personal allegiance of FBI Director Comey. Failing to secure that, he fired him. When Special

Counsel Mueller was appointed to take and oversee the Russia-Trump investigation, the President and his Republican acolytes in Congress began a campaign that continues to this day of obstructing, disparaging, and trying to discredit.

And here, we are now looking at an institution that has since 1974 has in a nonpartisan manner done the work that it should do. And we are being disparaged and litmus test of who voted for whom. I would just ask a simple question: as you are looking at talented analysts, others with Ph.D.'s and masters, do you ask them to show you, first of all, their voter registration card?

Mr. HALL. Absolutely not.

Ms. JACKSON LEE. And then, since we do not really have registration parties, or at least they are not in my State, in Texas, do you ask them what political party they are in?

Mr. HALL. I do not.

Ms. JACKSON LEE. As you continue discussion to oversee the work that you do, and I assume teams are called together of expertise and they are analyzing. In that discussion, do you ask who you voted for President of the United States?

Mr. HALL. No.

Ms. JACKSON LEE. Would that be the appropriate guide in which you make your determinations for those very important work that you are doing?

Mr. HALL. Absolutely not.

Ms. JACKSON LEE. So, let me precede on this. Is this a document that you have produced?

Mr. HALL. Yes.

Ms. JACKSON LEE. "10 Things to Know About the CBO."

Mr. HALL. That is right.

Ms. JACKSON LEE. "Number one: lawmakers created the CBO to give the Congress a stronger role in budget matters." Is this a political statement?

Mr. HALL. I hope not.

Ms. JACKSON LEE. Well, I mean, did you intend it to be a political statement?

Mr. HALL. I did not.

Ms. JACKSON LEE. "Number two: the Congress sets the CBO priorities." Did you intend that to be a political statement?

Mr. HALL. I did not.

Ms. JACKSON LEE. I ask unanimous consent to put this statement of the CBO into the record.

Chairman WOMACK. Without objection.

Ms. JACKSON LEE. Thank you. Let me ask, specifically, points. The recent tax bill made substantial changes to the Tax Code that will have wide-ranging impacts on the budget and the economy. Can you walk us through how you bill that into your baseline? And I know my time is short, so abbreviate.

Let me give you this other one. And what is CBO's best estimate of the impact of the recent tax bill on the deficit? And do you do this in a nonpartisan way? And if you can remember the third question, would you explain why the scoring of a simple CHIP extension changed after the enactment of the tax bill?

Mr. HALL. Sure, okay. The actual tax bill itself was scored by the Joint Committee of Taxation. We are required to take their esti-

mate and put it in to the estimate. But when we do our baseline, which we are working on right now, we will fold in the effects of the tax bill.

Ms. JACKSON LEE. May I pause you for one moment because of my time?

Mr. HALL. Sure.

Ms. JACKSON LEE. Can I get that in writing?

Mr. HALL. Sure.

Ms. JACKSON LEE. Get your staff to remember that. So, let me just jump to this question.

Mr. HALL. Okay.

Ms. JACKSON LEE. Is this tax deficit going to have an impact on the budgeting process of the United States? The tax bill being passed creating a \$1.4 trillion deficit, is that going to create an impact? I just said impact.

Mr. HALL. Sure. No, it will likely change our forecast for the next 10 years or 30 years on budget.

Ms. JACKSON LEE. And impact government as well? So, the deficit tax scam bill is going to impact it. Let me ask you this. You talked about the question of an aging population. Full employment, or the opportunity for people to work increased the engine of the economy. So, suppose, just speculate, DREAMers were able to work, or younger population; does that drive the economy?

Mr. HALL. The effect of any of those things on the labor supply is part of our analysis.

Ms. JACKSON LEE. So, all of that plays into it.

Mr. HALL. Yes.

Ms. JACKSON LEE. And you make the analysis fairly, without any attention to political yeas or nays?

Mr. HALL. That is correct.

Ms. JACKSON LEE. I thank you. With that, Mr. Chairman, I happily yield back. Thank you very much.

Chairman WOMACK. Thank you, Ms. Jackson Lee. Mr. Grothman, Wisconsin.

Mr. GROTHMAN. Thank you, sir. I was at a couple of other meetings first, but I decided to save the best for last.

Chairman WOMACK. Understood.

Mr. GROTHMAN. I will give you a couple of questions kind of off the top. I know this has been asked already. What time every year do you come out with your estimates, as far as future revenue estimates?

Mr. HALL. We do our first baseline analysis typically around this time of the year. We are going to be delayed because we are working on the tax bill.

Mr. GROTHMAN. Okay. I would like to ask you, because there is a feeling that the business optimism may have changed or attitudes toward government may have changed when President Trump was elected. Could you tell us right now what the receipts were? Do you have the receipts yet for fourth quarter last year? Government income tax receipts?

Mr. HALL. No, I do not think we do. But I certainly do not have them in front of me, I am afraid.

Mr. GROTHMAN. Okay. Are they available yet?

Mr. HALL. If they are, we can get them to you.

Mr. GROTHMAN. Okay, well, we will go back.

Mr. HALL. They probably are.

Mr. GROTHMAN. We will look at the third quarter.

Mr. HALL. Okay.

Mr. GROTHMAN. Do you have the receipts for the third quarter of 2017?

Mr. HALL. I am sure we do.

Mr. GROTHMAN. Do you know whether those were higher or lower than your estimates were for the prior year, at the time you came up with an estimate?

Mr. HALL. Yeah, yeah. No, I do not know. We actually, every quarter, we do produce a little document that tells you how we are doing with receipts.

Mr. GROTHMAN. But you do not know whether it was above or below projections?

Mr. HALL. I do not off-hand, no. I am sorry.

Mr. GROTHMAN. You know, I want to like you a lot. That is usually a big deal. Okay. That just kind of amazes me, but we will switch gears a little bit. You have said that you want about a, what, 9 to 10 percent increase in spending next year over last year? Is that true?

Mr. HALL. Oh, yes, that is right. That is right.

Mr. GROTHMAN. Right. And you are not alone in that.

Mr. HALL. Right.

Mr. GROTHMAN. I mean, everybody thinks the problem we have in this government is we are not spending enough money, so I am not going to single you out for that. But you are apparently, right now, spending substantially more than in President Bush's last year, correct? It has been 8 years ago.

Mr. HALL. I am sure that is true.

Mr. GROTHMAN. Right. They always feel as things become more computerized or automated, you should require less people. But you feel you need a substantially larger staff today than 8 years ago?

Mr. HALL. We are trying to respond to Congressional interest in speeding up some of our estimates and providing more transparency. And if we are going to do that, we need more staff.

Mr. GROTHMAN. Okay. You think Congress is asking a lot more questions than they were 8 years ago? You really feel the demand. Maybe it is the demand for your services is much greater now than it was 8 years ago?

Mr. HALL. I was not around 8 years ago, but I am sure it is true, actually. But a lot of the transparency stuff is just not free. You know, we have to take time to do that, and something has to give.

Mr. GROTHMAN. Okay. You right now have 233 full-time employees. Is that true? 233? And how many employees do you think you would need to adequately do your job?

Mr. HALL. I think we are fine adequately doing our job now, but if Congress wants more from us, we have a plan to increase our staff by only about 20 people over the next 3 years that we think will enhance—

Mr. GROTHMAN. Okay, right now you feel you have enough people to deal with inquisitive congressmen? You are worried more about the future?

Mr. HALL. Well, let me put it this way. Since I have been at the job, we have way more work than we can do. And so, we just have to prioritize things.

Mr. GROTHMAN. Okay.

