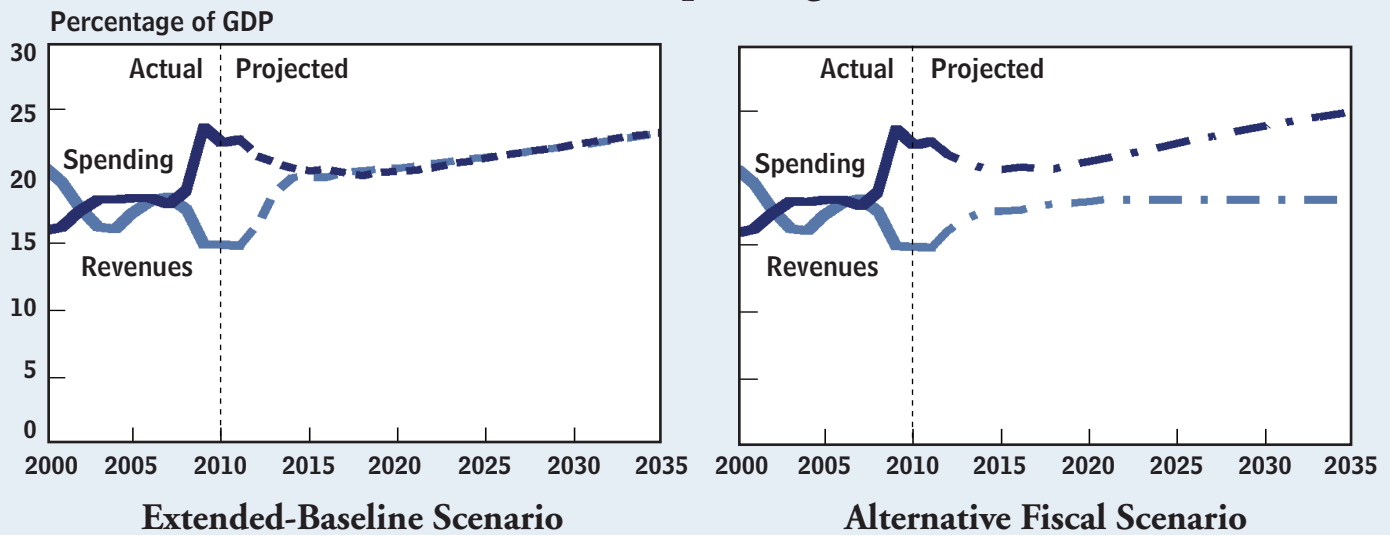


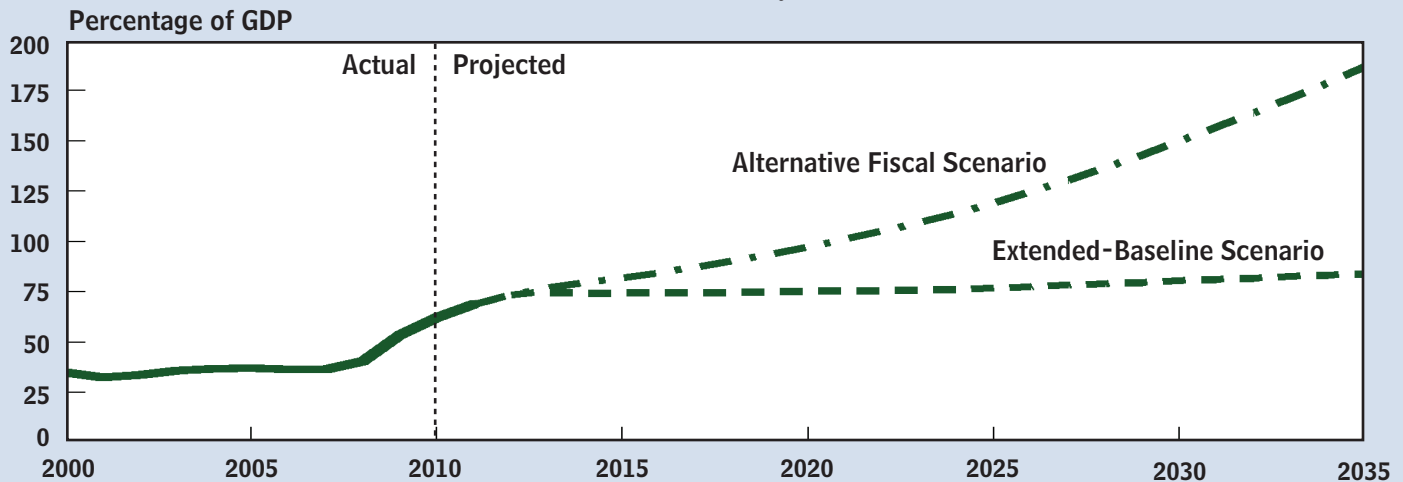
# CBO

## CBO's 2011 Long-Term Budget Outlook

### Federal Noninterest Spending and Revenues



### Federal Debt Held by the Public



JUNE 2011





# **CBO's 2011 Long-Term Budget Outlook**

June 2011

---

## Notes

Unless otherwise indicated, the years referred to in this report are federal fiscal years (which run from October 1 to September 30).

