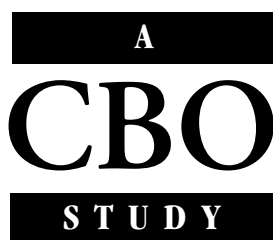


An Analysis of the President's Budgetary Proposals for Fiscal Year 2010



JUNE 2009

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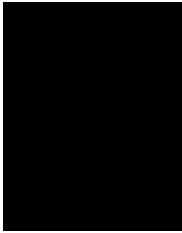
June 2009

Notes

Unless otherwise indicated, years referred to in describing the budget outlook are federal fiscal years (which run from October 1 to September 30), and years referred to in describing the economic outlook are calendar years.

Numbers in the text and tables may not add up to totals because of rounding.

Cover photograph by Maureen Costantino.



Preface

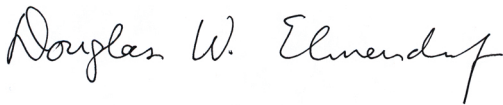
This report follows up on the document that the Congressional Budget Office (CBO) released in March 2009 titled *A Preliminary Analysis of the President's Budget and an Update of CBO's Budget and Economic Outlook*, which was based on the President's preliminary budget submission. Estimates in this report, which was prepared at the request of the Senate Committee on Appropriations, reflect the final set of proposals included in the *Budget of the United States Government: Fiscal Year 2010* (May 2009).

The baseline spending projections and the estimates of the budgetary impact of the President's spending proposals were prepared by the staff of CBO's Budget Analysis Division under the supervision of Peter Fontaine, Theresa Gullo, Holly Harvey, Janet Airis, Tom Bradley, Kim Cawley, Jeffrey Holland, Sarah Jennings, Kate Massey, and Sam Papenfuss. The baseline revenue estimates were prepared by the staff of CBO's Tax Analysis Division under the supervision of Frank Sammartino, Mark Booth, and David Weiner. Pamela Greene coordinated the analysis of the President's revenue proposals, and the Joint Committee on Taxation prepared most of the estimates of those proposals. (A detailed list of contributors to the spending and revenue projections appears in Appendix C.)

Benjamin Page of the Macroeconomic Analysis Division coordinated the economic analysis under the supervision of William Randolph. Robert Arnold, Naomi Griffin, Ed Harris, Mark Lasky, Larry Ozanne, Frank Russek, Marika Santoro, Kurt Seibert, Sven Sinclair, and David Weiner carried out the modeling.

Barry Blom of CBO's Projections Unit was the lead author for Chapter 1. Benjamin Page wrote Chapter 2 and Appendix B, and Larry Ozanne and Benjamin Page wrote Appendix A.

Christine Bogusz and Sherry Snyder edited the report. Maureen Costantino designed the cover and prepared the report for publication. Lenny Skutnik printed the initial copies, and Linda Schimmel handled the distribution. Simone Thomas prepared the electronic version for CBO's Web site (www.cbo.gov).



Douglas W. Elmendorf
Director

June 2009



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CBO's Estimate of the President's Budget

In March of this year, the Congressional Budget Office (CBO) issued a report analyzing the policy proposals outlined in the President's preliminary budget request.¹ That initial budget outline did not provide details on some of the Administration's proposals, including its request for future appropriations. Those details were made available with the release on May 7 of the full budget proposal for fiscal year 2010.² Incorporating the new details, CBO has updated its analysis of the policy proposals contained in the President's budget.

The results of CBO's updated analysis are similar to those released in March. CBO now estimates a 10-year deficit of \$9.1 trillion under the President's policies—about \$130 billion lower than it estimated three months ago (a difference of about 1.4 percent of the cumulative deficit over the 2010–2019 period). That difference reflects the details of the proposals and some technical changes in CBO's estimates of the budgetary impact of those proposals. As with the March report, this analysis incorporates revenue estimates from the Joint Committee on Taxation (JCT).³ CBO has not updated its baseline bud-

get projections or its economic forecast since the preliminary analysis of the President's budget was released in March.⁴

Estimate of the President's Budget

Under the President's policies, the deficit in 2009 would total \$1.8 trillion and equal 13.0 percent of gross domestic product (GDP), CBO estimates. The deficit in 2009 would be \$157 billion higher than what is expected to occur under current law—primarily because of additional spending for the government's actions to stabilize financial markets and for ongoing military operations in Iraq and Afghanistan.

In 2010, the deficit would measure 9.9 percent of GDP, or \$1.4 trillion, CBO estimates (see Table 1-1). The cumulative deficit over the 2010–2019 period would equal \$9.1 trillion (5.2 percent of GDP), more than double the cumulative deficit projected under the current-law assumptions embodied in CBO's March baseline. As a result, debt held by the public would rise from 57 percent of GDP in 2009 to 82 percent of GDP by 2019.

Revenues

Under current law, revenues would grow from 15.5 percent of GDP in 2009 to 19.9 percent in 2013, CBO estimates (see Table 1-2). Much of the projected increase in revenues occurs because certain provisions of the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA) and the Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA) expire at the end of December 2010. The termination of tax provisions in the American Recovery and Reinvestment Act of 2009 (ARRA) and the anticipated recovery from the

1. For more details on the Administration's initial budget outline, see Office of Management and Budget, *A New Era of Responsibility: Renewing America's Promise* (February 26, 2009). For CBO's analysis of the budgetary impact of the Administration's proposals, see Congressional Budget Office, *A Preliminary Analysis of the President's Budget and an Update of CBO's Budget and Economic Outlook* (March 2009).
2. See Office of Management and Budget, *Budget of the United States Government: Fiscal Year 2010* (May 2009).
3. This analysis uses preliminary estimates by JCT that were available as of June 5, 2009. JCT subsequently revised a few estimates, as reflected in Joint Committee on Taxation, *Estimated Budget Effects of the Revenue Provisions Contained in the President's Fiscal Year 2010 Budget Proposals as Described by the Department of the Treasury, May 2009*, JCX-28-09 (June 11, 2009). Those revisions were not incorporated in CBO's analysis. The revisions increase the projected revenues under the President's proposals by \$0.4 billion between 2010 and 2019.

4. The baseline is a projection of spending and receipts under current laws and policies, consistent with the rules specified in section 257 of the Balanced Budget and Emergency Deficit Control Act of 1985.

Table 1-1.

Comparison of Projected Revenues, Outlays, and Deficits in CBO's March 2009 Baseline and CBO's Estimate of the President's Budget

(Billions of dollars)

	Actual												Total, 2010- 2014	Total, 2010- 2019
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
CBO's Baseline														
Revenues	2,524	2,186	2,334	2,783	3,086	3,281	3,436	3,610	3,761	3,927	4,083	4,247	14,921	34,550
Outlays	2,983	3,853	3,473	3,476	3,417	3,581	3,746	3,892	4,088	4,239	4,408	4,671	17,693	38,991
Total Deficit	-459	-1,667	-1,139	-693	-331	-300	-310	-282	-327	-312	-325	-423	-2,772	-4,441
CBO's Estimate of the President's Budget														
Revenues	2,524	2,186	2,263	2,593	2,933	3,111	3,248	3,405	3,541	3,690	3,830	3,974	14,147	32,587
Outlays	2,983	4,010	3,695	3,567	3,566	3,757	3,974	4,168	4,415	4,618	4,829	5,137	18,559	41,726
Total Deficit	-459	-1,825	-1,432	-974	-633	-647	-726	-763	-873	-927	-999	-1,163	-4,413	-9,139
Difference Between the President's Budget and CBO's Baseline														
Revenues	n.a.	*	-71	-191	-153	-171	-188	-205	-220	-236	-254	-273	-775	-1,962
Outlays	n.a.	157	223	91	149	176	228	277	326	379	421	466	866	2,735
Total Deficit^a	n.a.	-157	-294	-281	-302	-347	-416	-481	-546	-615	-675	-739	-1,640	-4,697
Memorandum:														
Total Deficit as a Percentage of GDP														
CBO's baseline	-3.2	-11.9	-7.9	-4.6	-2.1	-1.8	-1.8	-1.6	-1.8	-1.6	-1.6	-2.0	-3.5	-2.5
CBO's estimate of the President's budget	-3.2	-13.0	-9.9	-6.5	-4.0	-3.9	-4.2	-4.3	-4.7	-4.8	-4.9	-5.5	-5.6	-5.2
Debt Held by the Public as a Percentage of GDP														
CBO's baseline	40.8	54.8	60.1	62.0	61.6	60.7	60.2	59.5	59.0	58.5	56.1	56.1	n.a.	n.a.
CBO's estimate of the President's budget	40.8	56.7	64.9	68.6	70.2	71.3	73.0	74.9	77.1	79.3	78.7	81.7	n.a.	n.a.

Source: Congressional Budget Office.

Note: * = between -\$500 million and zero; GDP = gross domestic product; n.a. = not applicable.

a. Negative numbers indicate an increase relative to the baseline deficit.

recession will also contribute to the rise in revenues. Under the President's proposals, revenues would grow less quickly—to 18.9 percent of GDP in 2013—because many provisions of EGTRRA and JGTRRA would be extended (see Table 1-3).

Beyond 2013, revenues under the President's budget would remain near 19.0 percent, slightly above the average of 18.3 percent over the past 40 years. However, they would be about \$2.0 trillion lower than the \$35 trillion in total revenues projected under current law over the

2010–2019 period, a difference equal to about 1.1 percent of GDP. Of the various revenue proposals, modifying and extending provisions of EGTRRA and JGTRRA would have the largest effect, reducing revenues by \$1.9 trillion, according to JCT (see Table 1-4 on page 6).

Several other proposals would also diminish revenues, though to a lesser extent. The President's proposal to provide relief from the individual alternative minimum tax by indexing it from its 2008 level would reduce revenues by \$447 billion, and the proposal to permanently extend

Table 1-2.**CBO's Baseline Budget Projections**

	Actual 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total, 2010- 2014	Total, 2010- 2019
In Billions of Dollars														
Revenues														
Individual income taxes	1,146	968	1,043	1,359	1,525	1,658	1,767	1,878	1,986	2,101	2,205	2,317	7,352	17,838
Corporate income taxes	304	174	206	281	339	339	328	338	335	334	336	332	1,493	3,167
Social insurance taxes	900	891	926	972	1,022	1,074	1,117	1,154	1,190	1,231	1,275	1,322	5,111	11,284
Other	174	153	160	171	200	211	223	239	250	261	268	277	965	2,261
Total Revenues	2,524	2,186	2,334	2,783	3,086	3,281	3,436	3,610	3,761	3,927	4,083	4,247	14,921	34,550
On-budget	1,866	1,533	1,666	2,089	2,360	2,515	2,634	2,776	2,897	3,029	3,151	3,279	11,264	26,396
Off-budget	658	653	668	695	726	766	802	834	864	898	932	968	3,657	8,154
Outlays														
Mandatory spending	1,595	2,462	2,003	1,988	1,921	2,023	2,118	2,205	2,345	2,450	2,558	2,753	10,053	22,364
Discretionary spending	1,135	1,221	1,302	1,285	1,240	1,239	1,244	1,256	1,279	1,300	1,320	1,352	6,310	12,816
Net interest	253	170	167	203	256	320	385	431	464	489	530	566	1,331	3,811
Total Outlays	2,983	3,853	3,473	3,476	3,417	3,581	3,746	3,892	4,088	4,239	4,408	4,671	17,693	38,991
On-budget	2,508	3,330	2,920	2,904	2,825	2,964	3,101	3,216	3,376	3,485	3,609	3,823	14,713	32,223
Off-budget	475	523	553	572	592	618	645	676	712	754	799	848	2,980	6,768
Deficit (-) or Surplus	-459	-1,667	-1,139	-693	-331	-300	-310	-282	-327	-312	-325	-423	-2,772	-4,441
On-budget	-642	-1,798	-1,254	-815	-464	-448	-468	-440	-479	-456	-458	-544	-3,449	-5,827
Off-budget	183	130	115	123	134	148	157	158	152	144	133	121	677	1,385
Debt Held by the Public	5,803	7,703	8,658	9,340	9,712	10,016	10,372	10,684	11,034	11,365	11,334	11,753	n.a.	n.a.
Memorandum:														
Gross Domestic Product	14,222	14,057	14,405	15,061	15,774	16,496	17,241	17,957	18,688	19,436	20,191	20,966	78,977	176,215
As a Percentage of Gross Domestic Product														
Revenues														
Individual income taxes	8.1	6.9	7.2	9.0	9.7	10.0	10.2	10.5	10.6	10.8	10.9	11.0	9.3	10.1
Corporate income taxes	2.1	1.2	1.4	1.9	2.1	2.1	1.9	1.9	1.8	1.7	1.7	1.6	1.9	1.8
Social insurance taxes	6.3	6.3	6.4	6.5	6.5	6.5	6.5	6.4	6.4	6.3	6.3	6.3	6.5	6.4
Other	1.2	1.1	1.1	1.1	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.3
Total Revenues	17.7	15.5	16.2	18.5	19.6	19.9	19.9	20.1	20.1	20.2	20.2	20.3	18.9	19.6
On-budget	13.1	10.9	11.6	13.9	15.0	15.2	15.3	15.5	15.5	15.6	15.6	15.6	14.3	15.0
Off-budget	4.6	4.6	4.6	4.6	4.6	4.6	4.7	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Outlays														
Mandatory spending	11.2	17.5	13.9	13.2	12.2	12.3	12.3	12.3	12.5	12.6	12.7	13.1	12.7	12.7
Discretionary spending	8.0	8.7	9.0	8.5	7.9	7.5	7.2	7.0	6.8	6.7	6.5	6.4	8.0	7.3
Net interest	1.8	1.2	1.2	1.3	1.6	1.9	2.2	2.4	2.5	2.5	2.6	2.7	1.7	2.2
Total Outlays	21.0	27.4	24.1	23.1	21.7	21.7	21.7	21.7	21.9	21.8	21.8	22.3	22.4	22.1
On-budget	17.6	23.7	20.3	19.3	17.9	18.0	18.0	17.9	18.1	17.9	17.9	18.2	18.6	18.3
Off-budget	3.3	3.7	3.8	3.8	3.8	3.7	3.7	3.8	3.8	3.9	4.0	4.0	3.8	3.8
Deficit (-) or Surplus	-3.2	-11.9	-7.9	-4.6	-2.1	-1.8	-1.8	-1.6	-1.8	-1.6	-1.6	-2.0	-3.5	-2.5
On-budget	-4.5	-12.8	-8.7	-5.4	-2.9	-2.7	-2.7	-2.5	-2.6	-2.3	-2.3	-2.6	-4.4	-3.3
Off-budget	1.3	0.9	0.8	0.8	0.8	0.9	0.9	0.9	0.8	0.7	0.7	0.6	0.9	0.8
Debt Held by the Public	40.8	54.8	60.1	62.0	61.6	60.7	60.2	59.5	59.0	58.5	56.1	56.1	n.a.	n.a.