Mr. HALL. So, one of the more frustrating things for me is dealing with individual Members who want some of our time, when at the same time, we are working very hard all out on some other work for a Committee. And it is just a matter of resources.

Mr. GROTHMAN. Okay. You think sometimes Congressmen ask dumb questions?

Mr. HALL. No. No, actually, they do not.

Mr. GROTHMAN. Good. In order to turn around stuff on a timely basis, you feel you need about 20 more people than you currently have? And if you were given your rather substantial increase, you would hire 20 new employees. Is that what you would do with it?

Mr. HALL. That is right. But also, some of it is our increase in cost of doing business for us, which includes cost of living raises for people.

Mr. GROTHMAN. Okay.

Mr. HALL. If you do not get money for cost of living, then we have to go down a couple of people.

Mr. GROTHMAN. Okay. Okay, those are the questions. I will yield the remainder of my time. Thank you.

Chairman WOMACK. Thanks to the gentleman from Wisconsin. My ranking member has been very patient through this entire process, deferring his questions to the end, as I have. And I want to yield to the gentleman from the Commonwealth of Kentucky, Mr. Yarmuth.

Mr. YARMUTH. Thank you, Mr. Chairman. And it has been an interesting session. I have enjoyed the conversation. So, thank you, Dr. Hall. Thank you for your testimony and your responses. They have been very cogent, and I appreciate them. And I also want to add that I have been the beneficiary of visits from you and your team and they have very, very valuable. I have had the pleasure of coming to your place of business and your team is very impressive, as well.

First of all, I want to mention, I think it was my friend, Mr. Woodall, who talked about not having a sense of the bias of the leadership of the CBO. And I will say that in the, I think, 6 years that your predecessor was here when I was on the Committee. I never for an instant had an idea of what his personal bias was. And I was pleased to find out after he left the position that he was pretty liberal.

And I will say that I have never had one indication in listening to you and talking with you of what your personal bias may be, too. So, I salute that. This is a totally rhetorical question, but have you ever done an analysis of the cost per piece of legislation enacted? The CBO cost of a piece of legislation enacted?

Mr. HALL. Yeah, we have not in large part, because it varies so much. It can be a piece of legislation changed in the name of a building or it can be something we worked on for 18 months.

Mr. YARMUTH. Right, and just because Mr. Grothman asked the question, in this document that you provided, it says that in 2017,

you did 740 reports. Do you have any sense of how that has grown, maybe just within your tenure?

Mr. HALL. Yeah, we are probably 100 or so above. And in some respects, it is a little misleading, because so much of our work is that technical assistance side that, you know, if we wrote down the instances of technical assistance, we are up to something like 10,000 of those. So, to give you an idea.

Mr. YARMUTH. A lot of work. I think it was Mr. Renacci asked you a question, and you were responding about—this is going back to the ACA—the situation with the exchanges, and you were cut off. Would you like to want to continue to make that? It was an explanation of what was happening in the exchanges and how that might relate to coverage and costs?

Mr. HALL. Well, sure. Well, one of the points I certainly want to make is, while we wanted, of course, to get an estimate of the exchanges correct, more than that, we wanted to get the budget impact correct. And so, we have actually written a little piece that goes through how that worked out for us; you know, how accurate we were on the spending, on the subsidies, how accurate we were on the number of people who were uncovered, and including the exchanges.

So, it is a bit more of a complete look of things. And then one of the real challenges, of course, especially with the ACA; implementation was such an important thing. And you know, we do what we can, but we really kind of wind up assuming that implementation is going to be about average, about the same as other piece of legislation; and that does not always happen.

Mr. YARMUTH. I do not want to spend too much on healthcare, but I do want to ask one question. When we put together the ACA, one of the things that we focused on was making sure that preventive care was a significant part of the agenda, because we believed, those of us who were involved in that, that preventive care ultimately has a significant benefit on the budget in reducing long-term healthcare costs. Has the CBO, to your knowledge, ever done a score on the benefits of preventive care?

Mr. HALL. Yeah, the one that had the clearest sort of result was from cigarette tax. And the cigarette tax, you know, there would be revenue generated from the tax. There would be increase of revenues from better health. That had a real impact.

In terms of spending, it had sort of odd counter, right, because the cigarette tax would reduce the number of smokers and that would reduce Medicaid and Medicare spending, but then people would live longer. And that would increase government spending, because they are living longer. So, there was an odd thing there to sort of balance out the spending, which is an odd part of what we do, sometimes.

Mr. YARMUTH. Right. But inside the budget window.

Mr. HALL. Right.

Mr. YARMUTH. You know, that is probably not going to be as great as an impact, I would not think. But, just in terms of pure preventive care, the ability to go and have checkups annually without any copays or so forth, has there ever been a score done on those types of initiatives?

Mr. HALL. Yeah, I can look see if we got some more examples. The tax was just really obvious. Sometimes, the preventative medicine stuff is hard because there is not as much evidence as we would like to sort of base the analysis on.

Mr. YARMUTH. Right. Moving to another question, and I have talked about this in my contexts, but the idea that when CBO puts out a number, like 23 million, automatically, that gets used for our political purposes. But it gets kind of in concrete in the public's mind. Has the CBO contemplated—and maybe this is a restriction we have put on you—that you could create a range of estimates so that, first of all, it would narrow your error rate? But also, it would not be something that people actually rely on for arguments, when in fact, nobody is ever going to be accurate exactly. And the range might be more useful.

Mr. HALL. Well, my starting point is, it is a Budget Committee thing. The point estimate is used in enforcement. And so, the Budget Committee needs a point estimate. So, we try to characterize uncertainties best we can. And sometimes, we can put in ranges, but that is hard to do. To be honest, so much uncertain is unknown unknowns.

Mr. YARMUTH. Could you walk through maybe some of the other requirements that are either in statute or otherwise that affect how you develop the baseline and score legislation relative to that baseline?

Mr. HALL. Oh, yeah, there is quite a lot. You know, for example, how we treat Social Security trust fund and et cetera. We are directed to assume that that pays out, rather than the trust fund cuts off benefits. You know, when we forecast discretionary spending, we are not really forecasting it. We just put an inflation rate in and assume that. So, most of those little rules are directed either through law or through the Budget Committee.

Mr. YARMUTH. So, that kind of goes to Mr. Brat's comment about it is on us to actually deal with some of these. Just wanted to talk a little bit about something that I am obsessed with, and that is the pace of change in society and how that complicates a lot of policymaking, not to speak of your role.

I remember when Secretary Geithner used to come before the Committee, and one time, I asked him, we were talking about 30- and 40-year projections. And I asked him how reliable he thought 30- and 40-year projections were. And he said, "I do not think any projection outside of 5 years is reliable."

And the pace of change in the world has only quickened since then. And I was reading the other day an interview that was done with the managing director of Mercedes-Benz. And he had some unbelievably disruptive predictions about what was going to happen in various fields; transportation, energy, education, the legal profession, within the next 10 years. And they are things that, for instance, basically the cost of electricity because of the reduction in the cost of solar power going to virtually zero. That obviously has huge implications; the abolition of a huge percentage of the jobs that now exist.

We know about the possibility of about 170,000 truck drivers losing their jobs imminently because of self-driving vehicles. A lot of these things are happening. My question is, is any of that done in

the CBO? You do not have any futurists on staff, but that might be helpful. We need them in Congress, I know that.

Mr. HALL. Actually, I rather like what we do. There are unknown unknowns, but we can look at things like productivity. Historically, productivity is ranged about 2 percentage points. You know, you go back and look at labor supply; how is that ranged historically? We can then put those into our long-term forecast, and we have a point estimate.