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

The figure on the cover shows, in the top panel, federal noninterest spending and revenues under the Congressional Budget Office's extended-baseline scenario and alternative fiscal scenario. In the bottom panel, the cover figure shows federal debt held by the public under those two scenarios. The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions of law that might be difficult to sustain for a long period.

Supplementary data underlying the long-term budget scenarios are posted along with this report on CBO's Web site ([www.cbo.gov](http://www.cbo.gov)).

---

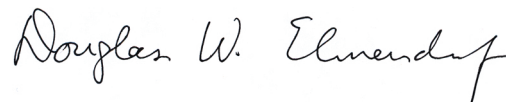


# Preface

**T**his Congressional Budget Office (CBO) report presents the agency's projections of federal spending and revenues over the coming decades. Under current law, an aging population and rapidly rising health care costs will sharply increase federal spending for health care programs and Social Security. If revenues remained at their historical average share of gross domestic product (GDP), such spending growth would cause federal debt to grow to unsustainable levels. If policymakers are to put the federal government on a sustainable budgetary path, they will need to increase revenues substantially as a percentage of GDP, decrease spending significantly from projected levels, or adopt some combination of those two approaches. In keeping with CBO's mandate to provide objective, impartial analysis, this report makes no recommendations.

This report was prepared under the supervision of Joyce Manchester, and many analysts at CBO provided assistance and helpful comments. Noah Meyerson wrote Chapter 1. Benjamin Page wrote Chapter 2. Lyle Nelson and Julie Topoleski authored Chapter 3. Noah Meyerson wrote Chapter 4, and he and Sam Papenfuss wrote Chapter 5. Joshua Shakin wrote Chapter 6. Noah Meyerson wrote Appendix A, and Charles Pineles-Mark compiled Appendix B. James Baumgardner, Tom Bradley, Wendy Edelberg, Peter Fontaine, Holly Harvey, Jean Hearne, Kim Kowalewski, Deborah Lucas, William Randolph, and Frank Sammartino provided useful guidance. Charles Pineles-Mark, Jonathan Schwabish, Michael Simpson, and Julie Topoleski developed the long-term budget simulations, and Jonathan Huntley prepared the macroeconomic simulations. David Weiner coordinated the revenue simulations, which were prepared by Paul Burnham, Grant Driessen, Ed Harris, Athiphat Muthitacharoen, Larry Ozanne, Kurt Seibert, and Joshua Shakin. Sarah Axeen, Stephanie Burns, Jimmy Jin, and Kalyani Parthasarathy provided research assistance.

Christine Bogusz, Christian Howlett, Kate Kelly, Leah Mazade, and John Skeen edited the report. Maureen Costantino and Jeanine Rees prepared the report for publication, and Maureen Costantino designed the cover. Monte Ruffin printed the initial copies, and Linda Schimmel handled the print distribution. The report is available at CBO's Web site ([www.cbo.gov](http://www.cbo.gov)).



Douglas W. Elmendorf  
Director

June 2011





# Contents

	<b>Summary</b>	<i>ix</i>
<b>1</b>	<b>The Long-Term Outlook for the Federal Budget</b>	<b>1</b>
	Alternative Scenarios for the Long-Term Budget Outlook	2
	The Long-Term Outlook for Spending	7
	The Long-Term Outlook for Revenues	12
	The Size of the Fiscal Imbalance	13
	Uncertainty of Long-Term Budget Projections	16
<b>2</b>	<b>The Economic Impact of Long-Term Budget Policies</b>	<b>21</b>
	CBO's Long-Term Economic Benchmark	22
	How Rising Debt and Changing Marginal Tax Rates Would Affect Output	26
	Economic Effects of the Fiscal Policies Assumed in CBO's Extended-Baseline and Alternative Fiscal Scenarios	28
	The Effects of Waiting to Resolve the Long-Term Budgetary Imbalance	31
	Other Consequences of Rising Federal Debt	33
<b>3</b>	<b>The Long-Term Outlook for Mandatory Spending on Health Care</b>	<b>35</b>
	Overview of Major Government Health Care Programs	36
	The Historical Growth of Health Care Spending	40
	CBO's Methodology for Long-Term Projections	42
	Long-Term Projections of Mandatory Spending on Health Care	45
<b>4</b>	<b>The Long-Term Outlook for Social Security</b>	<b>51</b>
	How Social Security Works	51
	The Outlook for Social Security Spending and Revenues	53