Source: Congressional Budget Office.

Note: n.a. = not applicable.

Table 1-3.**CBO's Estimate of the President's Budget**

	Actual 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total, 2010- 2014	Total, 2010- 2019
In Billions of Dollars														
Revenues														
On-budget	1,866	1,533	1,595	1,898	2,207	2,345	2,446	2,572	2,677	2,793	2,898	3,006	10,491	24,437
Off-budget	658	653	668	695	726	766	802	833	864	897	932	968	3,656	8,151
Total	2,524	2,186	2,263	2,593	2,933	3,111	3,248	3,405	3,541	3,690	3,830	3,974	14,147	32,587
Outlays														
Mandatory spending	1,595	2,594	2,145	2,025	2,019	2,121	2,226	2,318	2,466	2,583	2,697	2,897	10,535	23,497
Discretionary spending	1,135	1,246	1,377	1,326	1,264	1,269	1,290	1,317	1,351	1,378	1,404	1,441	6,526	13,417
Net interest	253	170	173	216	283	367	459	533	597	656	728	799	1,498	4,812
Total	2,983	4,010	3,695	3,567	3,566	3,757	3,974	4,168	4,415	4,618	4,829	5,137	18,559	41,726
On-budget	2,508	3,488	3,142	2,994	2,972	3,139	3,328	3,492	3,702	3,863	4,029	4,288	15,575	34,949
Off-budget	475	523	553	573	593	619	646	676	713	755	800	849	2,984	6,777
Deficit (-) or Surplus	-459	-1,825	-1,432	-974	-633	-647	-726	-763	-873	-927	-999	-1,163	-4,413	-9,139
On-budget	-642	-1,955	-1,548	-1,096	-765	-794	-882	-920	-1,024	-1,070	-1,131	-1,282	-5,085	-10,512
Off-budget	183	130	115	122	132	147	156	157	151	143	132	119	672	1,374
Debt Held by the Public	5,803	7,967	9,352	10,329	11,067	11,756	12,591	13,450	14,411	15,421	15,887	17,126	n.a.	n.a.
Memorandum:														
Gross Domestic Product	14,222	14,057	14,405	15,061	15,774	16,496	17,241	17,957	18,688	19,436	20,191	20,966	78,977	176,215
As a Percentage of Gross Domestic Product														
Revenues														
On-budget	13.1	10.9	11.1	12.6	14.0	14.2	14.2	14.3	14.3	14.4	14.4	14.3	13.3	13.9
Off-budget	4.6	4.6	4.6	4.6	4.6	4.6	4.7	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Total	17.7	15.5	15.7	17.2	18.6	18.9	18.8	19.0	18.9	19.0	19.0	19.0	17.9	18.5
Outlays														
Mandatory spending	11.2	18.5	14.9	13.4	12.8	12.9	12.9	12.9	13.2	13.3	13.4	13.8	13.3	13.3
Discretionary spending	8.0	8.9	9.6	8.8	8.0	7.7	7.5	7.3	7.2	7.1	7.0	6.9	8.3	7.6
Net interest	1.8	1.2	1.2	1.4	1.8	2.2	2.7	3.0	3.2	3.4	3.6	3.8	1.9	2.7
Total	21.0	28.5	25.7	23.7	22.6	22.8	23.0	23.2	23.6	23.8	23.9	24.5	23.5	23.7
On-budget	17.6	24.8	21.8	19.9	18.8	19.0	19.3	19.4	19.8	19.9	20.0	20.5	19.7	19.8
Off-budget	3.3	3.7	3.8	3.8	3.8	3.8	3.7	3.8	3.8	3.9	4.0	4.0	3.8	3.8
Deficit (-) or Surplus	-3.2	-13.0	-9.9	-6.5	-4.0	-3.9	-4.2	-4.3	-4.7	-4.8	-4.9	-5.5	-5.6	-5.2
On-budget	-4.5	-13.9	-10.7	-7.3	-4.9	-4.8	-5.1	-5.1	-5.5	-5.5	-5.6	-6.1	-6.4	-6.0
Off-budget	1.3	0.9	0.8	0.8	0.8	0.9	0.9	0.9	0.8	0.7	0.7	0.6	0.9	0.8
Debt Held by the Public	40.8	56.7	64.9	68.6	70.2	71.3	73.0	74.9	77.1	79.3	78.7	81.7	n.a.	n.a.

Source: Congressional Budget Office.

Note: n.a. = not applicable.

the Making Work Pay Credit would reduce them by \$381 billion. The President also proposes to increase the number of firms that are eligible for the temporarily expanded carryback period as defined in ARRA, decreasing revenues by \$60 billion in 2010 and slightly increasing them thereafter, adding \$18 billion to the deficit, on net, over the 10-year period.⁵ The President's proposal to reduce greenhouse-gas emissions would raise an estimated \$632 billion in revenues between 2012 and 2019. (For a more detailed discussion of those policy proposals, see CBO's *A Preliminary Analysis of the President's Budget and an Update of CBO's Budget and Economic Outlook*, March 2009).

Relative to the estimates CBO published in March, revenues under the President's budget would be \$26 billion higher in 2009 and \$135 billion higher over the 2010–2019 period, a difference of about 0.4 percent of total revenues projected over the 10 years (see Table 1-5 on page 8). Most of the change results from proposals for which sufficient detail was not available in March to allow CBO and JCT to analyze their budgetary impact—in particular, proposals related to the taxation of international income. In general, those proposals seek to make it more difficult for companies to shift profits overseas to avoid U.S. taxation. JCT estimates that they would increase revenues by \$161 billion from 2010 to 2019 (see Table 1-4).

Outlays

Outlays under the President's policies would fall as a percentage of GDP over the next few years, from 28.5 percent in 2009 to 22.6 percent in 2012, after which they would begin rising largely because of climbing health care spending and increasing debt-service costs, reaching 24.5 percent in 2019 (see Table 1-3 on page 4)—well above the average of 20.7 percent over the past 40 years. Those figures are virtually unchanged from what CBO estimated under the President's initial budget request in March; projected outlays over the 10-year period exceed the March estimate by only \$3 billion (see Table 1-5).

5. Currently, firms can use losses from an unprofitable year to offset taxable income from an earlier year and receive a refund of past taxes paid. Generally, a net operating loss can be carried back to the prior two tax years, so the "carryback" period is generally two years. ARRA extended the carryback period for applicable losses in 2008 to five years for certain small businesses.

Mandatory Spending. If the proposals in the President's budget were enacted, they would, on balance, increase mandatory spending relative to the amounts in the baseline by \$1.1 trillion—or about 5 percent—over the next 10 years, CBO estimates (see Table 1-4). The largest impact derives from proposals that would result in additional refundable tax credits, which would increase outlays by \$485 billion through 2019.

Two sets of proposals involve education funding. The President proposes to eliminate the current Pell grant program (both its discretionary and mandatory components) and replace it with a mandatory program, raising the maximum award level and indexing it for inflation for future years—increasing mandatory outlays by an estimated \$293 billion over the 10-year period. (About \$195 billion of that amount is currently included in CBO's baseline as discretionary spending.) A proposal to replace federal guaranteed student loans with direct loans made by the Department of Education would decrease outlays by \$87 billion over the 10-year period.⁶

Another significant proposal would change (relative to current law) the rates paid to physicians under Medicare, boosting outlays by \$285 billion through 2019. Also, the creation of a reserve for financial stabilization efforts would increase outlays by \$125 billion in both 2009 and 2010, CBO estimates.

Over the 2010–2019 period, CBO's estimate of mandatory outlays under the President's policies is \$18 billion higher than estimated in March, largely because the President dropped a proposal contained in his initial request that would have reduced the amount that the United States Postal Service pays in health and life insurance premiums for its employees.

The budget the President submitted in May also contained some new proposals. One such proposal seeks changes to the insurance funds administered by the Federal Deposit Insurance Corporation and the National Credit Union Administration. It would allow those agencies to replenish their insurance funds over a longer period of time than is permitted under current law and would increase the amounts each agency can borrow from the Department of the Treasury. (Legislation similar

6. The preliminary March estimate totaled \$94 billion over the 2010–2019 period.

Table 1-4.**CBO's Estimate of the Effect of the President's Budget on Baseline Deficits**

(Billions of dollars)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total, 2010- 2014	Total, 2010- 2019
Total Deficit as Projected in CBO's March 2009 Baseline	-1,667	-1,139	-693	-331	-300	-310	-282	-327	-312	-325	-423	-2,772	-4,441
Effect of the President's Proposals													
Revenues													
Provisions related to EGTRRA and JGTRRA													
Modify individual income tax rates ^a	0	0	-69	-100	-105	-111	-116	-121	-126	-131	-137	-385	-1,016
Provide relief from the marriage penalty	0	0	-18	-25	-27	-28	-29	-31	-32	-33	-34	-98	-258
Modify capital gains and dividend tax rates ^b	0	*	-5	-20	-25	-26	-28	-29	-30	-31	-31	-76	-224
Modify estate and gift tax rates	0	*	-1	-18	-22	-25	-29	-31	-34	-36	-38	-66	-234
Other provisions	0	*	-10	-21	-20	-20	-19	-19	-19	-19	-19	-70	-166
Subtotal, proposed extensions	0	0	-102	-185	-199	-210	-221	-230	-240	-250	-260	-696	-1,897
Permanently extend Making Work Pay credit	0	0	-29	-42	-43	-43	-44	-44	-45	-45	-46	-158	-381
Index the AMT starting from 2009 levels	0	-7	-69	-31	-34	-37	-41	-46	-52	-60	-70	-177	-447
Revenues from climate policy	0	0	0	77	78	78	79	79	80	80	80	233	632
Reform the U.S. international tax system	0	0	10	17	16	17	18	19	20	21	22	61	161
Expand net operating loss carryback	0	-60	10	10	7	5	4	3	2	1	1	-27	-18
Other proposals	*	-5	-11	*	3	2	1	*	*	-1	-1	-11	-12
Total Effect on Revenues	0	-71	-191	-153	-171	-188	-205	-220	-236	-254	-273	-775	-1,962
Outlays													
Mandatory													
Expand earned income and child tax credits	0	*	*	35	37	37	38	38	38	38	39	110	301
Provide Making Work Pay and other tax proposals	0	0	0	23	23	23	23	23	23	23	23	69	184
Freeze Medicare physician payment rates	0	7	17	22	18	23	28	35	42	45	47	87	285
Support financial stabilization	125	125	0	0	0	0	0	0	0	0	0	125	125
Modify the Family Federal Education Loan Program	0	-3	-9	-11	-10	-9	-9	-9	-9	-9	-9	-42	-87
Modify Pell grants ^c	0	5	20	28	30	33	32	33	35	37	39	116	293
Other proposals	6	8	8	1	*	*	1	1	4	5	5	17	33
Subtotal, mandatory	131	142	36	98	98	108	113	121	133	139	145	483	1,134
Discretionary													
Defense	23	60	35	6	*	3	6	7	8	9	10	103	143
Nondefense	2	15	6	18	31	44	56	65	70	75	79	113	458
Subtotal, discretionary	25	75	41	24	30	46	62	72	78	84	90	216	601
Net interest	1	6	14	27	47	74	102	133	167	198	232	167	1,000
Total Effect on Outlays	157	223	91	149	176	228	277	326	379	421	466	866	2,735

Continued

Table 1-4.

Continued

CBO's Estimate of the Effect of the President's Budget on Baseline Deficits

(Billions of dollars)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total, 2010- 2014	Total, 2010- 2019
Total Effect on the Deficit^d	-157	-294	-281	-302	-347	-416	-481	-546	-615	-675	-739	-1,640	-4,697
Total Deficit Under the President's Proposals as Estimated by CBO	-1,825	-1,432	-974	-633	-647	-726	-763	-873	-927	-999	-1,163	-4,413	-9,139
Memorandum:													
Health Care Reform ^d													
Increased revenues from limiting itemized deductions and other revenue proposals	0	2	11	29	31	33	35	37	39	41	43	106	300
Reduced spending from specified health proposals	0	2	5	14	20	39	36	36	42	48	55	79	296
New, unspecified benefits from health reforms ^e	0	-3	-16	-43	-51	-72	-71	-73	-81	-89	-98	-184	-595
Net effect on the deficit of the health care reform proposal	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Deficit Under the President's Proposals as Estimated by OMB	-1,841	-1,258	-929	-557	-512	-536	-528	-645	-675	-688	-779	-3,793	-7,108

Sources: Congressional Budget Office; Joint Committee on Taxation.