Well then, we can vary those important variables by how they varied in the past and give you some idea of the direction we are heading. And of course, that does not tell you about the real outliers, but it does give you some idea of historically, how much variation we have had, and what does that mean for our forecast.

Mr. YARMUTH. Great. Well, thank you once again for your work, your service, and your appearance here today. I yield back.

Chairman WOMACK. Thank you, Mr. Yarmuth. I hope not to take all of my 10 minutes. I want to bring out a couple of questions. One: CBO has nine distinct divisions. When was the last time that there was any kind of a review of the organizational structure of CBO? And how often do you access the org structure, if you will, of the organization?

Mr. HALL. I mean, we certainly think about it. We had a little turnover in the heads of those divisions. I think more than half of them have been replaced over the last 3 years because of retirements, and et cetera. And when that happens, we do think about do we have the right sort of organization, when you think about that.

We have not given any real clear thought, frankly, because I think it works pretty well. We work in teams. You know, our budget analysts are separate from our program analysts, our program folks. A lot of what we try to focus on, more so I think than the organization, is trying to make sure that they coordinate better, they work better together. You know, sometimes our budget analysts are really different than our Ph.D. economists. And we need to make sure that they listen to each other, work together, because there is propensity for them to be apart. And that is probably a function of our organization.

Chairman WOMACK. But you are not afraid to get outside the box?

Mr. HALL. No, no. Not at all.

Chairman WOMACK. Okay. Just a couple of words about Joint Committee on Taxation. And I realize you are on the floor, I guess, right above you and they are probably watching, so you have got to be careful with your answer. Do you have a really good relationship with them? Is it a good collaborative relationship with them?

Mr. HALL. I think so. I think so. We have pretty distinct, clear roles. And they have been very patient about helping review some of our stuff, and we certainly work well together, I thought, through the healthcare, because all of those healthcare estimates fall the Joint Committee on Taxes.

Chairman WOMACK. From time to time, because of the makeup of your organization, this goes back to my collaborative question. Are times when your folks in CBO might think differently about something come out of Joint Committee on Taxation? And are they

free to exchange those ideas, in hopes of getting a little closer to the truth, as we all want to know?

Mr. HALL. I think so. I think the biggest room for improvement, frankly, is that if we were a little bit more transparent with each other. You know, I do not think we know a ton about their model. I do not know if they know a ton about our model. But we do manage to work together. But I cannot think of instances where we did any sort of second-guessing on what they have done.

Chairman WOMACK. And I do not want you to speak for Joint Committee on Tax, but since the passage of the tax cut and jobs act, there have been a number of companies and businesses, large and small, that have made significant decisions about how they are going to take this windfall, real or perceived, and how it is going to impact downstream to people that work for them with bonuses, raising minimum wages, imputing more resources into retirement plans, and those kind of things.

I know there is expected to be some of that, but has the avalanche of this news coming out, has it surprised anybody in your organization, in Joint Committee on Tax?

Mr. HALL. Yeah, yeah. I know we have had some discussions about it, you know, from our look at the forecast with the tax cut in it. We have done some going back and looking to see, now, how consistent is this with what we have seen with the initial reaction to the tax bill? I do not think we have anything that is been dramatically different than we expected. And hopefully, we will try to talk about some of that when we release our budget outlook.

Chairman WOMACK. And to be respectful of your time, my last question is, the U.K. has, in their CBO equivalent, the Office of Budget Responsibility, has a process where they take certain policy issues and that they give some kind of a confidence factor to them, regarding the data that is used, regarding the modelling that is used, and regarding the behavioral aspect of it. And then they give kind of a final grade to that.

Does CBO have something like that? I know you have spoken generally about how you look at your products from a confidence standpoint. But do you have anything that has a metric like that or a confidence factor built into it? And if you do not, have you considered using something like that and sharing that with the Congress?

Mr. HALL. Yeah. You know, I mean, our confidence and our uncertainties is sort of mixed into our work, but that is an interesting idea. We have had some interactions with the British equivalent. I think it sounds like it would be worth our time to take a look at what they do and see if we can get some good ideas from them. If it is something that you all think is valuable, we would love to figure out how to do it.

Chairman WOMACK. Very good. Dr. Hall, thank you for appearing before this Committee today. I want to advise members that you can submit written questions to be answered later in writing. Those questions and your answers will be made part of the formal hearing record. Any member who wishes to submit questions or any extraneous material for the record may do so within 7 days. And with that, this hearing stands adjourned.

[Whereupon, at 12:32 p.m., the Committee was adjourned.]

House Budget Committee
Chairman Womack
CBO Oversight: Organizational and Operational Structure
Questions for the Record

1. Are there any functions that these divisions are not sufficiently equipped to handle now?
2. How does CBO interact with the Joint Committee on Taxation? Which divisions are responsible for that interaction?
3. How are conflicts and differing professional opinions across divisions managed?
4. What are the challenges you have identified with the current structure of the agency?
5. Does CBO conduct performance reviews? If so, how frequently? What metrics are used?
6. Do current staffing levels contribute to delayed turn-around time on work products?
7. Director Hall, your written testimony states that CBO has implemented more “teaming” arrangements to share work in certain high-demand areas. How are these teams structured to ensure efficiency and effectiveness?
8. How and when does the agency decide whether to shift a junior analyst from one team to another?
9. Are CBO’s technical capabilities and tools all actually located in Ford or are they outsourced?
10. What could CBO do better to streamline its procedures?
11. Director Hall, you mentioned in your testimony CBO’s desire to expand its ability to use more secure data on-site. What is CBO’s current capacity to use secure data on-site? How does CBO use secure data when its storage capacity is constrained?
12. How often is CBO precluded from incorporating secure data into its analysis because of capacity constraints?
13. Director Hall, what percentage of your annual budget is used for the buying of data and research?
14. Could you please explain in more detail what types of data and research CBO is purchasing and the sources? For example, is CBO directly contracting for research on

specific topics or instead purchasing the rights and access to high-quality, peer-reviewed research and data?

15. Director Hall, your written testimony states that CBO has taken care to give more explanations of changes in written estimates and to document more of the agency's analytic methods over the past year. What feedback has CBO received from implementing these changes?
16. In your judgment, are there ways in which CBO could be more transparent with Congress? In what areas can transparency be increased?
17. A few dozen foreign countries have government fiscal agencies with roles similar to those of CBO. Have you explored their efforts at transparency and information accessibility?
18. CBO's cost estimates typically show only the changes in spending or revenue resulting from a reported bill; they do not show the baseline against which these changes are measured, or the net effect on total program spending if the legislation is enacted. Why does CBO present its cost estimates that way?
19. There often is a trade-off between having the most technically informative products and having products that are easy to understand. How does CBO strike this balance?
20. How does CBO decide to produce products that are not requested by Congress (*e.g.*, blog posts, options book, and reports to the Congress on CBO's work)?
21. Which colleges and universities do you recruit from?
22. Are most of your staff recruited directly out of graduate school or do you recruit mid-career?
23. How long do your analysts typically stay at CBO?
24. Has your staffing kept pace with the number of estimates you are required to produce?
25. As more legislative proposals are being considered on the floor without going through the committee process, how does that affect your ability to produce cost estimates?
26. It seems strange that CBO & JCT have similar responsibilities but are structured very differently. Can you summarize the differences between how CBO and Joint Committee on Taxation are organized and governed?
27. What do you think of proposals to combine the two institutions?