<b>5</b>	<b>The Long-Term Outlook for Other Federal Spending</b>	<i>57</i>
	Other Federal Spending Over the Past Four Decades	<i>57</i>
	Projections of Other Federal Spending Under CBO's Long-Term Budget Scenarios	<i>59</i>
<b>6</b>	<b>The Long-Term Outlook for Revenues</b>	<i>61</i>
	Revenues Over the Past 40 Years	<i>62</i>
	Revenue Projections Under CBO's Long-Term Budget Scenarios	<i>64</i>
	Long-Term Implications for Tax Rates and the Tax Burden	<i>69</i>
<b>A</b>	<b>Changes in CBO's Long-Term Projections Since June 2010</b>	<i>73</i>
<b>B</b>	<b>Long-Term Projections Through 2085</b>	<i>79</i>
	<b>Glossary</b>	<i>85</i>



**Tables**

1-1.	Assumptions About Spending and Revenues Underlying CBO's Long-Term Budget Scenarios	4
1-2.	Projected Spending and Revenues Under CBO's Long-Term Budget Scenarios	8
1-3.	The Federal Fiscal Gap Under CBO's Long-Term Budget Scenarios	15
2-1.	The Effect of the Fiscal Policies Assumed in CBO's Long-Term Budget Scenarios on Real GNP and GDP in 2025 and 2035	28
3-1.	Excess Cost Growth in Spending for Health Care	42
3-2.	Financial Measures for Medicare's Hospital Insurance Trust Fund Under CBO's Extended-Baseline Scenario	49
4-1.	Financial Measures for Social Security Under CBO's Long-Term Budget Scenarios	55
5-1.	CBO's Baseline Projections of Other Federal Spending	60
6-1.	Assumptions About Revenues Underlying CBO's Long-Term Budget Scenarios	63
6-2.	Sources of Growth in Total Revenues as a Share of GDP Between 2011 and 2035 Under CBO's Extended-Baseline Scenario	65
6-3.	Estimates of Effective Marginal Tax Rates Under CBO's Extended-Baseline Scenario	71
6-4.	Individual Income and Payroll Taxes as a Share of Income Under CBO's Extended-Baseline Scenario	72

**Figures**

S-1.	Federal Debt Held by the Public Under CBO's Long-Term Budget Scenarios	<i>xi</i>
1-1.	Primary Spending and Revenues, by Category, Under CBO's Long-Term Budget Scenarios	6
1-2.	Federal Debt Held by the Public Under CBO's Long-Term Budget Scenarios	14
1-3.	Reductions in Primary Spending or Increases in Revenues in Various Years Needed to Close the 25-Year Fiscal Gap Under CBO's Alternative Fiscal Scenario	16
1-4.	One Potential Path for Revenues and Noninterest Spending Sufficient to Close the 25-Year Fiscal Gap	18
2-1.	The Effect of the Fiscal Policies Assumed in CBO's Long-Term Budget Scenarios on Real Gross National Product per Person	30
2-2.	Federal Debt Held by the Public, With and Without the Economic Effects of the Fiscal Policies Assumed in CBO's Long-Term Budget Scenarios	32
3-1.	Distribution of Spending for Health Services and Supplies, 2009	37
3-2.	Mandatory Federal Spending on Health Care, by Category, Under CBO's Extended-Baseline Scenario	46