Note: * = between -\$500 million and \$500 million; EGTRRA = Economic Growth and Tax Relief Reconciliation Act of 2001; JGTRRA = Jobs and Growth Tax Relief Reconciliation Act of 2003; AMT = alternative minimum tax; OMB = Office of Management and Budget.

- The estimates include the effects of maintaining, for taxpayers with income above certain levels, the income tax rates of 36 percent and 39.6 percent scheduled to go into effect in January 2011 under current law. For the remaining taxpayers, tax rates would be at the 2010 levels specified in EGTRRA.
- The estimates include the effects of imposing a 20 percent tax rate on capital gains and dividends for taxpayers with income above certain levels, starting in January 2011. Tax rates for the remaining taxpayers would be at the 2010 levels specified in JGTRRA.
- The current Pell Grant program has both discretionary and mandatory components. The President proposes to eliminate the current program and replace it with a mandatory program that would raise the maximum award to \$5,550 in 2010 and index that award level for future years. Those changes would result in eliminating spending for Pell grants in CBO's discretionary baseline, which currently includes \$195 billion in outlays for new grant awards over the 2010–2019 period.
- Negative numbers indicate an increase relative to the baseline deficit.
- Health care reform benefits may be a combination of revenue reductions and spending increases and are assumed to exactly offset the savings dedicated to the proposal on both the revenue and outlay sides of the budget.

to that proposal—the Helping Families Save Their Homes Act, Public Law 111-22—was enacted on May 20, 2009.) Relative to CBO's March baseline, outlays for the two agencies would increase by \$6 billion in 2009 and decline by nearly \$8 billion over the 2010–2019 period.

The President also added a proposal to settle claims of prior discrimination brought by black farmers against the Department of Agriculture. The settlement would primarily involve those who had filed claims after the initial deadline for doing so had passed. CBO estimates that

the settlements would increase mandatory outlays by a total of \$2.5 billion over the 2010–2012 period.

Discretionary Spending. Under the President's budget, discretionary outlays would total \$1.2 trillion in 2009, \$1.4 trillion in 2010, and \$13.4 trillion between 2010 and 2019, CBO estimates. The 10-year total is \$8 billion more than CBO's March estimate; CBO based that estimate on discretionary funding totals provided in the initial budget request because detailed information about the request was not yet available. Over the 2010–2019 period, projected outlays from the Administration's

Table 1-5.**CBO's Reestimate of the President's Budget—Difference Between May and March 2009 Estimates**

(Billions of dollars)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total, 2010- 2014	Total, 2010- 2019
May 2009 Estimates													
Revenues													
On-budget	1,533	1,595	1,898	2,207	2,345	2,446	2,572	2,677	2,793	2,898	3,006	10,491	24,437
Off-budget	653	668	695	726	766	802	833	864	897	932	968	3,656	8,151
Total	2,186	2,263	2,593	2,933	3,111	3,248	3,405	3,541	3,690	3,830	3,974	14,147	32,587
Outlays													
Mandatory spending	2,594	2,145	2,025	2,019	2,121	2,226	2,318	2,466	2,583	2,697	2,897	10,535	23,497
Discretionary spending	1,246	1,377	1,326	1,264	1,269	1,290	1,317	1,351	1,378	1,404	1,441	6,526	13,417
Net interest	170	173	216	283	367	459	533	597	656	728	799	1,498	4,812
Total	4,010	3,695	3,567	3,566	3,757	3,974	4,168	4,415	4,618	4,829	5,137	18,559	41,726
On-budget	3,488	3,142	2,994	2,972	3,139	3,328	3,492	3,702	3,863	4,029	4,288	15,575	34,949
Off-budget	523	553	573	593	619	646	676	713	755	800	849	2,984	6,777
Deficit (-) or Surplus	-1,825	-1,432	-974	-633	-647	-726	-763	-873	-927	-999	-1,163	-4,413	-9,139
On-budget	-1,955	-1,548	-1,096	-765	-794	-882	-920	-1,024	-1,070	-1,131	-1,282	-5,085	-10,512
Off-budget	130	115	122	132	147	156	157	151	143	132	119	672	1,374
Debt Held by the Public	7,967	9,352	10,329	11,067	11,756	12,591	13,450	14,411	15,421	15,887	17,126	n.a.	n.a.
March 2009 Estimates													
Revenues													
On-budget	1,506	1,621	1,891	2,192	2,329	2,429	2,554	2,658	2,772	2,875	2,982	10,461	24,302
Off-budget	653	668	695	726	766	802	833	864	897	932	968	3,656	8,151
Total	2,159	2,289	2,586	2,917	3,095	3,231	3,387	3,522	3,669	3,807	3,950	14,118	32,452
Outlays													
Mandatory spending	2,588	2,135	2,025	2,020	2,121	2,225	2,318	2,466	2,581	2,694	2,895	10,526	23,480
Discretionary spending	1,246	1,362	1,315	1,273	1,279	1,294	1,319	1,351	1,377	1,402	1,438	6,523	13,409
Net interest	170	172	216	282	367	460	536	601	661	734	806	1,497	4,834
Total	4,004	3,669	3,556	3,575	3,767	3,979	4,172	4,417	4,619	4,830	5,139	18,546	41,723
On-budget	3,481	3,115	2,983	2,982	3,148	3,333	3,496	3,704	3,864	4,030	4,290	15,562	34,946
Off-budget	523	553	573	594	619	646	676	713	755	800	849	2,984	6,777
Deficit (-) or Surplus	-1,845	-1,379	-970	-658	-672	-749	-785	-895	-949	-1,023	-1,189	-4,429	-9,270
On-budget	-1,975	-1,494	-1,092	-790	-819	-905	-942	-1,046	-1,092	-1,155	-1,308	-5,101	-10,644
Off-budget	130	115	122	132	147	156	157	151	143	132	119	672	1,374
Debt Held by the Public	7,987	9,319	10,292	11,055	11,770	12,628	13,508	14,491	15,523	16,013	17,277	n.a.	n.a.

Continued

Table 1-5.

Continued

CBO's Reestimate of the President's Budget—Difference Between May and March 2009 Estimates

(Billions of dollars)												Total, 2010- 2014	Total, 2010- 2019
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
Difference: May Minus March													
Revenues													
On-budget	26	-26	7	16	16	17	18	20	21	23	24	29	135
Off-budget	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	26	-26	7	16	16	17	18	20	21	23	24	29	135
Outlays													
Mandatory spending	6	10	-1	-1	*	1	*	1	2	2	3	9	18
Discretionary spending	*	16	10	-9	-9	-4	-2	*	1	2	3	3	8
Net interest	*	1	1	1	*	-1	-2	-3	-5	-6	-7	1	-22
Total	6	27	10	-10	-10	-5	-4	-2	-1	-1	-1	13	3
On-budget	6	27	11	-9	-10	-5	-4	-3	-1	-1	-2	13	3
Off-budget	0	*	*	*	*	*	*	*	*	*	*	*	*
Deficit (-) or Surplus	20	-53	-4	25	26	22	22	22	22	24	26	16	131
On-budget	20	-53	-4	25	26	22	22	22	22	24	26	16	132
Off-budget	0	*	*	*	*	*	*	*	*	*	*	*	*
Debt Held by the Public	-20	33	36	11	-14	-36	-58	-80	-102	-126	-152	n.a.	n.a.

Source: Congressional Budget Office.

Note: * = between -\$500 million and \$500 million; n.a. = not applicable.

request for discretionary appropriations would exceed CBO's baseline projections by over \$600 billion (4.7 percent).

For 2010, the President proposes \$1.25 trillion in discretionary budget authority—\$687 billion for national defense and \$562 billion for nondefense programs (see Table 1-6). The President's defense budget includes \$130 billion in 2010 and \$50 billion a year from 2011 to 2019 for military operations in Iraq and Afghanistan and related activities. In addition, the President has submitted a request for \$90 billion in supplemental appropriations for 2009, \$81 billion of which is for military operations and diplomatic and other activities in Iraq and Afghanistan.⁷ Included in that request is a proposal by the President to provide additional funding for the International

Monetary Fund, which would increase outlays by \$5 billion between 2009 and 2012, CBO estimates.

Although discretionary budget authority for transportation programs would increase by \$41.8 billion (excluding funding provided by ARRA) between 2009 and 2010 under the President's budget, nearly all of that increase results from a proposal to change how highway, and, to a lesser extent, mass transportation programs are funded. Currently, those programs receive funding through the Highway Trust Fund (funding that is not classified as discretionary budget authority). Under the President's proposal, general funds would provide a portion of the 2010 funding for those programs, and that funding would be considered discretionary. Overall, budgetary resources for transportation programs under the President's budget would increase by less than \$3 billion.

Other budget functions that would receive increases in funding under the President's budget include community

7. At the time of publication, the Congress had reached a conference agreement that provides \$106 billion in supplemental appropriations for 2009 (H.R. 2346, the Supplemental Appropriations Act, 2009). However, the legislation had not yet come to a vote.

Table 1-6.

Discretionary Budget Authority Requested by the President for 2010 Compared with Funding for 2009, by Budget Function

(Billions of dollars)

	Funding for 2009					2010 Total Funding	Change in Funding Unrelated to Stimulus, 2009–2010	
	Regular Enacted	Economic Stimulus Enacted	Supplemental Requested ^a	2009 Total Funding	2009 Total Excluding Stimulus		Billions of Dollars	Percent
Defense	601.8	12.7	75.9	690.3	677.7	687.2	9.6	1.4
Nondefense								
International affairs	42.3	0.4	12.2	54.8	54.5	54.2	-0.3	-0.5
General science, space, and technology	29.4	5.5	0	34.9	29.4	31.1	1.7	5.6
Energy	13.4	32.0	0	45.4	13.4	6.9	-6.5	-48.8
Natural resources and environment	37.8	16.8	0.2	54.8	38.1	35.3	-2.8	-7.4
Agriculture	6.1	0.3	0	6.3	6.1	6.2	0.1	1.6
Commerce and housing credit	5.3	3.2	0	8.5	5.3	10.6	5.3	98.5
Transportation	29.6	49.5	0	79.1	29.6	71.4	41.8	141.5
Community and regional development	14.8	8.2	0	23.0	14.8	21.0	6.2	42.0
Education, training, employment, and social services	83.8	109.7	0	193.6	83.8	71.4	-12.4	-14.8
Health	58.3	17.2	0	75.5	58.3	57.6	-0.8	-1.3
Medicare (Administrative costs)	5.4	0	0	5.4	5.4	6.0	0.6	10.8
Income security	60.3	13.4	0	73.7	60.3	62.8	2.5	4.2
Social Security (Administrative costs)	5.3	1.1	0	6.4	5.3	5.8	0.5	9.7
Veterans benefits and services	48.0	1.4	0	49.4	48.0	53.2	5.2	10.9
Administration of justice	48.9	5.2	*	54.1	48.9	48.4	-0.5	-1.0
General government	18.4	6.2	1.6	26.1	20.0	19.9	-0.1	-0.5
Allowances for emergencies and other needs	0	0	0	0	0	*	*	n.a.
Subtotal, nondefense	507.0	270.0	14.1	791.1	521.1	561.5	40.4	7.8
Total	1,108.8	282.7	90.0	1,481.4	1,198.7	1,248.8	50.0	4.2
Memorandum:								
Transportation Obligation Limitations ^b	53.7	0	0	53.7	53.7	14.8	-38.9	-72.4
Defense Excluding Funding for Military Operations in Iraq and Afghanistan	535.8	12.7	-1.8 ^c	546.7	534.0	557.1	23.1	4.3

Source: Congressional Budget Office.

Note: * = between -\$50 million and \$50 million; n.a. = not applicable.

- Mostly for military operations in Iraq and Afghanistan.
- Budget authority for programs funded from the Highway Trust Fund and the Airport and Airway Trust Fund is provided in authorizing legislation and is not considered discretionary. Spending for those programs is constrained by limits on obligations that are set in appropriation bills. For some of those programs, the President proposes to provide appropriations for 2010 from general funds, which would be recorded as discretionary budget authority.
- Reflects the effects of proposed rescissions of funding previously enacted.

and regional development (\$6.2 billion), commerce and housing credit (\$5.3 billion), and veterans benefits and services (\$5.2 billion).

The largest decrease in discretionary funding in 2010—\$12.4 billion—would be for education, but that drop results from the President's proposal to make funding for the Pell grant program mandatory; excluding the effect of the Pell grant proposal, funding for the function would rise by almost \$5 billion. Energy funding would decline by \$6.5 billion in 2010 because \$7.5 billion in subsidy costs in 2009 for the Department of Energy's Advanced Technology Vehicle Manufacturing loan program do not reoccur under the President's budget (the Administration has not requested any additional appropriations for that program).

Net Interest and Debt. Under the President's budget, net interest outlays would total \$4.8 trillion over the projection period, about \$22 billion lower than what CBO estimated in March. Debt held by the public also would be similar to CBO's March estimate, climbing from \$8.0 trillion (57 percent of GDP) at the end of 2009 to \$9.4 trillion (65 percent) at the end of 2010 and to 17.1 trillion (82 percent) at the end of 2019.