28. What criteria would you recommend Congress should use to judge CBO's performance?

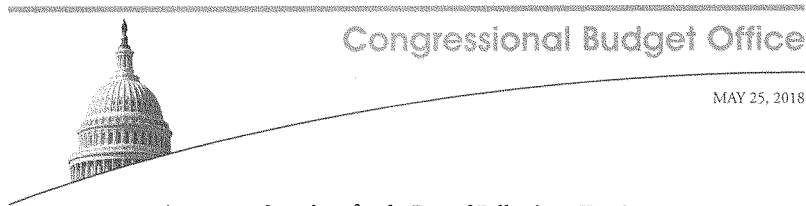
Questions for the Record

To: Keith Hall, Ph.D., Director, Congressional Budget Office
 From: Congressman Gary Palmer
 Date: January 31, 2018
 RE: Hearing: "CBO Oversight: Organizational and Operational Structure"

Director Hall, as you know, CMS recently published guidance that provides new flexibility for states to create Medicaid work requirements. How would CBO assess the budgetary effects that result from this flexibility?

I would like to formally request that your team produce an analysis that shows who might be subject to the work requirement by state.

Additionally, I would like to request that CBO produce an analysis of different levels of a work requirement for Medicaid — with stricter and more relaxed requirements relative to what CBO believes will occur under the CMS guidance — and the budgetary effects of those scenarios, as well as who might be subject to the work requirement by state.



MAY 25, 2018

**Answers to Questions for the Record Following a Hearing
Conducted by the House Committee on the Budget on CBO Oversight:
Organizational and Operational Structure**

On January 30, 2018, the House Committee on the Budget convened a hearing at which Keith Hall, Director of the Congressional Budget Office, testified about CBO's work in 2017 and its future plans.¹ After the hearing, Chairman Womack and Congressman Palmer submitted questions for the record. This document provides CBO's answers. It is available at www.cbo.gov/publication/53863.

Chairman Womack

Question. Are there any functions that these divisions are not sufficiently equipped to handle now?

Answer. CBO maintains a flat organizational structure that fosters collaboration and teamwork across and within divisions. For example, the analytic reports produced by analysts in several divisions rely on the economic projections prepared by the Macroeconomic Analysis Division and on the cost estimates and budget projections prepared by the Budget Analysis and Tax Analysis Divisions. Similarly, the budget projections and cost estimates prepared by the Budget Analysis and Tax Analysis Divisions draw on models and analyses produced by other divisions. The overall structure also allows for multiple levels of review by managers with a wide range of perspectives and expertise.

Most of CBO's 235 staff are economists or public policy analysts with advanced degrees, but the agency also employs lawyers, information technology specialists, editors, and people with other areas of expertise that contribute to the agency's mission. CBO's analysts have a broad range of skills and expertise and routinely seek input from outside experts to assist with and expedite their analyses. However, the Congress's increased interest in responsiveness and transparency has led the agency to request additional resources to hire more employees. Specifically, the agency has submitted a budget request to hire 10 new staff members in 2019, with the aim of hiring a total of 20 new staff by 2021. The ultimate objective of increasing the number of staff members is to bolster the agency's responsiveness to the Congress and to enhance efforts to ensure transparency.

1. See testimony of Keith Hall, Director, Congressional Budget Office, before the House Committee on the Budget, *The Congressional Budget Office's Work in 2017 and Plans for the Future* (January 30, 2018), www.cbo.gov/publication/53501.

Question. How does CBO interact with the Joint Committee on Taxation? Which divisions are responsible for that interaction?

Answer. Many CBO staff members often work closely and collaboratively with the staff of the Joint Committee on Taxation (JCT). Consistent with the Congressional Budget Act of 1974, CBO relies on estimates provided by JCT when preparing cost estimates that reflect the effects of changes to tax laws. JCT estimates the effects of such changes relative to CBO's baseline projections of tax receipts. To facilitate such analyses, CBO provides JCT detailed information about its economic forecast and revenue projections. On topics such as health care, immigration, and housing finance, where legislative proposals often affect both tax receipts and spending programs, CBO and JCT work together to evaluate the impacts of the legislative changes.

JCT also plays a key role in the preparation of other analysis produced by CBO. In particular, it provides estimates of the revenue effects of various alternative tax policies that are included in CBO's annual reports on the budget and economic outlook, as well as in the agency's budget options reports; and it provides estimates of the revenue effects of the tax proposals contained in CBO's analysis of the President's budget.

Question. How are conflicts and differing professional opinions across divisions managed?

Answer. CBO welcomes a wide range of views among its staff and encourages analysts involved in the preparation of cost estimates to express their opinions and offer suggestions. The agency is sensitive to falling into "group think," so debate is encouraged. Within the time constraints facing CBO, staff members try to allow enough time to work through differing viewpoints about approaches to analyzing an issue.

During discussions about scoring legislative proposals, all viewpoints are heard. Management does not make distinctions between junior or senior analysts or between analysts and managers. Everyone has a seat at the table, and everyone has an opportunity to have a say. Staff members generally strive to reach consensus and usually do, but ultimately it is the director who makes the final decision when differing viewpoints cannot be reconciled.

Question. What are the challenges you have identified with the current structure of the agency?

Answer. In 2018 and 2019, CBO will continue to provide cost estimates and other analyses to assist the Congress in making policy decisions. To ensure that the agency is as responsive as possible, and in particular to increase its capacity to accommodate surges in demand for cost estimates and other analyses, CBO has recently shifted some of its existing resources. For example, the agency has reorganized the way it approaches various topics: Teams have been expanded so that more people are prepared to contribute to the work in certain areas of interest, such as immigration, health insurance coverage, nutrition programs, and veterans' programs. In addition, CBO has become more efficient in reporting the effects of intergovernmental and private-sector mandates and in providing administrative assistance. Those efficiencies have allowed the agency to increase the number of employees who focus on the type of analysis that is in persistently high demand—specifically, that dealing with

appropriation bills and legislation affecting health insurance coverage, nutrition programs, and natural resources. Finally, an editor is now dedicated to assisting with cost estimates, giving analysts and managers more time for other, technical aspects of the work.

Question. Does CBO conduct performance reviews? If so, how frequently? What metrics are used?

Answer. CBO uses a formal, written appraisal process that is designed to assess employees' performance fairly and regularly (generally once per year). Formal appraisals identify an employee's performance strengths and areas in need of improvement, establish performance goals for the upcoming year, and describe training and development that the employee should complete in the upcoming year. The appraisal is also used to evaluate how successful an employee has been in reaching goals established during the previous appraisal period.

Managers use the following criteria to evaluate employees' performance in the formal appraisal:

- Quality of work,
- Productivity and timeliness,
- Initiative,
- Written and oral communication skills, and
- Effectiveness of working relationships.

Those criteria are applied to the work of each division and to each position within the division.

The appraisal provides each employee with an overall performance rating of either "outstanding," "very good," "good," "needs improvement," or "unsatisfactory."

Question. Do current staffing levels contribute to delayed turn-around time on work products?

Answer. Despite its historically high productivity and dedicated staff, CBO expects that the number of cost estimates and other analyses the agency is able to produce will fall considerably short of the number of Congressional requests. The demands on the agency remain intense. For example, the workload associated with the analysis of appropriations continues to be heavy, and the Congress remains acutely interested in analyses of the Affordable Care Act and numerous proposals for changes to that law, to Medicaid, and to the Children's Health Insurance Program. Other issues arise frequently and create a heavy demand for analysis; for example, over the past year, CBO analyzed legislative proposals related to immigration, veterans' health, water rights, opioid abuse, education, and nutrition. Analyzing proposals has strained the agency's resources in many areas. To help allocate resources, CBO regularly consults with committees and Congressional leadership to ensure that those resources are dedicated to the work that is of highest priority to the Congress.

Question. Director Hall, your written testimony states that CBO has implemented more "teaming" arrangements to share work in certain high-demand areas. How are these teams structured to ensure efficiency and effectiveness?