**Figures (Continued)**

3-3.	Mandatory Federal Spending on Health Care Under CBO's Long-Term Budget Scenarios	46
3-4.	Mandatory Federal Spending on Health Care Under CBO's Alternative Fiscal Scenario and Different Assumptions About Excess Cost Growth After 2021	48
4-1.	Spending for Social Security Under CBO's Long-Term Budget Scenarios	52
4-2.	The Population Age 65 or Older as a Percentage of the Population Ages 20 to 64	53
5-1.	Other Federal Spending Under CBO's Long-Term Budget Scenarios	58
5-2.	Other Federal Spending, by Category, 1971 to 2010	59
6-1.	Total Revenues Under CBO's Long-Term Budget Scenarios	62
6-2.	Revenues, by Source, 1971 to 2010	64
6-3.	Individual Income Tax Revenues Under CBO's Extended-Baseline Scenario and Two Variants	66
6-4.	The Impact of the Alternative Minimum Tax on Individual Income Tax Liability Under CBO's Extended-Baseline Scenario	70
A-1.	Comparison of CBO's 2010 and 2011 Budget Projections Under the Extended-Baseline Scenario	75
A-2.	Comparison of CBO's 2010 and 2011 Projections of Mandatory Federal Spending on Health Care Under the Extended-Baseline Scenario	76
A-3.	Comparison of CBO's 2010 and 2011 Budget Projections Under the Alternative Fiscal Scenario	77
B-1.	Primary Spending and Revenues, by Category, Under CBO's Long-Term Budget Scenarios Through 2085	80
B-2.	Federal Debt Held by the Public Under CBO's Long-Term Budget Scenarios Through 2085	81
B-3.	Comparison of CBO's 2010 and 2011 Budget Projections Under the Extended-Baseline Scenario Through 2085	82
B-4.	Comparison of CBO's 2010 and 2011 Budget Projections Under the Alternative Fiscal Scenario Through 2085	83

**Boxes**

1-1.	How the Aging of the Population and Rising Costs for Health Care Affect Federal Spending on Major Mandatory Programs	10
3-1.	National Spending on Health Care	47



## Summary

**R**ecently, the federal government has been recording budget deficits that are the largest as a share of the economy since 1945. Consequently, the amount of federal debt held by the public has surged. At the end of 2008, that debt equaled 40 percent of the nation's annual economic output (a little above the 40-year average of 37 percent). Since then, the figure has shot upward: By the end of this year, the Congressional Budget Office (CBO) projects, federal debt will reach roughly 70 percent of gross domestic product (GDP)—the highest percentage since shortly after World War II. The sharp rise in debt stems partly from lower tax revenues and higher federal spending related to the recent severe recession. However, the growing debt also reflects an imbalance between spending and revenues that predated the recession.

As the economy continues to recover and the policies adopted to counteract the recession phase out, budget deficits will probably decline markedly in the next few years. But the budget outlook, for both the coming decade and beyond, is daunting. The retirement of the baby-boom generation portends a significant and sustained increase in the share of the population receiving benefits from Social Security, Medicare, and Medicaid. Moreover, per capita spending for health care is likely to continue rising faster than spending per person on other goods and services for many years (although the magnitude of that gap is very uncertain). Without significant changes in government policy, those factors will boost federal outlays sharply relative to GDP in coming decades under any plausible assumptions about future trends in the economy, demographics, and health care costs.

According to CBO's projections, if current laws remained in place, spending on the major mandatory health care programs alone would grow from less than 6 percent of GDP today to about 9 percent in 2035 and would

continue to increase thereafter.<sup>1</sup> Spending on Social Security is projected to rise much less sharply, from less than 5 percent of GDP today to about 6 percent in 2030, and then to stabilize at roughly that level. Altogether, the aging of the population and the rising cost of health care would cause spending on the major mandatory health care programs and Social Security to grow from roughly 10 percent of GDP today to about 15 percent of GDP 25 years from now. (By comparison, spending on *all* of the federal government's programs and activities, excluding interest payments on debt, has averaged about 18.5 percent of GDP over the past 40 years.) That combined increase of roughly 5 percentage points for such spending as a share of the economy is equivalent to about \$750 billion today. If lawmakers ultimately modified some provisions of current law that might be difficult to sustain for a long period, that increase would be even larger.

### Long-Term Scenarios

In this report, CBO presents the long-term budget outlook under two scenarios that embody different assumptions about future policies governing federal revenues and spending. Neither of those scenarios represents a prediction by CBO of what policies will be in effect during the next several decades, and the policies adopted in coming years will surely differ from those assumed for the scenarios. Moreover, even if the assumed policies were adopted, their economic and budgetary consequences would undoubtedly differ from those

- 
1. Mandatory programs are programs that do not require annual appropriations by the Congress; the major mandatory health care programs consist of Medicare, Medicaid, the Children's Health Insurance Program, and health insurance subsidies that will be provided through the exchanges established by the March 2010 health care legislation.

projected in this report because outcomes also depend on economic conditions, demographic trends, and other factors that are difficult to predict. The report focuses on the next 25 years rather than a longer horizon, because budget projections grow increasingly uncertain as they extend farther into the future.<sup>2</sup>

### The Extended-Baseline Scenario

One long-term budget scenario used in this analysis, the *extended-baseline scenario*, adheres closely to current law. Under this scenario, the expiration of the tax cuts enacted since 2001 and most recently extended in 2010, the growing reach of the alternative minimum tax, the tax provisions of the recent health care legislation, and the way in which the tax system interacts with economic growth would result in steadily higher revenues relative to GDP. Revenues would reach 23 percent of GDP by 2035—much higher than has typically been seen in recent decades—and would grow to larger percentages thereafter. At the same time, under this scenario, government spending on everything other than the major mandatory health care programs, Social Security, and interest on federal debt—activities such as national defense and a wide variety of domestic programs—would decline to the lowest percentage of GDP since before World War II.