Paying for Health Care Reform

The President identifies a number of policies that, if adopted, would finance some of the costs of health care reform, although the budget document does not specify the policies that would constitute such reform. Budgetary savings for that purpose would come from:

- Revenues generated by limiting the rate at which itemized deductions reduce tax liability and by taking steps to increase tax compliance,
- The estimated savings from a number of proposals to modify payment rates and other provisions of the Medicare and Medicaid programs, and
- The savings from a proposal to establish a regulatory pathway for the Federal Drug Administration to approve the marketing of generic versions of biological pharmaceuticals.

The President's budget allocates the full amount of those additional revenues and outlay savings for spending increases or tax reductions related to health care reform.

The combination of all of those policies is intended to have no net effect on the budget. Therefore, the President's budget—and CBO in its analysis of the budget—shows no net effect on either revenues or outlays from this set of proposals (that is, revenue reductions related to health care reform are assumed to offset the revenue gains from changing the rate applied to itemized deductions and other tax policies, and outlays for health care reform are assumed to equal the outlay savings from the proposed policy changes).

Differences Between CBO's and the Administration's Budget Estimates

CBO's and the Administration's estimates of the President's policies are very similar for 2009, but CBO's estimate of the deficit over the next 10 years is \$2 trillion higher. Most of that gap results from underlying differences in the two baselines; CBO and the Administration have similar estimates of the budgetary impact of the President's policy proposals.

Both CBO and the Administration estimate that the deficit in 2009, incorporating the President's policies, would total around \$1.8 trillion, but the difference of \$17 billion reflects some offsetting factors. The largest overall difference is related to projections of discretionary outlays, with CBO's estimate \$47 billion below the Administration's (see Table 1-7). That difference results because CBO anticipates slower spending from regular appropriations (\$27 billion lower than the Administration), supplemental appropriations (\$15 billion lower), and appropriations provided in ARRA (\$9 billion lower). In contrast, CBO projects faster spending than the Administration from funding already provided for military operations in Iraq and Afghanistan and related activities (\$4 billion).

Conversely, CBO projects about \$32 billion more in mandatory outlays for 2009 than does the Administration—primarily because of different estimates and methods of valuation of support for Fannie Mae and Freddie Mac. Much of that difference is offset by differing assessments of the President's proposal for additional funding to stabilize the financial system; the Administration assumes that outlays for the full \$250 billion request would be recorded in 2009, whereas CBO estimates that only half of the transactions would occur this year and half in 2010. In addition, CBO is \$28 billion above the

Table 1-7.**Sources of Differences Between CBO's and the Administration's Estimates of the President's Budget**

(Billions of dollars)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total, 2010- 2014	Total, 2010- 2019
Administration's Estimate													
Deficit Under the President's Budget	-1,841	-1,258	-929	-557	-512	-536	-528	-645	-675	-688	-779	-3,793	-7,108
Sources of Differences Between CBO and the Administration													
Revenue Differences													
Economic	-50	-46	-112	-154	-209	-257	-278	-307	-347	-400	-459	-779	-2,569
Technical	79	-23	19	12	14	25	20	6	17	11	5	47	106
Subtotal	29	-70	-93	-142	-195	-233	-257	-300	-331	-388	-454	-732	-2,462
Outlay Differences													
Mandatory													
Economic	1	9	-6	-17	-33	-57	-79	-98	-113	-127	-143	-104	-663
Technical	31	92	-35	3	3	-1	16	-40	-42	-51	-58	62	-114
Subtotal, mandatory	32	101	-41	-14	-30	-58	-63	-138	-155	-177	-201	-42	-776
Discretionary (Technical)	-47	-34	31	13	14	17	13	15	10	4	8	42	92
Net Interest													
Economic	-1	-12	-60	-78	-54	-15	15	41	67	93	118	-219	114
Technical	29	49	22	12	10	13	14	10	*	4	6	106	140
Subtotal	28	37	-38	-66	-44	-1	29	51	67	97	123	-113	254
Subtotal, outlays	12	104	-48	-67	-60	-42	-22	-72	-78	-77	-70	-113	-431
Total, All Differences^a	17	-174	-45	-75	-134	-191	-236	-228	-253	-311	-384	-619	-2,031
CBO's Estimate													
Deficit Under the President's Budgetary Policies	-1,825	-1,432	-974	-633	-647	-726	-763	-873	-927	-999	-1,163	-4,413	-9,139
Memorandum:													
Total Economic Differences ^a	-50	-44	-46	-59	-122	-185	-213	-250	-301	-366	-434	-456	-2,020
Total Technical Differences ^a	67	-130	1	-16	-13	-5	-22	22	49	54	50	-163	-11

Sources: Congressional Budget Office; Joint Committee on Taxation.

Note: * = between zero and \$500 million.

a. Negative numbers denote that such differences cause CBO's estimate of the deficit to be higher than the Administration's estimate.

Administration in its estimate of net interest outlays (primarily as a result of differences in transactions related to credit programs) and \$29 billion above the Administration in its revenue projection.

The difference goes in the opposite direction in 2010, with CBO projecting a deficit that exceeds the Administration's estimate by \$174 billion, largely because of the differing projections as to when the additional spending related to financial stabilization activities would occur. As is the case for 2009, CBO estimates more net interest outlays (\$37 billion) and fewer discretionary outlays (\$34 billion) than does the Administration. CBO is \$70 billion below the Administration in its estimate of revenues—primarily because CBO projects lower GDP.

In the second half of the projection period, the difference between the two sets of projections grows; as a result, the

cumulative 10-year deficit projected by CBO is \$2.0 trillion higher than the Administration's. CBO's estimate of revenues over that period is \$2.5 trillion (7.6 percent of total projected revenues) below the Administration's projection, and its estimate of outlays is \$431 billion (1.0 percent of total outlays) below the Administration's.

Differing economic assumptions account for almost all of the differences between CBO and the Administration over the 10-year period. In particular, CBO assumes lower rates of inflation and growth in real GDP. Such assumptions lead to projections of revenues and outlays that are \$2.6 trillion and \$549 billion lower than the Administration projects, respectively. Technical differences (those not directly attributable to economic factors or the impact of new legislation) account for just \$11 billion of the variation from 2010 to 2019.

The Economy Under the President's Budget and Under CBO's Baseline Policy Assumptions

In addition to estimating the direct budgetary impact of the President's proposals, the Congressional Budget Office has analyzed how those policies would affect the economy (and then, indirectly, the budget).¹ Estimates of economic effects depend on many specific assumptions, so CBO's analysis used a number of different models of economic behavior and the structure of the economy.

Over the 2010–2014 period, CBO estimates, the President's proposals would raise output by between 0.8 percent and 1.0 percent, on average (see Table 2-1). Those estimates incorporate both supply-side effects (influences on the economy's potential output) and demand-side effects (temporary movements of output relative to its potential level). The models that CBO used to estimate those overall economic effects are not well suited to projecting the effects of changes in demand beyond five years. Therefore, for the 2015–2019 period, CBO estimated the supply-side effects alone, employing a wider variety of models for which projections can be extended over a longer period. For a range of plausible assumptions, the supply-side effects of the President's proposals would imply output from 2015 to 2019 that is,

on average, 0.3 percent to 1.9 percent below the baseline level.

The economic effects would in turn influence the budget, through changes in taxable income, outlays such as unemployment insurance, and the interest rate on government debt, among other things. CBO estimates that the overall (supply-side and demand-side) economic feedbacks from the President's proposals could increase their cumulative cost between 2010 and 2014—estimated to be about \$1.6 trillion excluding any economic impacts—by up to 12 percent or reduce it by up to 2 percent. From 2015 to 2019, the supply-side feedbacks alone could increase the proposals' budgetary impact (about \$3.1 trillion) by up to 4 percent or reduce it by up to 2 percent.

Ways in Which the President's Proposals Would Affect the Economy

Over the long run, the nation's potential to produce goods and services depends on the size and quality of the labor force, on the stock of productive capital (such as factories, vehicles, and computers), and on the efficiency with which labor and capital are used to produce goods and services.² Changes in those determinants of potential output can have a lasting, sustainable influence on the economy's ability to supply goods and services.

In the short run, economic activity can deviate from its potential level in response to changes in aggregate demand. Output is currently well below its potential level, with the economy in the most severe recession since World War II. Consumer demand has fallen in part

1. CBO's analysis of the economic effects of the budgetary proposals includes only those proposals that were presented with detail sufficient to enable estimation. Therefore, the set of proposals in the economic analysis differs somewhat from those included in the "Total Effect on the Deficit" line in Table 1-4 of Chapter 1. Namely, the economic analysis does not include "Revenues from climate policy" or "New, unspecified benefits from health reforms" but does include "Increased revenues from limiting itemized deductions and other revenue proposals" and "Reduced spending from specified health proposals." The excluded items roughly balance in terms of their 10-year budgetary cost, leaving the total cumulative budgetary impact of the proposals in the economic analysis quite similar to that listed in the "Total Effect on the Deficit" line in Table 1-4.

2. That efficiency depends on factors such as production technology, the way firms are organized, and the regulatory environment, among other things.

Table 2-1.**CBO's Estimates of How the President's Budget Would Affect Inflation-Adjusted Gross National Product**

(Average percentage difference from CBO's baseline, by calendar year)

	2010 to 2014	2015 to 2019
Overall (Supply-Side and Demand-Side) Effects		
Macroeconomic Advisers' Model	0.8	n.a.
Global Insight's Model	1.0	n.a.
Supply-Side Effects Only		
<i>Without Forward-Looking Behavior</i>		
Macroeconomic Advisers' Model	-0.2	n.a.
Global Insight's Model	-0.1	n.a.
Textbook Model		
High (Hours worked respond strongly to tax-rate changes)	0.1	-0.6
Low (Hours worked respond weakly to tax-rate changes)	-0.2	-1.0
<i>With Forward-Looking Behavior</i>		
Infinite-Horizon Model		
Government spending adjusted after 2019	-0.1	-0.7
Taxes adjusted after 2019	0.1	-0.3
Closed-Economy Life-Cycle Model		
Government spending adjusted after 2019	-0.1	-0.9
Taxes adjusted after 2019	0.1	-0.5
Open-Economy Life-Cycle Model		
Government spending adjusted after 2019	-0.7	-1.9
Taxes adjusted after 2019	-0.5	-1.3

Source: Congressional Budget Office.

Notes: The "textbook" growth model is an enhanced version of a model developed by Robert Solow. The life-cycle growth model, developed by CBO, is an overlapping-generations general-equilibrium model. The infinite-horizon growth model is an enhanced version of a model first developed by Frank Ramsey. The models of Macroeconomic Advisers and Global Insight, which are available commercially, are designed to forecast short-term economic developments. The various models reflect a wide range of assumptions about the extent to which people are forward-looking in their behavior: In the textbook model and those by Macroeconomic Advisers and Global Insight, people have the least foresight, whereas in the infinite-horizon model, people's foresight is perfect and extends indefinitely to include a full consideration of effects on descendants.

In models with forward-looking behavior, CBO had to make assumptions about how the President's budget would be financed after 2018. CBO chose two alternatives—adjusting government purchases of goods and services and transfer payments or adjusting marginal tax rates.

n.a. = not applicable.

because declines in the value of housing and the stock market have reduced households' wealth, while investment demand has fallen both because firms have less need to add capacity and because housing investment has plummeted. In addition, financial turmoil has reduced consumers' access to credit, further suppressing spending and investment. In response to the reduction in demand, many firms have cut back production and laid off workers, amplifying the original shocks to demand by weakening the purchasing power of affected households.

Such "demand-side" variations can alter the use of labor and capital relative to their long-term potential levels.³ Unlike movements on the supply side of the economy, the effects of changes in demand tend to fade over time: In the long run, the economy generally moves back toward its sustainable potential level determined by supply-side factors. Nevertheless, when aggregate demand is low (as it is currently), the positive demand-side effects of government policies such as tax cuts or spending increases can hasten a return to the level of potential output. For example, the American Recovery and Reinvestment Act of 2009 (the "stimulus bill") was designed in large part to increase demand through spending increases and tax cuts.

The government's budgetary policies can influence the economy through a number of channels in addition to their effect on demand. Changes in tax rates can affect the willingness of people to work and to save, potentially influencing short-run demand but also affecting sustainable, long-term supplies of labor and capital. Similarly, changes in government spending for goods and services and in government transfers can affect short-run demand but also increase or reduce the amount of resources available for private investment, thus affecting the long-term size of the capital stock.

The economic effects of changes in revenues and spending depend on how those changes are financed. In the short run, reductions in taxes or increases in spending can be absorbed into larger budget deficits. Over the long term, however, other policy changes are needed to offset the loss of revenues or the increase in spending and prevent unchecked growth in government debt relative to output.⁴ The nature and magnitude of those future

policy changes will significantly influence the long-term economic effects of the initial change in spending or revenues.

Demand-Side Effects

The demand-side effects of the President's proposals would tend to raise output over the 2010–2014 period, the result of higher spending and lower taxes relative to the baseline. Lower tax payments imply higher disposable income, which encourages consumers' demand for goods and services, and increases in the government's purchases of goods and services add to demand directly.

In general, increases in demand cause businesses to gear up production and hire more workers; decreases in demand have opposite effects. Thus, budgetary policies that raise private and public consumption would offset some of the current slowdown in economic output. Nevertheless, demand-side effects are only temporary: They raise or lower output beyond what it would otherwise be for only several years beyond their implementation because stabilizing economic forces tend to move output back toward its potential level over time. Moreover, policies that aim to increase demand above its potential level by raising government consumption or spurring private consumer spending are likely to decrease national income in the long run because such policies eventually tend to reduce the nation's capital stock and national income. Therefore, policies that increase demand tend to involve a trade-off between boosting economic output in the short run and reducing output in the long run.