Answer. CBO has recently made greater use of teams to handle surges in demand for analysis of particular issues, and the agency expects to rely on that approach more in the future. As part of that effort, CBO is expanding some analysts' areas of specialization to intentionally create a degree of overlap in expertise. Consequently, more people are being trained to contribute to work in certain areas, such as immigration, health insurance coverage, nutrition programs, and veterans' programs.

In many cases, teams with a broad range of skills are able to share work on large and complicated proposals. However, smaller teams consisting of just a few people are sometimes brought together to work on projects; in such cases, the ability of analysts to coordinate their efforts quickly allows the agency to be more responsive to the Congress. Teams often are cross-divisional, offering an excellent way for analysts in the agency's Budget Analysis and Tax Analysis Divisions to work collaboratively with analysts in other divisions. In addition, teams often consist of employees with a wide range of experience, from junior analysts to senior managers.

Question. How and when does the agency decide whether to shift a junior analyst from one team to another?

Answer. Analysts have expertise or specialized skills in specific areas. That is true for both junior and senior analysts. Nonetheless, CBO's staff sometimes shift from issue to issue in response to Congressional interest. Generally speaking, even when that occurs, staff members continue using their core skill sets. For example, some staff members are particularly adept at analyzing large data sets—a skill that is valuable across a wide range of analytical endeavors.

Question. Are CBO's technical capabilities and tools all actually located in Ford or are they outsourced?

Answer. CBO has partnered with other legislative branch agencies to share common services and contracts, such as those involving financial management support, auditing, and communications. CBO also coordinates with its sister agencies to obtain some training. During monthly or quarterly meetings with various legislative branch working groups—such as the Chief Administrative Officer Council, the Chief Information Officer Council, and the Financial Management Council—attendees explore ways to increase efficiencies. For example, many agencies within the legislative branch, including CBO, recently moved their financial management systems to "the cloud," which will be more economical. CBO also uses contracts negotiated by the Senate, the General Services Administration, and other agencies to obtain lower prices for goods and services.

Every year, during the development of its budget, CBO scrutinizes its arrangements with contractors to ensure that requirements remain valid and that goods and services are purchased in the most economical manner possible. For example, in recent years, the agency has eliminated certain costs in library operations by canceling underused subscriptions—both in hard copy and online. It has further reduced costs by negotiating with vendors to obtain the lowest possible price for subscription renewals. And, a few years ago, CBO eliminated library cataloging services. In addition, instead of hiring permanent personnel for support services, the agency has contracted for administrative support during peak periods.

Question. What could CBO do better to streamline its procedures?

Answer. CBO has become more efficient in reporting the effects of intergovernmental and private-sector mandates and in providing administrative assistance within the agency, which has allowed it to increase the number of employees who contribute to analysis that is in persistently high demand—specifically, that related to appropriation bills and to legislation affecting health insurance coverage, nutrition programs, and natural resources. And an editor is now dedicated to assisting with cost estimates, giving analysts and managers more time for other, technical aspects of the work. In addition, CBO is working to better synchronize the transfer of information between its macroeconomic models. The agency is also streamlining the production of PDF files of reports and the production of associated materials on CBO's website.

Question. Director Hall, you mentioned in your testimony CBO's desire to expand its ability to use more secure data on-site. What is CBO's current capacity to use secure data on-site? How does CBO use secure data when its storage capacity is constrained?

Answer. When CBO receives data from any executive branch agency, it must provide the same level of confidentiality as that agency. CBO has put in place strong electronic and physical security measures to protect health records, trade secrets, and tax and other financial information. However, to use certain data, CBO currently must travel to the executive branch agency that possesses the data. That process is cumbersome and inefficient. CBO could produce more analysis more quickly if it either had remote access to those data or could store them at the Ford House Office Building.

Question. How often is CBO precluded from incorporating secure data into its analysis because of capacity constraints?

Answer. CBO is not precluded from incorporating secure data into its analyses. In some cases, however, CBO's employees must travel to executive branch agencies to use certain data. Although that process is cumbersome and inefficient, CBO's analysts take those steps when it is necessary to answer a question posed by the Congress. If CBO's employees could access those data remotely or store the data at the Ford House Office Building, they could devote more time to producing other analyses.

Question. Director Hall, what percentage of your annual budget is used for the buying of data and research?

Answer. CBO spends roughly 1 percent of its annual budget to purchase data. In addition, the agency receives free data from other government agencies. CBO has roughly 30 active data-use agreements with those government entities. Although CBO does not contract for original research, the agency does engage consultants to provide insight into topics the agency is addressing.

Question. Could you please explain in more detail what types of data and research CBO is purchasing and the sources? For example, is CBO directly contracting for research on specific topics or instead purchasing the rights and access to high-quality, peer-reviewed research and data?

Answer. CBO purchases economic data from sources that have produced, collected, and packaged it for others' use. Those sources range from private companies to academic

institutions, as well as other government agencies. In addition, although CBO does not contract for original research, the agency regularly consults with numerous outside experts—academics, think tanks, industry groups, private-sector experts, federal agencies, and state and local governments—who represent a variety of perspectives.

Question. Director Hall, your written testimony states that CBO has taken care to give more explanations of changes in written estimates and to document more of the agency's analytic methods over the past year. What feedback has CBO received from implementing these changes?

Answer. CBO has informally solicited feedback from Members of Congress, Congressional staff, and the broader community—including news organizations, academia, and think tanks—and it has been encouraging. In addition, CBO has solicited input, via a short website survey, from Congressional staff and others in recent years about the presentation of the agency's work. That feedback was constructive and positive.

There are many ways to be transparent. All of them can be useful, but each comes with a different cost. Over the coming year, as the agency tests different approaches to ensuring transparency, it hopes to achieve a better understanding of the trade-offs associated with each approach.

Question. In your judgment, are there ways in which CBO could be more transparent with Congress? In what areas can transparency be increased?

Answer. CBO is working very hard to be more forthcoming and to release more information about its models and analytic methods to the Congress and the public. Nonetheless, being transparent has costs. The agency takes seriously its responsibility to produce reliable estimates and to be good stewards of public resources. CBO must, in essence, make business decisions that weigh the benefits and costs of devoting more resources to transparency.

As part of its ongoing efforts to ensure transparency, the agency has released new publications this year describing its processes for producing economic forecasts, budget baselines, and cost estimates. In addition, key staff members are making presentations to Congressional staff about those processes. Efforts currently under way include the following:

- In updating its simulation model of health insurance coverage, CBO will get systematic feedback from the research community by making presentations about different aspects of the model as they are developed. The agency will publish conceptual overviews and documentation of all parts of the completed model as well as more detailed information about key aspects of the modeling—including computer code.
- CBO will develop an interactive version of its model for projecting spending on discretionary programs. That interactive model will help researchers understand and replicate the methods that underlie roughly 40 percent of CBO's formal cost estimates.
- The agency will update elements of its long-term budget model and provide technical documentation and computer code explaining the updates.
- The agency will explore ways to provide publicly more supporting documentation that describes the methods used in producing baseline projections and cost estimates.
- CBO will provide information online that enables users to examine how a large variety of changes in baseline economic projections can affect projections of the federal budget.

- The agency will publish revised estimates of how certain changes to laws governing medical malpractice would affect medical spending, explaining the reasons behind revisions to the methodology used, documenting the model used to project how those changes to laws would affect medical costs, and making computer code for that model available.
- CBO will post on its website a tool for examining the costs of different military force structures (with different numbers of fighter squadrons and ships, for instance).
- The agency has released a working paper about CBO's model of the maximum sustainable output of the economy.² And, to help interested researchers replicate the agency's analytical results, it will release the computer code that generated the results discussed in that paper.