Supply-Side Effects

In addition to their effects on aggregate demand, the President's budgetary proposals could affect the size and composition of the capital stock, the quantity and quality of the labor force, and the pace of the nation's technological progress. Each of those supply-side effects helps determine the course of potential economic output.

Effects on the Nation's Capital Stock. The President's budgetary policies would influence the size of the nation's capital stock primarily by affecting national saving.

3. Precipitous changes in supply-side factors, such as the cost of energy, and other types of shocks also can trigger temporary economic shifts.

4. Increased deficits and the attendant increases in interest payments must be offset by policy changes at some point or interest costs would compound relative to output over time, driving the debt-to-output ratio ever higher (under the assumption, which CBO's findings incorporate, that the rate of interest on government debt is higher than the rate of economic growth).

Table 2-2.**CBO's Estimates of Effective Federal Marginal Tax Rates on Capital Income**

(Percent)

Calendar Year	Tax Rate Under Current Law	Tax Rate Under the President's Budget	Difference	
			Percentage Points	Percent
2009	13.1	13.1	0	0
2010	12.8	12.9	0.1	1.0
2011	14.9	14.5	-0.4	-2.7
2012	15.5	15.3	-0.2	-1.5
2013	15.7	15.5	-0.2	-1.2
2014	15.9	15.7	-0.2	-1.3
2015	16.1	15.9	-0.2	-1.2
2016	16.1	15.9	-0.2	-1.1
2017	16.1	15.9	-0.2	-1.2
2018	16.1	15.9	-0.2	-1.1
2019	16.1	15.9	-0.2	-1.1

Source: Congressional Budget Office.

Note: The effective marginal tax rate on income from capital is the share of the last dollar of such income taken by federal individual income and corporate taxes.

National saving is private saving plus public saving (the surpluses, if any, of state, local, and federal governments). A federal deficit thus represents a negative contribution to public saving and, therefore, national saving. An overall decline in national saving reduces the capital stock owned by U.S. citizens over time, through either a decrease in domestic investment, an increase in net borrowing from abroad, or both.

The largest effect of the President's proposals on national saving comes through their impact on the deficit. In every year from 2009 to 2019, the proposals would expand the federal deficit relative to that in CBO's baseline, which would reduce national saving.

However, that effect would be offset to some extent because the President's tax proposals could spur private saving by reducing the effective marginal tax rates on capital income and thus raising the after-tax rate of return on saving.⁵ In CBO's estimation, the tax proposals would raise the effective marginal federal tax rate on capital income slightly in 2010, on net, but lower it slightly during the 2011–2019 period, compared with rates under current law.⁶

5. The marginal tax rate is the rate on the last dollar of income.

The effective marginal tax rate on capital averages about 13 percent in 2009 and 2010 under current law, CBO calculates, reflecting both corporate and individual income taxes (see Table 2-2).⁷ In 2011, the rate is projected to jump to about 15 percent because the lower tax rates on ordinary income set in the Economic Growth and Tax Relief Reconciliation Act of 2001 and the lower rates on dividends and capital gains established by the Jobs and Growth Tax Relief Reconciliation Act of 2003 are scheduled to expire. CBO calculates that the President's proposals to extend some of EGTRRA's lower tax rates and to moderate the rise in the tax rates on dividends would reduce the effective marginal tax rate on capital. Those reductions would be partially offset by other changes, however. One offsetting proposal would limit the rate at which itemized deductions reduce taxes. That proposal and others that lower individuals' tax rates would lessen the value of the mortgage interest deduction. That reduction would raise the effective tax rate on

6. For a description of CBO's method for estimating effective tax rates, see Congressional Budget Office, *Computing Effective Tax Rates on Capital Income* (December 2006).

7. The effective tax rates on capital are below all but the lowest statutory marginal rates because some capital income (for example, interest income that flows into tax-free savings accounts or pension funds and imputed rental income from owner-occupied housing) is not taxed.

investing in owner-occupied housing. Several of the President's proposals to close tax loopholes available to businesses would also tend to raise the effective tax rate on investment. On net, CBO anticipates that the President's proposals would reduce the effective marginal tax rate on capital by a little over 1 percent when all provisions have fully taken effect.

By increasing after-tax returns to saving, the tax proposals would influence private saving in two opposing ways: Higher after-tax returns would tend to increase saving and thus reduce consumer spending, but they also would boost the value of existing assets, making households wealthier and thus tending to encourage spending. On balance, the combined effect on spending of higher after-tax returns can be either positive or negative, and researchers generally conclude that the effect is small. Nevertheless, to cover various possibilities, CBO included in its analysis a range of plausible assumptions about how households might respond to changes in the after-tax return on saving. At one end of the range, some of CBO's models assumed that the rate would have little or no effect on how households allocated income between spending and saving; at the other end, some models assumed that raising the rate of return would boost saving and reduce spending significantly.

Taking into account all of those effects, CBO estimates that policies in the President's proposed budget would result in a smaller domestically owned capital stock than would be expected on the basis of CBO's baseline. The negative effects of increased deficits on the capital stock would outweigh the positive effects of lower taxes on capital income over the 2011–2019 period.

Besides reducing the overall effective marginal tax rate on capital, the proposals would lessen the disparities between the tax rates on different types of capital, which would increase economic efficiency and raise output. Under current law, new investment in C corporations faces the highest tax rate, new investment in noncorporate businesses faces the next highest tax rate, and new investment in owner-occupied housing faces a small negative tax rate (that is, a tax subsidy).⁸ The President's budgetary proposals would reduce the positive rates on both types of businesses and raise the rate on owner-occupied housing, all by modest amounts. That leveling of the taxation on

alternative investments would slightly increase the efficiency with which investment is allocated to projects with the highest economic return. CBO incorporates in its projections an estimate of how much that effect would increase economic output (see Appendix A). The estimated positive effect is much smaller than the negative effect of reduced national saving.

Effects on the Labor Force. Potential output is strongly tied to the amount and quality of labor supplied in the economy. A sustained long-term increase in total hours worked improves the economy's potential to generate output. CBO's analysis focused on channels through which the President's proposals could affect the number of hours of labor supplied because those are the channels for which there is convincing evidence in economic research. Taking those various effects into account, under most assumptions CBO estimates that the President's budgetary proposals would increase the number of hours people work over the 2010–2019 period. That is, under most assumptions the positive effects of lower marginal tax rates would outweigh the negative effects of increased after-tax income on labor supply.

The President's proposals could affect the quantity of labor in two main ways. First, several of the policies proposed would *change people's after-tax income but not after-tax compensation for each additional hour of work*. Increases in transfer payments, such as Pell grants and Medicare payments, would raise the disposable income of some people but would not affect their marginal tax rates. In the absence of a change in marginal rates, an increase in after-tax income tends to reduce the number of hours of labor supplied because people can maintain their standard of living with less work; conversely, a decline in income tends to increase hours supplied.

Second, some provisions would *change both after-tax income and after-tax compensation for each additional hour of work*. For example, the extension of the marginal tax rates on income enacted in EGTRRA for middle- and low-income taxpayers would increase both income and compensation per hour. Provisions that raised after-tax income and incremental after-tax compensation (and provisions that reduced both) would have opposing effects on people's incentives, just as lowering the marginal tax rate on capital income would have opposing effects on saving. In the case of extending lower tax rates on middle- and low-income workers, for example, the affected workers would be encouraged to work longer

8. C corporations are corporations that are subject to the corporate income tax.

Table 2-3.**CBO's Estimates of Effective Federal Marginal Tax Rates on Labor Income**

(Percent)

Calendar Year	Tax Rate Under Current Law	Tax Rate Under the President's Budget	Difference	
			Percentage Points	Percent
2009	28.7	28.7	0	0
2010	30.2	29.0	-1.1	-3.7
2011	31.1	29.6	-1.5	-4.9
2012	31.3	29.8	-1.5	-4.8
2013	31.6	30.0	-1.6	-5.0
2014	31.7	30.2	-1.6	-5.0
2015	31.9	30.4	-1.5	-4.7
2016	32.1	30.5	-1.6	-4.9
2017	32.3	30.7	-1.6	-4.9
2018	32.4	30.8	-1.6	-4.9
2019	32.6	31.0	-1.6	-4.9

Source: Congressional Budget Office.

Note: The effective marginal tax rate on income from labor is the share of the last dollar of such income taken by federal individual income and payroll taxes.

hours because they would earn more for each extra hour of labor they supplied. But a disincentive also exists: Those same workers would earn more after-tax income at their current working hours, which would encourage them to decrease their work hours.

In general, the opposing incentives from reducing marginal tax rates largely offset one another, although the positive effects of greater after-tax earnings for each additional hour worked slightly outweigh the negative effects of higher after-tax income from current working hours. Reductions in marginal tax rates will tend to increase modestly the hours of labor that workers supply, primarily because those reductions will draw secondary earners (for example, the spouse of a household's primary breadwinner) into the labor force.⁹ Conversely, increases in marginal tax rates will modestly decrease hours worked.

CBO estimates that, if enacted, the President's policies would lower the overall marginal tax rate on labor by

about 4 percent in 2010 and by about 5 percent over the 2011–2019 period (see Table 2-3). The President's budgetary proposals would reduce the effective marginal tax rate on labor primarily by lessening the impact of the currently scheduled increases in tax rates. The effective marginal tax rate on labor averages about 29 percent in 2009, CBO estimates, reflecting both the federal individual income tax and payroll taxes. Under current law, that rate is expected to rise to roughly 30 percent in 2010, mainly because the temporary reduction in the alternative minimum tax (AMT) expires. The tax rate is expected to rise again in 2011 (to about 31 percent) as the provisions of EGTRRA expire. The President's budget would make the temporary reduction in the AMT permanent, which would largely avoid any tax rate increase in 2010 and would lessen rate increases in subsequent years. The President's budget also proposes to extend many of the provisions of EGTRRA beyond 2010, which would further reduce the average tax increase beyond 2011.

Although the President's budget would reduce the average effective marginal tax rate on labor overall, lower- and middle-income taxpayers would have a greater reduction than would higher-income taxpayers. For example, the proposals would not extend the lower rates under EGTRRA for higher-income taxpayers and would tend to increase their marginal tax rates as a result of the lower rate at which itemized deductions could be used to reduce their taxes. To take that feature of the proposals

9. See Congressional Budget Office, *Labor Supply and Taxes* (January 1996). Since that report was published, CBO has revised downward its estimates of total wage elasticity and substitution elasticity for secondary earners because of evidence that their responsiveness has declined over time as their participation in the labor force has grown. Also see Francine D. Blau and Lawrence M. Kahn, "Changes in the Labor Supply Behavior of Married Women: 1980–2000," *Journal of Labor Economics*, vol. 25, no. 3 (2007), pp. 393–438.

into account, CBO estimated the impact in 2011 of the budgetary proposals on effective marginal rates for groups with different amounts of income. The group with the lowest aggregate income (below the 20th percentile) was estimated to face an effective marginal rate on labor income that would be about 10 percent lower under the President's budget than under current law; the group with income between the 20th and 60th percentiles was estimated to face a marginal rate 13 percent lower; and the group with income above the 60th percentile was estimated to face a marginal rate 2 percent lower.

In addition to the effects of the President's proposals on tax rates on labor income, the proposals' effects on the capital stock could also affect the supply of labor. To the extent that higher deficits under the proposals crowded out capital, pretax wage rates would be lower than those under current law, weakening people's incentives to work.

Improvements in the amount of education, training, and experience workers have and in their efforts on the job—all of which improve the quality of each hour worked—also could result in higher potential output. Although the President's budget proposed steps to improve education, training, and health, CBO did not incorporate such additional labor quality effects into this analysis because they are difficult to quantify.

Effects on Technological Progress. New and improved technical processes and products are the source of most long-term growth in productivity, and the President's budgetary proposals could affect the economy by influencing the rate at which technological progress is made. Researchers, however, understand little about how taxation and spending policies affect technological innovation. Therefore, for the most part, CBO has not incorporated into its analysis effects on technological progress arising from the President's proposals.¹⁰

The Models and Their Results

CBO used five economic models to estimate the effects of the President's budgetary proposals relative to the current-law policy assumptions underlying CBO's base-

line. The models, which fall into two broad categories, focus on somewhat different aspects of the economy and reflect distinct ways of thinking about it. Three of the models estimate supply-side effects only; the other two are commercial macroeconomic models that emphasize the cyclical aspects of economic activity and are designed primarily to analyze demand-side effects, although they incorporate some supply-side influences as well. Each type of model represents individuals' economic decisions—in particular, the degree to which individuals anticipate future developments—in an idealized way that does not capture all aspects of actual behavior. Even so, the results provide a reasonable range of estimates of individuals' responses to changes in policy.

Overall Effects

CBO analyzed the overall effects of the President's budgetary proposals using macroeconomic forecasting models created by two private forecasting firms—Macroeconomic Advisers and IHS Global Insight. Each model concentrates on demand-side effects but also includes a growth model that incorporates some supply-side effects; for example, additional investment is assumed to raise potential output by increasing the capital stock.

Macroeconomic Advisers' and Global Insight's models are not forward-looking—people, as the models represent them, do not behave as though they have specific expectations about future policies or economic developments. The lack of forward-looking behavior in those models implies that specific policy changes scheduled to occur in the future will not affect current behavior unless special adjustments are made to mimic such behavior.¹¹ For example, the President's proposals would reduce taxes throughout the projection period. Those lower taxes would increase the amount of after-tax income that people expect in the future, which might cause them to boost their spending today. In Macroeconomic Advisers' and Global Insight's models, however, those changes in taxes affect consumer spending only when they occur.

CBO explored the relative magnitude of demand- and supply-side effects of the proposed policies by adjusting monetary policy responses in the models. For one set of scenarios, CBO assumed that the Federal Reserve would

10. Global Insight's model, which CBO used to estimate demand-related effects, assumes that potential gross domestic product responds positively to spending for research and development—which would be stimulated by the President's proposal to extend tax credits for such activities.

11. One such adjustment is to assume that stock prices immediately incorporate the effects of extending lower tax rates on income earned from capital gains and dividends, even though the extension would not affect rates until after 2010.

Table 2-4.**The Budgetary Implications of the Macroeconomic Effects**

(Cumulative change from CBO's estimate of the President's budget, in billions of dollars)

	2010 to 2014	2015 to 2019
Overall (Supply-Side and Demand-Side) Effects		
Macroeconomic Advisers' Model	-190	n.a.
Global Insight's Model	32	n.a.
Supply-Side Effects Only		
<i>Without Forward-Looking Behavior</i>		
Macroeconomic Advisers' Model	-25	n.a.
Global Insight's Model	-19	n.a.
Textbook Model		
High (Hours worked respond strongly to tax-rate changes)	27	-27
Low (Hours worked respond weakly to tax-rate changes)	-12	-98
<i>With Forward-Looking Behavior</i>		
Infinite-Horizon Model		
Government spending adjusted after 2019	9	-57
Taxes adjusted after 2019	26	18
Closed-Economy Life-Cycle Model		
Government spending adjusted after 2019	4	-115
Taxes adjusted after 2019	26	-20
Open-Economy Life-Cycle Model		
Government spending adjusted after 2019	-25	-38
Taxes adjusted after 2019	14	71

Source: Congressional Budget Office.

Notes: Numbers in this table reflect the effects on the cumulative deficit or surplus of the economic effects shown in Table 2-1. (Negative numbers indicate an increase in the deficit; positive numbers, a reduction.) They do not include the estimated costs of the President's budgetary proposals under CBO's baseline economic assumptions.

The "textbook" growth model is an enhanced version of a model developed by Robert Solow. The life-cycle growth model, developed by CBO, is an overlapping-generations general-equilibrium model. The infinite-horizon growth model is an enhanced version of a model first developed by Frank Ramsey. The models of Macroeconomic Advisers and Global Insight, which are available commercially, are designed to forecast short-term economic developments. The various models reflect a wide range of assumptions about the extent to which people are forward-looking in their behavior: In the textbook model and those by Macroeconomic Advisers and Global Insight, people have the least foresight, whereas in the infinite-horizon model, people's foresight is perfect and extends indefinitely to include a full consideration of effects on descendants.

In models with forward-looking behavior, CBO had to make assumptions about how the President's budget would be financed after 2018. CBO chose two alternatives—adjusting government purchases of goods and services and transfer payments or adjusting marginal tax rates.

n.a. = not applicable.

respond to economic developments in a standard way that would accommodate demand- and supply-side effects.¹² For a second set of scenarios, CBO assumed that the Federal Reserve would respond in such a way as to hold the unemployment rate to that projected in CBO's baseline. The second approach produced an estimate of the implications of the proposals for potential (noncyclical) gross national product (GNP)—in other words, the supply-side effects.¹³ Subtracting the second set of results from the first provides an estimate of the demand-side effects of the proposed policies.¹⁴ CBO analyzed demand-side effects of the President's budgetary proposals only for the first five years of the 2010–2019 period because the models CBO used are not well suited to longer-run projections of policies that affect demand.

CBO adjusted the models to incorporate its own estimates of how people would alter the hours they worked in response to changes in marginal tax rates on labor income implied by the President's proposals.

Incorporating CBO's estimate of effects on labor supply, the Macroeconomic Advisers' model predicted that the demand- and supply-side effects of the President's proposed policies would raise GNP by 0.8 percent, on average, between 2010 and 2014 (see Table 2-1). Global Insight's model forecast an increase of 1.0 percent. The Macroeconomic Advisers' model projected that the

supply-side effects of the President's proposals would decrease output by 0.2 percent over the 2010–2014 period, on average, whereas Global Insight's model projected a decrease of 0.1 percent.

Those projected economic impacts would feed back to the budget and affect the size of the projected deficit. The projected supply-side effects are similar. According to the projections from Macroeconomic Advisers' model, feedback effects on the supply side could increase the cost of the President's proposals by \$25 billion between 2010 and 2014. By the estimates of Global Insight's model, the supply-side feedback effects of the proposals over the same period would increase their cost by \$19 billion.

Despite the similar estimated effects on GNP, the two models produce very different estimates of the budgetary feedback effects of the President's proposals. Using Macroeconomic Advisers' model, CBO estimates that the proposals' effect on the economy would *increase* the deficit by a total of \$190 billion over the 2010–2014 period; in contrast, using Global Insight's model, the estimated feedback effects would *reduce* the cost of the proposals by \$32 billion (see Table 2-4). The estimates differ largely because of contrasting assumptions about the effects of the President's policies on interest rates. Macroeconomic Advisers' model projects a greater increase in inflation from increased demand under the President's proposals than does Global Insight's model. Therefore, the Federal Reserve is assumed to raise interest rates by more in Macroeconomic Advisers' model in order to tamp down inflation. Higher interest rates imply greater interest payments on the federal debt. Higher rates also tend to decrease revenues because they tend to shift income from higher-taxed categories (such as profits) to relatively lower-taxed categories (such as interest income).¹⁵

12. More specifically, those scenarios assume that the Federal Reserve acts according to a "Taylor rule," in which the target interest rate depends on the gap between the actual and desired rate of inflation and the gap between actual and potential output.

13. In presenting the economic effects of the President's budgetary proposals, CBO uses gross national product as its measure of output rather than the more commonly cited gross domestic product. Changes in GNP exclude foreigners' earnings on investments in the domestic economy but include domestic residents' earnings overseas and are therefore a better measure of the proposals' effects on domestic residents' income than are changes in GDP in an open economy like that of the United States. The budget calculations presented in Table 2-4 reflect the fact that tax treaties and other factors result in some foreign income being effectively untaxed.

14. The use of monetary policy to model supply-side effects is only an approximation because changes in monetary policy yield changes in interest rates that are not completely analogous to supply-side effects.

15. By contrast, the supply-side estimates of budgetary effects do not incorporate the changes to interest rates required to keep unemployment at its baseline level in the two models. Because those changes in interest rates stem mostly from demand-side effects and the Federal Reserve's efforts to offset them, using those changes in interest rates to calculate budgetary effects ascribed to the supply side would make little sense. Therefore, the supply-side estimates of budgetary feedbacks are much more similar in the models than are demand-side effects.

Supply-Side Effects Only

CBO used three growth models to analyze the supply-side effects of the President's proposals from 2010 through 2019.¹⁶ The models—a “textbook” growth model, a life-cycle growth model, and an infinite-horizon growth model—differ mainly in their assumptions about how far into the future people look in making plans (see Appendix B).

The Textbook Growth Model. The textbook growth model assumes, in effect, that people do not explicitly consider expected future policies when they make plans—that is, like Macroeconomic Advisers' and Global Insight's models, it incorporates no forward-looking behavior. Moreover, the model does not account for the way that changes in marginal tax rates on capital income might influence saving and investment.

CBO used the textbook growth model to estimate effects under two separate assumptions about how much people would adjust their work hours in response to changes in marginal tax rates: a “low” assumption, under which workers respond very little, and a “high” assumption, under which their response is on the high side of the consensus range of empirical estimates from studies based on one-year changes in labor supply.¹⁷ CBO found that under the low assumption, the President's proposals would decrease gross national product by 0.2 percent, on average, over the 2010–2014 period. Under the high assumption, the proposals would increase output by about 0.1 percent. Over the 2015–2019 period, the proposals would reduce GNP by 0.6 percent to 1.0 percent (see Table 2-1). The effects estimated by the textbook growth model become more negative over time as the cumulative impact of increased deficits on the capital stock grows.

The Life-Cycle and Infinite-Horizon Models. The results of the life-cycle and infinite-horizon growth models differ from those of the textbook growth model for several reasons. Unlike the textbook growth model, they are built

on the assumption that individuals adjust their decisions about work, spending, and saving both in response to changes in marginal tax rates and after-tax rates of return and in anticipation of future changes in policy.

In particular, the life-cycle model incorporates the assumption that people make lifelong plans for working and saving but do not consider events that might occur after they die. The infinite-horizon model assumes that people behave as if they will live forever—or, what is effectively the same thing for their decisions, that they care about the well-being of their descendants as well as their own. Moreover, the life-cycle and infinite-horizon models assume that people know with certainty how the government will resolve its long-term budget imbalance, whether it is by raising tax rates, lowering spending and transfer payments, or implementing some combination of the two. Both the life-cycle and the infinite-horizon models assume that households face uncertainty about future wages and could become credit constrained (that is, unable to borrow to maintain their spending) if their wages declined significantly.¹⁸

The forward-looking characteristics of the life-cycle and infinite-horizon growth models require CBO to make assumptions about what people believe will happen in the future, both in current law and under the President's proposed policies, not only during the 10-year projection period but into the indefinite future as well. For its analysis, CBO assumed that people believe that the budgetary policies being assessed—those of the President or of CBO's baseline—will be maintained over the entire 10-year projection period. (In reality, people may well believe that the policies might change at some point during that time.)

For the years after 2019, however, matters are complicated by the fact that the policies reflected both in CBO's baseline and in the President's proposals are unsustainable in the long run, owing to projected increases in spending for health and retirement programs.¹⁹ To address that

16. Growth models are often called “supply-side models.” They assume that the labor market is always in equilibrium (in other words, that fiscal policy has no effect on the unemployment rate).

17. CBO's estimates used data from a large sample of taxpayers to account for the effects of changes in marginal tax rates and in after-tax income under the President's proposals. The models incorporated a larger response to changes in marginal tax rates among secondary earners than among primary earners.

18. The incorporation of uncertainty and credit constraints has an important effect on the infinite-horizon model: Unlike models that are similar but assume certainty and no constraints on borrowing, increases in disposable income from government policies can influence people's behavior, even if people expect the policies to be fully offset in the future.

19. See Congressional Budget Office, *The Long-Term Budget Outlook* (December 2007).

difficulty, CBO assumed that people expect the fiscal imbalances projected under current law to be resolved over the long run. It then made explicit assumptions about the manner in which changes in deficits or surpluses under the President's budgetary policies, relative to those in CBO's baseline, would eventually be reflected in spending and taxes. The life-cycle and infinite-horizon models were both used to generate two sets of estimates, each based on different assumptions about that financing. Under one assumption, people believe that the proposals will be financed by gradually adjusting government spending for goods and services and for transfer payments (as shares of GNP) over the 2020–2029 period. Under the other assumption, people believe that the proposals will be financed by gradually adjusting marginal tax rates over the same period.

Depending on the assumption about financing, the infinite-horizon model projects that the President's proposals could increase or decrease GNP by 0.1 percent between 2010 and 2014. Estimates tend to be more positive under the assumption that marginal tax rates would be adjusted, in part because the anticipation of a future rise in tax rates tends to make people work more while tax rates are low. In addition, people are worse off in the long run (beyond the 10-year projection period) when tax rates are increased, which tends to lead them to work and save more in the meantime. Depending on the assumption, the model projects decreases in GNP of 0.7 percent or 0.3 percent over the 2015–2019 period.

The life-cycle model projects somewhat more negative effects on output. Depending on which assumption about financing is used and whether the economy is considered to be open or closed to flows of foreign capital, it projects effects of the President's proposals that range from an increase in GNP of 0.1 percent to a decrease of 0.7 percent over the 2010–2014 period. Over the 2015–2019 period, the proposals would lower GNP by between 0.5 percent and 1.9 percent.

The life-cycle model estimates a more negative effect on output than does the infinite-horizon model, in part because it assumes that private saving and labor supply fall by a greater amount in response to increased income stemming from higher transfer payments and lower taxes under the President's budget.²⁰ The shorter horizon of the overlapping-generations model is one reason for that greater response: The transfers and tax cuts, like other budgetary costs, would have to be offset eventually by

higher taxes or lower government spending. However, the model assumes that people who are working and saving when the budget is enacted would bear only part of those eventual offsetting costs, because some of them would retire or die before the offsetting policies were instituted. People as envisioned in the infinite-horizon model, by contrast, bear all of the offsetting costs and therefore would receive a smaller total impact on their income over their lifetime, so they would change their behavior by less in response.

The effects of the President's proposals are more negative under the assumption of an open economy, largely because the reduction in domestically owned capital is greater. Under a closed-economy assumption, the crowding out of capital by increased deficits raises interest rates, which in turn encourages private saving, offsetting some of the effect of increased deficits. Under the open-economy assumption, by contrast, interest rates are assumed always to be equal to worldwide levels and are not affected by domestic policies, so there is no corresponding offsetting effect. The United States' economy probably lies somewhere between the open- and closed-economy assumptions used in the life-cycle model. It is open to capital flows, but it also is large enough to influence world rates of interest and wages.²¹

The supply-side effects of the President's proposed policy changes would feed back to the budget (see Table 2-4). CBO projects that, over the 2010–2014 period, those economic feedbacks could add as much as \$25 billion to the cumulative total cost of the proposals, or subtract as much as \$27 billion from it, depending on which assumptions are used in the analysis. For the period from 2015 to 2019, economic feedback could add as much as \$115 billion to the increase in deficits or subtract as much as \$71 billion from it. No single number is likely to provide an accurate measure of the feedback, but the numbers presented here illustrate the range of probable magnitudes.