Question. A few dozen foreign countries have government fiscal agencies with roles similar to those of CBO. Have you explored their efforts at transparency and information accessibility?

Answer. CBO routinely explores how other agencies approach their work and reports the results of their analyses. In particular, CBO has shared ideas and experiences—pertaining both to transparency and to information accessibility—with staff at domestic and international agencies. For example, CBO sends a senior manager to the annual meeting of parliamentary budget officials, sponsored by the Organisation for Economic Co-operation and Development, where such topics are often a focus. As a result of those meetings, CBO has examined the approaches used by the United Kingdom's Office for Budget Responsibility to categorize the degree of uncertainty in their estimates, as well as approaches used by offices in New Zealand and Australia. As an example of such collaboration, Robert Chote, the Chairman of the U.K.'s Office for Budget Responsibility, visited CBO last year to discuss those issues. In addition, last fall, representatives of the Canadian Office of the Parliamentary Budget Officer visited CBO. And the agency has an ongoing relationship with Australia's Parliamentary Budget Office; for example, CBO has participated in two video conferences on issues of mutual interest, including the long-term budget outlook, uncertainty in estimating, and dynamic scoring. Also, the agency has an ongoing relationship with the European Parliamentary Research Service. Finally, CBO has been looking into the online interactivities used by other agencies to help users assess the budgetary effects of illustrative policy proposals.

Question. CBO's cost estimates typically show only the changes in spending or revenue resulting from a reported bill; they do not show the baseline against which these changes are measured, or the net effect on total program spending if the legislation is enacted. Why does CBO present its cost estimates that way?

Answer. For authorization bills—those that authorize spending that would be subject to subsequent appropriation—CBO's cost estimates compare a bill's estimated costs with what would be spent under current law if the bill was not enacted. For virtually all discretionary programs, current law provides no funding after the current year. As a result, cost estimates show the effects on the budget relative to zero spending. A bill that would extend the authorization for an existing discretionary program would be shown as increasing spending subject to appropriation, even if the authorized funding was the same as the current year's appropriation. Similarly, a bill that would create a new program also would be shown as increasing

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

spending subject to appropriation. To the maximum extent possible, CBO provides information about the most recent appropriation provided for affected programs.

For legislation that would affect mandatory (or direct) spending, CBO compares those estimated costs to the baseline, which also reflects current law (that is, the amount of spending that would occur for affected programs if the bill was not enacted). For mandatory programs, CBO provides, whenever possible, information about baseline levels of spending in its description of the basis of the estimate. CBO has used that approach with the goal of providing information in the clearest way possible. Nonetheless, feedback about what additional information would be useful to policymakers would influence how CBO describes such cost estimates in the future.

In both cases, estimates show the incremental change to the baseline and the net effect on total program spending if the legislation was enacted.

Question. There often is a trade-off between having the most technically informative products and having products that are easy to understand. How does CBO strike this balance?

Answer. CBO strives to be transparent, providing clear, concise explanations and detailing the key components of the basis of each analytical product. The overarching goal is to make information accessible by providing context, explaining technical terms, and effectively using tables and figures. CBO strives constantly to find more effective ways to be transparent. One approach that the agency has adopted is to provide technical appendixes, documentation of models, and other supplemental material along with its products.

Question. How does CBO decide to produce products that are not requested by Congress (e.g., blog posts, options books, and reports to the Congress on CBO's work)?

Answer. CBO's chief responsibility under the Congressional Budget Act of 1974 is to help the House and Senate Budget Committees with matters under their jurisdiction. CBO also supports other Congressional committees—particularly the Appropriations, Ways and Means, and Finance Committees—and Congressional leadership.

Every product CBO produces is requested by the Congress, is designed to help lawmakers understand products they have requested, or is created as part of a process that ensures CBO has the skills and expertise to produce such products. CBO produces a number of reports specified in statute, of which the best known is the annual *Budget and Economic Outlook*. Other CBO reports that are required by law or that are now produced regularly because of sustained interest from the Congress are described on CBO's website at www.cbo.gov/about/products.

In addition, CBO is required by law to produce a formal cost estimate for nearly every bill that is approved by a full committee of either the House or the Senate; the only exceptions are appropriation bills, which do not receive the same kind of formal written cost estimates but whose budgetary effects CBO estimates for the Appropriations Committees. CBO also produces formal cost estimates at other stages of the legislative process if requested to do so by a relevant committee or by Congressional leadership. Moreover, CBO produces informal cost estimates for a much larger number of legislative proposals—including some that Congressional committees consider during the process of developing legislation and some that receive consideration at other stages of the legislative process.

Beyond its regular reports and cost estimates, CBO prepares analytic reports at the request of Congressional leadership or of the Chairmen or Ranking Members of committees or

subcommittees. CBO's managers and analysts work with requesters and their staffs to understand the scope and nature of the work that would be most useful to the Congress.

Question. Which colleges and universities do you recruit from?

Answer. In addition to many other sources, CBO recruits from colleges and universities across the country. The agency specifically reaches out to over 350 colleges and universities through its contact management system. However, to more broadly promote job opportunities, CBO advertises open positions using systems such as USAJobs, Handshake, and the American Economic Association Job Openings for Economists, which have access to an even wider range of universities and therefore provide exposure to millions of students. The agency currently has staff members onboard whose final degrees came from more than 80 different universities.

Question. Are most of your staff recruited directly out of graduate school or do you recruit mid-career?

Answer. Recruitment strategies vary on the basis of the position CBO is seeking to fill and the skills and experience needed. Therefore, in hiring analysts, CBO seeks a mix of new graduates and midcareer professionals. In recent years, the mix has been approximately 45 percent of analysts straight out of graduate programs and the remaining 55 percent with professional experience. Roughly 80 percent of the agency's staff have advanced degrees. As expected, the entry-level assistant analysts are mostly recruited straight out of undergraduate programs. Because of the agency's small staff size, it routinely seeks midcareer professionals for other professional and administrative positions.

Question. How long do your analysts typically stay at CBO?

Answer. The average tenure for CBO analysts is just over 10 years.

Question. Has your staffing kept pace with the number of estimates you are required to produce?

Answer. CBO is grateful that the Congress has provided the resources and authorities needed to attract and retain highly educated and skilled employees. Even so, CBO's staffing levels have remained roughly the same over the years even as its workload has steadily increased. For example, the agency produced 485 formal cost estimates in 2012 and 740 formal cost estimates in 2017. In each of those years, CBO had roughly 235 employees. In addition, as legislation has grown more complex, CBO has found itself spending more time providing preliminary analyses and technical assistance when committees are drafting legislation.

Question. As more legislative proposals are being considered on the floor without going through the committee process, how does that affect your ability to produce cost estimates?

Answer. When bills go straight to the floor without going through committee markup, CBO usually has time to provide only informal feedback on the bill's potential impacts on mandatory spending and revenues (what are known as PAYGO effects). CBO provides that information to the Budget Committees, the Rules Committee, the Majority Leader's office, and the bill's sponsor.

CBO is generally notified at the end of each week about bills that will be considered in the following week on the floor under suspension of the rules (the procedure generally used on the House floor to act expeditiously on legislation) or that will be taken up by the Rules Committee. If those bills are ordered reported by an authorizing committee, CBO can often finish and provide a formal written estimate for the legislation before the bill is considered on the floor. But if the agency is not already working on the bill, it usually does not have the time to complete a formal estimate before floor consideration. Still, CBO endeavors to be helpful to the Congress by providing as much information as possible to assist with budget enforcement.