20. Effects on output are imperfect indicators of the impact of proposals on people's well-being. For example, people value the extra leisure time they gain when they choose to reduce labor supply, but that value is not captured by measures of output such as GNP.

21. The infinite-horizon model assumes a closed economy. The textbook growth model and the models of Macroeconomic Advisers and Global Insight make assumptions that are effectively intermediate between the life-cycle model's open- and closed-economy assumptions.

The Potential Economic Effects of Selected Proposals in the President's 2010 Budget

Considerable uncertainty surrounds the possible economic impact of two of the President's budgetary proposals for 2010—those that would extend lower tax rates on dividends and capital gains for most taxpayers beyond 2010, and those that would reduce estate and gift taxes. The factors that the Congressional Budget Office (CBO) considered and the methods it used in assessing that impact are explained below. (CBO's analysis of the overall economic effects of the President's budgetary proposals is described in Chapter 2.)

Extend the Lower Tax Rates on Dividends and Capital Gains

Enactment of the Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA) reduced through 2008 the tax rates on dividends and long-term capital gains. Until the end of 2007, those rates comprised a bottom bracket of 5 percent and a top bracket of 15 percent; in 2008, the bottom bracket dropped to zero. The Tax Increase Prevention and Reconciliation Act of 2006 extended the zero and 15 percent rates through 2010.

Before JGTRRA was enacted, dividends had long been taxed at the same rates as other income, and capital gains had long been taxed at lower rates. In 2011, the tax rates on dividends, capital gains, and most other sources of income are scheduled to rise to the rates that prevailed in 2000. Dividends and other ordinary income are scheduled to be taxed at rates ranging from 15 percent to 39.5 percent, depending on a taxpayer's income. Capital gains are scheduled to be taxed at 10 percent or 8 percent for lower-income taxpayers and 20 percent or 18 percent for higher-income taxpayers.

In his 2010 budget, the President has proposed making permanent the zero and 15 percent rates on dividends

and capital gains for couples filing jointly with income of up to \$250,000 and other taxpayers with income of up to \$200,000. For taxpayers with income above those limits, the President proposes a tax rate of 20 percent on dividends and capital gains.

Reduced rates on capital gains and dividends lower the overall taxation of corporate profits, some of which are taxed twice: once under the corporate income tax, and again when people receive dividends and realize capital gains—brought about by a business's reinvestment of its profits—on sales of stock. Lowering the tax rates that individuals face on the two types of income would reduce the total rate of capital taxation.

In addition to decreasing tax rates on corporate income, JGTRRA reduced taxes on some income that is currently taxed only once. A substantial portion of taxable capital gains arises from investments whose earnings are not subject to the corporate income tax, such as gains on real estate held by individuals. The lower capital gains tax rate also reduced the level of taxation on those investments.

Many types of productive capital are sufficiently long-lived that investments in them today will continue to earn returns long after JGTRRA's rate changes are scheduled to expire. Permanently extending those rates would enhance the incentive to invest in long-lived capital stock by increasing the expected returns.

One effect of extending the tax rates on dividends and capital gains involves the cost of financing for businesses. Lower tax rates on capital gains and dividends might be expected to reduce the cost of financing, because businesses could pay investors less before taxes to yield the same after-tax return. But how much the cost of capital might fall is unclear. Some analysts argue that only the

decrease in taxes on capital gains will act to reduce that cost. Others hold that a decrease in taxes on both dividends and capital gains will reduce the cost of capital.¹

A related difference of views among analysts involves how much the value of businesses' stock might rise if the lower rates of taxation became permanent. (Share values rise because the decrease in taxes increases the after-tax return to shareholders, making the investments more valuable to them.) The view of corporate finance that predicts a relatively large increase in those values predicts a relatively small decrease in the cost of capital, and vice versa.

In the absence of a consensus about which view is correct, CBO has adopted middle-ground estimates of the effects of the President's proposal on the cost of capital for firms and on the values of shares.

Higher values for shares of stock raise the net wealth of shareholders and encourage more spending on goods and services; that is the so-called wealth effect. Through that channel, the President's proposal would boost overall demand in the short run. But the more it enhanced demand by raising consumer spending in the short run, the more it would reduce national saving and thus national income in the long run.

The enactment of JGTRRA has provided an opportunity to examine how changes in taxes on dividends affect a business's value. Some researchers have found evidence that reductions in dividend taxes have raised stock prices, although whether those changes will be permanent or

temporary is uncertain.² Other researchers have found no statistically significant effects on the value of the total U.S. stock market, but their work does not rule out the possibility of a modest positive effect.³

Extending the lower rates on capital gains and dividends is likely to lessen the disadvantage that the corporate sector now faces in competing for capital. For example, although some income from the corporate sector is taxed twice under current law, income from unincorporated businesses is taxed only at the personal level, and income from owner-occupied housing—that is, the value of the housing “services” consumed by the owner—is not taxed at all by the federal government. That disparity in tax treatment could lead to less investment in the corporate sector than is optimal for economic output. Lowering the taxes that businesses face would allow them to attract additional capital from the housing and small-business sectors and could thus improve the economy's efficiency. Such a shift in investment might, however, conflict with other policy goals, such as supporting owner occupancy of homes or supporting unincorporated businesses.

The proposal to extend the lower rates on dividends and capital gains might affect commercial financial behavior in two ways: Businesses could choose to finance more investment by issuing stock (equity financing) rather than debt, and they could decide to pay out more in dividends and retain fewer earnings. Currently, businesses may deduct the interest they pay on debt from their taxable income, so those payments are taxed only once. (The individual who receives the payment pays the tax.) But if a business finances a project by issuing stock, some of the returns on the investment that the project generates are subject to personal and corporate taxation. The President's proposal would narrow that disparity in tax treatment.

1. Economists do not agree about how the taxation of dividends affects the economy. Two views prevail: The first (or “traditional”) view holds that reducing the tax on dividends lowers the cost of capital and increases investment. In the short run, stock prices rise because expected after-tax returns to investors increase. But, over time, the additional investment drives back down the pretax return to capital, so the effect on stock prices is temporary. The second (or “new”) view holds that reducing the tax on dividends permanently raises the value of a business, and therefore its stock price, but leaves unaffected both the cost of capital and investment by the business. For an overview of those issues, see Alan Auerbach, “Taxation and Corporate Financial Policy,” in Alan Auerbach and Martin Feldstein, eds., *Handbook of Public Economics*, vol. 3 (Amsterdam: North-Holland, 2003); Roger Gordon and Martin Dietz, *Dividends and Taxes*, Working Paper 12292 (Cambridge, Mass.: National Bureau of Economic Research, June 2006); and George R. Zodrow, “On the ‘Traditional’ and ‘New’ Views of Dividend Taxation,” *National Tax Journal*, vol. 44, no. 4, part 2 (December 1991), pp. 497–509.

2. Alan J. Auerbach and Kevin A. Hassett, “The 2003 Dividend Tax Cuts and the Value of the Firm: An Event Study,” in A. Auerbach, J. Hines, and J. Slemrod, eds., *Taxing Corporate Income in the 21st Century* (Cambridge, England: Cambridge University Press, 2007), Chapter 3; Alan J. Auerbach and Kevin A. Hassett, “Dividend Taxes and Firm Valuation: New Evidence,” *American Economic Review*, vol. 96, no. 2 (May 2006), pp. 119–123.

3. Gene Amromin, Paul Harrison, and Steven Sharpe, *How Did the 2003 Dividend Tax Cut Affect Stock Prices?* Working Paper 2006-17 (Chicago: Federal Reserve Bank of Chicago, October 2006).

The evidence amassed so far is consistent with the view that dividend taxation affects payout policies, at least in the short run. The reduction in dividend taxation in 2003, for instance, was followed by a significant increase in dividends issued, although it is unclear whether that increase will be permanent or whether the tax cut caused businesses to increase their total payout to shareholders or simply to substitute dividends for share repurchases.⁴ In addition, the factors that explain why some businesses increased dividend payouts more than others did are still being examined. So far, the response to the tax cut appears to be greater among businesses whose top executives held relatively large amounts of company stock (and relatively small amounts of unexercised stock options) and among those whose ownership was dominated by taxable institutions.

The proposed reduction in the future taxation of dividends and capital gains also would interact with some of the President's other proposals. The proposal to boost tax-favored retirement saving by increasing the saver's credit and requiring certain employers to provide automatic enrollment in individual retirement accounts would partly mitigate the effects of the proposal on dividends and capital gains in bolstering equity financing by corporations because the interest earned on assets in the accounts would not be taxed at either the personal or the corporate level. Moreover, the proposal for lower tax rates on individuals and the proposal to limit the rate at which itemized deductions reduced taxes would both bolster equity financing by corporations by reducing the subsidy to investing in owner-occupied housing.

In its analysis, CBO incorporated the effects of the proposal regarding dividends and capital gains in two ways. First, it estimated the proposal's overall effect on the aver-

age cost of capital under the terms of the growth models (the "textbook" growth model, life-cycle growth model, and infinite-horizon growth model) and incorporated that calculation. Second, because the models cannot account for the effect of reallocating capital, CBO turned to the research on how reallocation might influence output. It then determined a midrange estimate and added that amount to the models' underlying estimates of the effect on output. The procedure added an average of 0.042 percent over the 2009–2018 period to the proposal's projected effect on gross national product, as predicted by the models.

CBO used macroeconomic forecasting models (from Macroeconomic Advisers and Global Insight) to estimate the proposal's effect on the cost of capital in different sectors of the economy and on the value of stock shares (under the assumption that investors and businesses are forward-looking). It then incorporated those estimates in the models and projected the effect on the economy.

Reduce Estate and Gift Taxes

Under current law, the tax rate on estates valued at \$3.5 million or more is 45 percent in 2009; the rate would drop to zero in 2010 before returning to 55 percent, with an exemption amount of \$1 million, beginning in 2011. The President's proposal would maintain the estate tax at its 2009 parameters but index the exemption amount to inflation; those changes would reduce revenues from the tax over the 2010–2019 period. (The tax treatment of gifts would change in a similar way in 2011 under the proposal: The tax rate would fall from 55 percent under current law to 45 percent, and the exemption amount would remain at \$1 million but would be indexed to inflation. For simplicity, the remainder of this section will refer only to estate taxes when discussing the effects of the President's proposal for estate and gift taxes.)

The proposal to reduce estate taxes could affect consumer spending and saving, depending on people's motives for leaving bequests. There is no consensus, however, about which motives predominate or how estate taxes affect consumer spending. People might be encouraged to reduce their spending in order to leave larger bequests because of the lower estate tax their heirs would pay. But a lower estate tax also means that people can spend more and still make the same after-tax bequest. To the extent that a lower estate tax has increased the after-tax size of

4. Jennifer Blouin, Jana Raedy, and Douglas Shackelford, *Did Dividends Increase Immediately After the 2003 Reduction in Tax Rates?* Working Paper 10301 (Cambridge, Mass.: National Bureau of Economic Research, February 2004); Jeffrey Brown, Nellie Liang, and Scott Weisbenner, *Executive Financial Incentives and Payout Policy: Firm Responses to the 2003 Dividend Tax Cut*, Working Paper 11002 (Cambridge, Mass.: National Bureau of Economic Research, December 2004); Raj Chetty and Emmanuel Saez, "Dividend Taxes and Corporate Behavior: Evidence from the 2003 Dividend Tax Cut," *Quarterly Journal of Economics*, vol. 120, no. 3 (2005), pp. 791–833, and "The Effects of the 2003 Dividend Tax Cut on Corporate Behavior: Interpreting the Evidence," *American Economic Review*, vol. 96, no. 2 (May 2006), pp. 124–129.

bequests, potential recipients also might increase their spending. CBO found scant evidence to support the contention of some analysts that the estate tax is a particular impediment to the creation of small businesses.⁵

CBO's estimates of the effects of the President's proposal incorporated the assumption that reducing estate taxes would increase consumer spending slightly, by about 5 cents for each dollar of tax savings.⁶ That assumption implies that extending the repeal would reduce the capital

stock, but by an amount too small to affect the estimates presented in Chapter 2 of this report. CBO considered alternative assumptions (for example, that the positive effect on consumer spending from increasing after-tax income would be balanced by the incentive effects of lower tax rates, resulting in no net impact on that spending) that would yield similar results.

5. See Congressional Budget Office, *Effects of the Federal Estate Tax on Farms and Small Businesses* (July 2005).

6. CBO assumed that consumer spending would increase slightly because recipients of after-tax bequests would be unlikely in any given year to raise their spending significantly and because the effect on recipients might be offset to some degree by increased saving among those planning to leave bequests.

The Models Used to Analyze the Supply-Side Macroeconomic Effects of the President's Budgetary Proposals

The Congressional Budget Office (CBO) used three models—a “textbook” growth model, a life-cycle growth model, and an infinite-horizon growth model—to estimate the supply-side effects of the President’s budgetary proposals from 2010 to 2019, the period covered by CBO’s current 10-year baseline projections. (Estimates generated by those models are presented in Chapter 2.)

Textbook Growth Model

The textbook growth model is an enhanced version of a model developed by Robert Solow, a pioneer in the theory of growth accounting.¹ It incorporates the assumption that economic output is determined by the number of hours of labor that workers supply, the size and composition of the capital stock (for example, factories and information systems), and total factor productivity—which represents the state of technological expertise. The model is not forward-looking: The people it represents base their decisions about working and saving entirely on current economic conditions. In particular, they do not respond to expected future changes in government policy. Moreover, instead of incorporating effects from demand-side variations in the economy, the model assumes that output is always at its potential (or sustainable) level.