Question. It seems strange that CBO and JCT have similar responsibilities but are structured very differently. Can you summarize the differences between how CBO and the Joint Committee on Taxation are organized and governed?

Answer. Both CBO and the staff of the Joint Committee on Taxation provide the Congress with independent, objective information and analyses. And both organizations rely on experienced, nonpartisan professional staff who assist Members of the majority and minority parties in both Houses of Congress. One critical difference between the two agencies is that JCT focuses specifically on tax legislation, whereas CBO focuses on a much broader set of topics, ranging from health care to national security. Although both agencies provide support and analysis to leadership and Members of Congress developing active legislation, JCT was established primarily to be a resource for the House Committee on Ways and Means and the Senate Committee on Finance. By contrast, CBO was established to be a resource for all committees—primarily the Budget Committees, but others as well, including the Appropriations, Ways and Means, and Finance Committees.

Responsibilities and Products. Although the responsibilities of the two agencies are similar in that each provides information about the costs—and often other effects—of proposed legislation, there is a clear division of responsibility between them. Consistent with JCT's original charter, and as reaffirmed in the Congressional Budget Act of 1974, the staff of JCT is specifically tasked with estimating the budgetary effects of *tax* legislation. By contrast, under the Congressional Budget Act, CBO has the responsibility of estimating the budgetary effects of *all other* legislation. In addition to estimating costs and the distribution of tax burdens, and providing other economic analysis, the staff of JCT has the following responsibilities: providing legal analysis of issues in tax law; assisting in the development of legislative language for changes to the Internal Revenue Code; providing technical advice at committee hearings and markups; assisting the House Committee on Ways and Means, the Senate Committee on Finance, and conference committees in the production of the legislative histories (committee reports) that accompany the legislation; and providing oversight of the administration of the Internal Revenue Code, including, in particular, reviewing all large proposed tax refunds. The Joint Committee staff regularly publishes economic and legal analyses related to the topics of hearings held by the House Committee on Ways and Means and the Senate Committee on Finance and reviews tax treaties for the Senate Foreign Relations Committee. In addition the Joint Committee staff publishes material describing its economic modeling.

CBO's responsibilities are broader. As detailed on the agency's website, at www.cbo.gov/about/products, CBO regularly publishes baseline projections of budgetary and economic outcomes that are based on the assumption that current laws regarding federal spending and revenues will generally remain in place. CBO provides formal, written estimates of the cost of virtually every bill approved by Congressional committees. (As discussed above, for legislation related to the Internal Revenue Code, CBO uses estimates provided by the staff of

the Joint Committee on Taxation.) In addition to formal, written estimates for bills approved by committees, CBO provides technical assistance as committees are considering what legislation to advance, as amendments to legislation are being debated, and at other stages in the legislative process. CBO issues a monthly analysis of federal spending and revenue totals for the previous month and the fiscal year to date. Periodically, CBO produces a reference volume examining numerous options for reducing budget deficits. The volume includes a wide range of options, derived from many sources, for reducing spending or increasing revenues. For each option, CBO presents an estimate of its effects on the budget and a discussion of its benefits and drawbacks but makes no recommendations.

CBO also prepares analytic reports that examine particular federal spending programs, aspects of the tax code, and budgetary and economic challenges. The reports cover many areas of federal policy, including health care, economic growth, social insurance, income security, taxes, energy, the environment, national security, financial issues, education, infrastructure, and more. In addition, CBO produces working papers that provide technical descriptions of the agency's official analyses and that represent independent research conducted by CBO's analysts. Through those papers, CBO aims to enhance the transparency of its work and to encourage external review of that work. Finally, to provide more detail about CBO's budget and economic projections and to add to the transparency of CBO's other analyses, the agency posts a considerable quantity of data and other technical information on its website.

Organizational Structure. Differences in the two agencies' structure largely reflect their different histories and the needs of the primary clients for their analyses. The Joint Committee on Taxation is a nonpartisan committee of the United States Congress, originally established under the Revenue Act of 1926. By custom, the Joint Committee is chaired on a rotating basis by the Chairman of the Senate Finance Committee and the Chairman of the House Ways and Means Committee. During the first session of each Congress, the House has the Chair and the Senate has the vice-chair; during the second session, the roles are reversed. Also by custom, the responsibility for nominating a Chief of Staff rotates between the Chairs of the House Committee on Ways and Means and the Senate Committee on Finance, and consent of the nonnominating chair is obtained. There is not a fixed term of service for JCT's Chief of Staff. He or she serves at the pleasure of the Joint Committee members. Like CBO's staff, the staff of JCT is professional, highly skilled analytically, and nonpartisan. Because JCT was established to serve Members with issues of federal taxation, most of its work is undertaken for Members of the two tax-writing committees. Nevertheless, the staff of JCT serves all Members of Congress as an independent resource on issues related to tax policy, and the agency undertakes a significant amount of work for Members not on the House Ways and Means Committee or the Senate Finance Committee. In addition to work for individual Members, the staff of JCT devotes a significant amount of time to requests from House and Senate leadership, the House and Senate Budget Committees, and the Senate Foreign Relations Committee.

CBO was established under the Congressional Budget Act of 1974. Although CBO's primary duty and function is to help the Budget Committees with matters under their jurisdiction, CBO was established as an independent office to be a resource for all committees—including particularly the Appropriations, Ways and Means, and Finance Committees—and the leadership. The Speaker of the House of Representatives and the president pro tempore of the Senate jointly appoint the Director of the Congressional Budget Office after considering recommendations from the two Budget Committees. Directors are appointed for four-year terms, and they may be reappointed to the position; in addition, a Director serving at the

expiration of a term may continue to serve until his or her successor is appointed. The Congressional Budget Act of 1974 specifies that CBO's Director is to be chosen without regard to political affiliation and that all personnel of the office are to be appointed without regard to political affiliation and solely on the basis of their fitness to perform their duties.

CBO has an organizational structure that reflects the diversity of the topics that it needs to address. Specifically, CBO consists of eight divisions. The vast majority of personnel at CBO hold advanced degrees in economics or public policy and administration.

- The Budget Analysis Division produces baseline projections of federal spending, formal cost estimates for legislation approved by Congressional committees, and technical assistance for thousands of proposals that committees are considering.
- The Financial Analysis Division produces policy analyses focused on the financial commitments of the federal government and provides support throughout CBO for financial valuation and modeling and for projections of financial variables.
- The Health, Retirement, and Long-Term Analysis Division analyzes a range of federal programs and policies that include Medicare, Medicaid, subsidies provided through health insurance exchanges, and Social Security. The division is also responsible for CBO's long-term budget projections and collaborates on analyses of the long-term effects of proposed legislation.
- The Macroeconomic Analysis Division generates CBO's economic projections, which underlie the agency's budget projections. In addition, the division analyzes the short-term and longer-term effects on the overall economy of some proposed changes in federal tax and spending policies.
- The Microeconomic Studies Division analyzes federal programs related to education and income security; federal investment in physical infrastructure such as highways; and federal policy related to energy, natural resources, climate, and the environment.
- The National Security Division analyzes policy issues related to the defense budget, veterans' affairs, and homeland security.
- The Tax Analysis Division produces baseline projections of federal revenues (from individual income taxes, payroll taxes, corporate income taxes, and other sources) and formal cost estimates for legislation that changes revenues other than those that modify tax law. The division also analyzes the distribution of federal taxes and spending, and it examines how possible changes in tax law would affect the behavior of taxpayers and the overall economy.
- The Management, Business, and Information Services Division provides administrative and support services (ranging from information technology to editing) for CBO.

The staff of the Joint Committee on Taxation is smaller than that of CBO, approximately one-quarter the size, and its simpler organizational structure is a function of both its size and its mission. Roughly half of JCT's professional staff is composed of tax attorneys and accountants, and half consists of economists. Each staff member specializes in specific areas of the Internal Revenue Code, and lawyers, accountants, and economists work in fluid teams when analyzing tax legislation. Because tax legislation is often designed with the intent of providing incentives that would affect economic growth, one of the economic areas of specialization among JCT's staff is the macroeconomic analysis of tax policy. Since 1995, JCT's macroeconomists have developed enhanced tax sectors within macroeconomic models for the purpose of analyzing such effects.

Question. What do you think of proposals to combine the two institutions?

Answer. The two agencies have separate mandates. One crucial difference between the two agencies is that JCT focuses solely on tax legislation, whereas CBO focuses on a much broader set of issues, ranging from health care to national security. Although both agencies provide support and analysis to leadership and Members of Congress developing active legislation, JCT mainly assists the House Committee on Ways and Means and the Senate Committee on Finance. CBO, by contrast, was established to be a resource for all committees—primarily the Budget Committees, but others as well, including the Appropriations, Ways and Means, and Finance Committees.

In fulfilling their separate mandates, the two agencies are able to meet the needs of the Congress in ways that mesh very well. For example, CBO relies on estimates provided by JCT when preparing cost estimates that reflect the effects of changes to tax laws, and JCT estimates the effects of such changes relative to CBO's baseline projections of tax receipts. When there is overlap in the agencies' analysis—for instance, when legislation affects both spending and tax policies in interrelated ways—the agencies generally produce joint cost estimates. Although the two agencies have distinct responsibilities, there is some overlap in expertise, which allows them to share insights about each other's analyses. That collaboration is facilitated by the two agencies' physical proximity: Since 2015, most of the staff of JCT are located just one floor away from CBO in the Ford House Office Building.

However, creation of a single, larger entity could lead to the loss of the dexterity with which both agencies address Members' questions during the legislative process. The current separation yields some advantages that would be lost if the agencies were combined. For example, staff members at CBO must collectively possess wide-ranging expertise on a variety of issues related to fiscal and economic policy. Issues that CBO's staff must analyze range from health care to national security, labor, transportation, education, energy, Social Security, and macroeconomics. And CBO has to provide cost estimates to all Congressional committees, with the Budget Committees being the highest priority.

In contrast, the staff of JCT has deep expertise on a set of issues specifically related to tax policy. Unlike CBO's staff, nearly half of JCT's professional staff is composed of tax attorneys and accountants. As JCT states on its website, "The complexity of the tax laws places a high premium on objective technical advice. Because the Joint Committee is devoted solely to tax issues, its focus on fulfilling its statutory mandate is undiluted by the need to respond to other legislative pressures."³ The complexity of the Internal Revenue Code—and the incentives it provides to individuals and businesses to discover legal avenues to reduce their tax burden—often requires that legal and accounting expertise, as well as economic analysis, be applied to the analysis of proposed tax legislation. Lawyers, accountants, and economists work with Members' staff and the staff of the House Committee on Ways and Means and of the Senate Committee on Finance to ensure that, to the greatest extent possible, the proposed statutory language accomplishes what is intended.

Also, the staff of JCT is closely involved in every aspect of the tax legislative process, in ways that CBO's staff is not. Among other things, the staff of JCT prepares hearing pamphlets, committee reports, and conference reports (statements of managers); assists in the drafting of statutory language; assists the Ways and Means and Finance Committees in their preparations for markups and during the markups themselves; assists Members of Congress in

3. See www.jct.gov/about-us/mandate.html.

addressing constituent issues and problems; reviews proposed large income tax refunds; and initiates investigations of various aspects of the federal tax system. Indeed, because JCT's mission is to assist Members in ways beyond the provision of revenue analysis and economic reports, only approximately half of JCT's professional staff is involved in economic modeling and revenue estimating. For that reason, JCT employs experienced tax attorneys and accountants in addition to economists.

Question. What criteria would you recommend Congress should use to judge CBO's performance?

Answer. CBO's mission is to serve the Congress. CBO primarily acts as a resource for the Budget Committees in order to support the budget process. More broadly, CBO's mission is to help the Congress make effective budget and economic policy. As the needs of the Congress evolve, the criteria by which CBO is judged evolve as well. Given CBO's current responsibilities, the Congress could consider judging the agency on whether its analysis, and the presentation of that analysis, is:

- Objective—representing not the personal opinions of CBO's staff but both the consensus and the diversity of views among experts from around the country;
- Insightful—applying the best new evidence and innovative ideas as well as the lessons of experience;
- Timely—responding as quickly as possible to the needs of the Congress; and
- Transparent and clearly explained—so that the underlying analysis is accessible (that is, explained in detail but with minimal use of jargon and technical language), enabling policymakers to understand the basis for the agency's findings and have the opportunity to question the analysis and methods used.

Precision, accuracy, completeness, and consistency are other important criteria. Because of the significant impact that CBO's work can have on the legislative process, *precision*—ensuring that the written words mean exactly what the agency intends and cannot easily be misinterpreted—is important. CBO's analysts pursue high quality and *accuracy*, with the goal of producing estimates that are in the middle of the distribution of potential outcomes. When possible, the agency compares its estimates to other experts' analyses. In addition, CBO regularly compares its estimates with actual outcomes, when available, to improve estimating methods. *Completeness* is also essential. In its reports, CBO tries to cover all of the important issues related to any particular topic and to explain and address the uncertainty inherent in projections of future outcomes. And ensuring *consistency* among products and over time—both in the underlying analysis and in its presentation—is critical to the credibility of CBO's work. For bodies of work on any number of topics, the agency attempts to identify and explain key changes in its findings and approaches that occur over time.

Congressman Palmer

Question. Director Hall, as you know, CMS recently published guidance that provides new flexibility for states to create Medicaid work requirements. How would CBO assess the budgetary effects that result from this flexibility? I would like to formally request that your team produce an analysis that shows who might be subject to the work requirement by state. Additionally, I would like to request that CBO produce an analysis of different levels of a work requirement for Medicaid—with stricter and more relaxed requirements relative to what CBO believes will occur under the CMS guidance—and the budgetary effects of those scenarios, as well as who might be subject to the work requirement by state.

Answer. CBO expects that work requirements would reduce enrollment in Medicaid among people who were eligible for the program before implementation of those requirements and reduce federal costs of the program for those people. Earlier this year, four states received waivers to federal rules so that they could include such work requirements for some adults when determining eligibility for Medicaid, and eight other states have such waivers pending. The additional flexibility for states to create work requirements for Medicaid also tends to encourage the expansion of eligibility for the program in the future to people who are not currently eligible. However, enrollment in those states among people who became newly eligible because of the expansion would be lower than it otherwise would be if those states chose to adopt the expansion and not apply work requirements.

CBO's baseline projections of federal spending for Medicaid incorporate the effects of waivers—including work requirements—along with many other factors. The agency is closely monitoring the waiver application process to learn more about potential exemption criteria and documentation requirements, qualifying work activities, criteria for suspending eligibility when enrollees do not demonstrate that they are meeting the requirements, and other key details. Besides allowing work requirements, the waivers could substantially change Medicaid enrollment in other ways, such as allowing disenrollment and lock-out periods if beneficiaries failed to pay premiums. CBO is analyzing the potential effects of those other changes and their interaction with work requirements.

CBO is in the process of consulting with the Budget Committees, the committees with jurisdiction over Medicaid, and Congressional leadership to learn about their priorities to determine what work to turn to next. The extent to which the agency is able to provide additional analyses of work requirements will depend on how that work would fit with those priorities.