The estimates that CBO developed using the textbook growth model incorporate the effects, as calculated separately by CBO, that changes in marginal tax rates specified in the President’s budgetary proposals would have on the number of hours worked.

The President’s budgetary proposals would increase federal deficits over the 10-year budget window, which is projected in the textbook growth model to have a negative effect on the capital stock. The proposals would boost spending by both consumers and the government, relative to the amount in CBO’s March 2009 baseline, and that in turn would crowd out investment. The textbook growth model predicts that changes in marginal tax rates on capital have no direct effect on private saving. However, CBO’s model incorporates an assumption that increased government deficits cause private saving to rise by a partially offsetting amount. Bigger deficits can lead to higher private saving for several reasons, including a response to higher interest rates and increases in disposable income (which can enable increases in both spending and saving).

The net reduction in national saving from higher deficits would not entirely translate into reductions in domestic investment. Instead, part of the reduction would be reflected in increased borrowing from abroad, which allows the domestic capital stock to increase more rapidly than the capital stock owned by U.S. citizens (which is mainly but not entirely domestically located).²

CBO’s textbook growth model accounts for those tendencies by including two assumptions, each based on past relationships. First, the model assumes that every \$1 of deficit leads people to increase their private saving by 40 cents and thus reduces national saving by only 60 cents. Second, the model assumes that every decline of \$1 in

1. For a detailed description of the textbook growth model, see Congressional Budget Office, *CBO’s Method for Estimating Potential Output: An Update* (August 2001).

2. The ultimate effect of increased borrowing from abroad depends on whether one is examining domestic output (which reflects the return to the domestic capital stock) or national income (which reflects the return to the capital stock owned by U.S. citizens).

national saving leads to a 40 cent increase in the amount of foreign capital invested in the United States. Together, those assumptions imply that a \$1 increase in the budget deficit results in a 40 cent increase in private saving, a 24 cent increase in capital inflows (24 cents equals 60 cents times 0.4), and a 36 cent decline in domestic investment.

Life-Cycle and Infinite-Horizon Growth Models

Like the textbook growth model, the life-cycle and infinite-horizon growth models ignore demand-side effects. Those models differ from the textbook growth model in several fundamental ways, however.³ Each assumes that people decide how much to work and save to make themselves as well off as possible over a lifetime. That behavior is calibrated so that such macroeconomic variables as the total amount of labor supplied and the size of the capital stock match that in the U.S. economy. In the life-cycle and infinite-horizon models, people's spending changes by a relatively large amount in response to changes in the after-tax rate of return on their saving—more, in some cases, than appears consistent with historical experience.

The life-cycle and infinite-horizon models are designed to capture the fact that people make decisions on the basis not only of information about the present but in keeping with their expectations about the future. The President's proposals for any given year can affect government spending and revenues over the 10-year projection period, and any deficits or surpluses that accumulate over that period can affect budgetary decisions in later years. People's expectations about those developments—correct or not—can affect their behavior before the changes materialize. Analysts disagree, however, on the extent to which expectations influence people's economic decisions, the time horizon over which people plan, or the future policy shifts they actually expect. CBO therefore analyzed the President's proposals using a wide range of assumptions about the extent of people's foresight and the expectations

they might have about future policies. That approach yields a range of plausible estimates about how those proposals could affect economic growth.

The households in the life-cycle and infinite-horizon models are assumed to be forward-looking, to form expectations about future economic and policy developments that are rational and consistent with the model, and to alter their behavior accordingly. They are assumed to have perfect foresight about the future of the economy as a whole and about government policies. Thus, the models' assumptions about people's behavior are in some sense the opposite extreme from those in the textbook growth model. Most people's foresight actually falls somewhere between those two extreme assumptions, but using those two extremes allows CBO to encompass the broadest possible range of responses to the President's budgetary proposals.

Although the life-cycle and infinite-horizon models do not provide a role for unpredictable fluctuations in aggregate output, CBO's models do assume that individual households face unforeseeable (and idiosyncratic) fluctuations in their income against which they cannot buy insurance. Faced with that uncertainty, households hold some additional "precautionary" savings as a buffer against potential drops in income. Because the precautionary motive to save is not strongly affected by changes in tax rates, households' savings do not respond as much to policy changes as they would in models that do not include the precautionary motive. That, in turn, makes CBO's models somewhat more realistic than models in which households are assumed to have no uncertainty about their future income.

Because people's behavior as represented in the life-cycle and infinite-horizon models depends in part on future policies, those models require analysts to make assumptions about budgetary policies beyond 2019 (the end of the 10-year projection period). Policies that increased deficits during the projection period would yield greater debt payments, requiring higher taxes or lower spending later on than would have been the case under CBO's baseline assumptions. Policies that reduced deficits would require the opposite.

Assumptions about how and when to finance the increased deficits can influence the estimated economic effects of the President's proposed policies over the 2010–2019 period because people anticipate the offsetting poli-

3. For a detailed description of the life-cycle model, see Shinichi Nishiyama, *Analyzing Tax Policy Changes Using a Stochastic OLG Model with Heterogeneous Households*, CBO Technical Paper 2003-12 (December 2003). For a description of a model very similar to the infinite-horizon model, see S.R. Aiyagari, "Optimal Capital Income Taxation with Incomplete Markets, Borrowing Constraints, and Constant Discounting," *Journal of Political Economy*, vol. 103, no. 6 (December 1995), pp. 1158–1175.

cies and plan accordingly. In its analysis, CBO used two assumptions about how the budget would be stabilized after 2019: Either marginal tax rates or government spending would be adjusted. (Spending adjustments are assumed to be spread roughly equally across government purchases of goods and services—which the models assume do not substitute for private spending—and transfer payments.) In either case, those adjustments are assumed to be phased in over the 10 years from 2020 to 2029.

The life-cycle and infinite-horizon models differ in their assumptions about how far ahead people look in making their plans. The life-cycle model is calibrated so that the probability of death at a given age matches current U.S. mortality rates, and people are assumed to consider the effects of future economic or policy changes for themselves but not for their children. In the infinite-horizon model, people behave as though they expect to live forever—behavior that is effectively equivalent to acting as though the well-being of their descendants is as important to them as their own well-being. Although many people care about their descendants, there is evidence against the assumption used in the infinite-horizon model that people care as much about their descendants as they do about themselves.⁴

The difference in the models' time horizons affects their estimated responses to the President's policies. Although people in both models anticipate the President's stated proposals and the eventual offsetting policies that would finance them, older generations in the life-cycle model know that they could retire or die before a policy change occurs. Consequently, anticipation of policy changes

tends to have a smaller effect on people's current behavior in the life-cycle model than it has in the infinite-horizon model.

Another characteristic that affects the models' estimates is the degree to which the domestic economy is open to the flow of foreign capital. The degree of openness is important because foreign capital determines both how easily domestic investment can be financed by sources other than domestic saving and the degree to which budgetary policies can affect wage and interest rates. CBO used two opposite assumptions in the life-cycle model about how open the economy is to flows of capital to and from other countries. One assumption was that the economy is completely closed—no capital can flow into or out of the United States. The other was that the economy is completely open and cannot affect world interest rates—capital flows freely into and out of the country to keep the domestic interest rate equal to a constant world rate. The U.S. economy effectively operates somewhere between those two extremes; even though it is relatively open to investment, it is so large that it can influence world interest rates. By using the two assumptions, CBO obtained a range of results that bounds the probable effects of the modeled policy changes.

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4. See Paul Evans, "Consumers Are Not Ricardian: Evidence from Nineteen Countries," *Economic Inquiry*, vol. 31, no. 4 (October 1993), pp. 534–548; Fumio Hayashi, Joseph Altonji, and Laurence Kotlikoff, "Risk Sharing Between and Within Families," *Econometrica*, vol. 64, no. 2 (March 1996), pp. 261–294; and T.D. Stanley, "New Wine in Old Bottles: A Meta-Analysis of Ricardian Equivalence," *Southern Economic Journal*, vol. 64, no. 3 (January 1998), pp. 713–727.



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The following Congressional Budget Office analysts prepared the revenue and spending projections in this report:

Revenue Projections

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Barbara Edwards	Social insurance taxes, Federal Reserve System earnings
Zachary Epstein	Customs duties, miscellaneous receipts
Pamela Greene	Corporate income taxes, estate and gift taxes
Ed Harris	Individual income taxes
Athiphat Muthitacharoen	Estate tax modeling
Larry Ozanne	Capital gains realizations
Kevin Perese	Tax modeling
Kristy Piccinini	Capital gains realizations
Kurt Seibert	Earned income tax credit, depreciation
Joshua Shakin	Individual income taxes

Spending Projections

Defense, International Affairs, and Veterans' Affairs

Sarah Jennings	Unit Chief
John Chin	International development and security, international financial institutions
Kent Christensen	Defense
Sunita D'Monte	International affairs, veterans' health care
Raymond Hall	Defense (research and development, stockpile sales, atomic energy)

Defense, International Affairs, and Veterans' Affairs (Continued)

David Newman	Defense (military construction and family housing, military activities in Iraq and Afghanistan and the war on terrorism), veterans' housing
Dawn Sauter Regan	Defense (military personnel)
Matthew Schmit	Military retirement, military health care
Jason Wheelock	Defense (other programs, operations and maintenance, radiation exposure compensation, energy employees' occupational illness compensation)
Camille Woodland	Veterans' readjustment benefits, reservists' educational benefits
Dwayne Wright	Veterans' compensation and pensions

Health Systems and Medicare

Tom Bradley	Unit Chief
Stephanie Cameron	Medicare, Public Health Service
Mindy Cohen	Medicare, Public Health Service
Holly Harvey	Medicare
Jean Hearne	Medicare
Lori Housman	Medicare
Jamease Kowalczyk	Medicare, Public Health Service
Julie Lee	Medicare
Lara Robillard	Medicare, Public Health Service

Income Security and Education

Sam Papenfuss	Unit Chief
Christina Hawley Anthony	Unemployment insurance, training programs, Administration on Aging, Smithsonian, arts and humanities, report coordinator
Chad Chirico	Housing assistance, Fannie Mae and Freddie Mac, Troubled Asset Relief Program
Sheila Dacey	Old-Age and Survivors Insurance, Social Security trust funds, Pension Benefit Guaranty Corporation
Kathleen FitzGerald	Supplemental Nutrition Assistance Program (formerly Food Stamps) and other nutrition programs
Justin Humphrey	Elementary and secondary education, Pell grants, student loans
Deborah Kalcevic	Student loans, higher education
Jonathan Morancy	Child Support Enforcement, Temporary Assistance for Needy Families, foster care, Social Services Block Grant program, child care programs, child and family services
David Rafferty	Disability Insurance, Supplemental Security Income
Jessica Sherry	Low Income Home Energy Assistance Program, refugee assistance, Pension Benefit Guaranty Corporation

Low-Income Health Programs and Prescription Drugs

Kate Massey	Unit Chief
Julia Christensen	Food and Drug Administration, prescription drug issues
Sean Dunbar	Medicaid, Children's Health Insurance Program, Public Health Service
Kirstin Nelson	Medicaid, Federal Employees Health Benefits program, Public Health Service
Andrea Noda	Medicare Part D, Medicaid prescription drug policy, Public Health Service
Lisa Ramirez-Branum	Medicaid
Robert Stewart	Medicaid, Children's Health Insurance Program, Indian Health Service
Ellen Werble	Food and Drug Administration, prescription drug issues, Public Health Service
Rebecca Yip	Medicare Part D, Medicaid prescription drug policy

Natural and Physical Resources

Kim Cawley	Unit Chief
Leigh Angres	Science and space exploration, Bureau of Indian Affairs, justice, deposit insurance
Megan Carroll	Energy, air transportation
Mark Grabowicz	Justice, Postal Service
Kathleen Gramp	Deposit insurance, energy, Outer Continental Shelf receipts, spectrum auction receipts
Greg Hitz	Agriculture
Daniel Hoople	Community and regional development, Federal Emergency Management Agency
David Hull	Agriculture
James Langley	Agriculture
Susanne Mehlman	Pollution control and abatement, Federal Housing Administration and other housing credit programs, including Fannie Mae and Freddie Mac
Matthew Pickford	General government
Sarah Puro	Highways, Amtrak, mass transit
Deborah Reis	Recreation, water transportation, legislative branch, conservation and land management, other natural resources
Aurora Swanson	Housing finance, water resources
Susan Willie	Commerce, Small Business Administration, Universal Service Fund

Other

Janet Airis	Unit Chief, Scorekeeping; legislative branch appropriation bill
Jeffrey Holland	Unit Chief, Projections
Edward Blau	Authorization bills

Other (Continued)

Barry Blom	Federal pay, monthly Treasury data, report coordinator
Jared Brewster	Interest on the public debt, national income and product accounts, other retirement, report coordinator
Joanna Capps	Appropriation bills (Interior and the environment, Labor–Health and Human Services)
Mary Froehlich	Computer support
Wendy Kiska	Troubled Asset Relief Program
Amber Marcellino	Federal civilian retirement, other interest, report coordinator
Pinki Mishra	Troubled Asset Relief Program, report coordinator
Damien Moore	Fannie Mae and Freddie Mac, deposit insurance
Virginia Myers	Appropriation bills (Commerce–Justice, financial services, general government)
Jennifer Reynolds	Appropriation bills (Agriculture, foreign relations)
Mark Sanford	Appropriation bills (Defense, Homeland Security)
Phan Siris	Computer support
Esther Steinbock	Appropriation bills (Transportation–Housing and Urban Development, military construction and veterans’ affairs, energy and water)
Patrice Watson	Database system administrator
Steven Weinberg	Deposit insurance