That significant increase in revenues and decrease in the relative magnitude of other spending would offset much—though not all—of the rise in spending on health care programs and Social Security. As a result, debt would increase slowly from its already high levels relative to GDP, as would the required interest payments on that debt. Federal debt held by the public would grow from an estimated 69 percent of GDP this year to 84 percent by 2035 (see Summary Figure 1). With both debt and interest rates rising over time, interest payments, which absorb federal resources that could otherwise be used to pay for government services, would climb to 4 percent of GDP (or one-sixth of federal revenues) by 2035, compared with about 1 percent now.

2. Because considerable interest exists in the longer-term outlook, figures showing projections through 2085 are presented in Appendix B, and associated data are available on CBO's Web site ([www.cbo.gov](http://www.cbo.gov)).

### The Alternative Fiscal Scenario

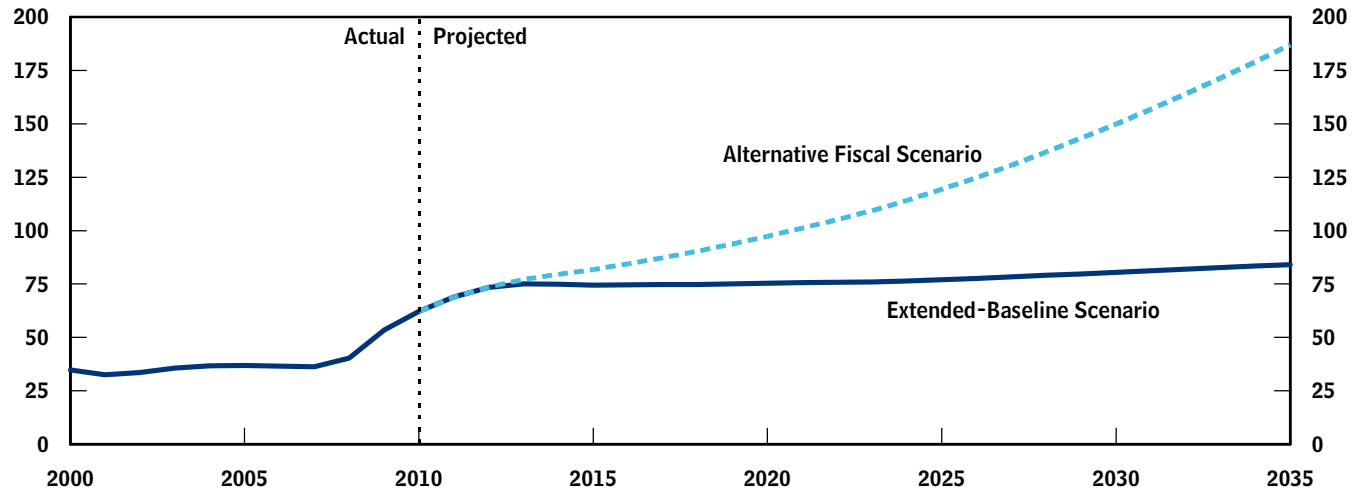
The budget outlook is much bleaker under the *alternative fiscal scenario*, which incorporates several changes to current law that are widely expected to occur or that would modify some provisions of law that might be difficult to sustain for a long period. Most important are the assumptions about revenues: that the tax cuts enacted since 2001 and extended most recently in 2010 will be extended; that the reach of the alternative minimum tax will be restrained to stay close to its historical extent; and that over the longer run, tax law will evolve further so that revenues remain near their historical average of 18 percent of GDP. This scenario also incorporates assumptions that Medicare's payment rates for physicians will remain at current levels (rather than declining by about a third, as under current law) and that some policies enacted in the March 2010 health care legislation to restrain growth in federal health care spending will not continue in effect after 2021. In addition, the alternative scenario includes an assumption that spending on activities other than the major mandatory health care programs, Social Security, and interest on the debt will not fall quite as low as under the extended-baseline scenario, although it will still fall to its lowest level (relative to GDP) since before World War II.

Under those policies, federal debt would grow much more rapidly than under the extended-baseline scenario. With significantly lower revenues and higher outlays, debt held by the public would exceed 100 percent of GDP by 2021. After that, the growing imbalance between revenues and spending, combined with spiraling interest payments, would swiftly push debt to higher and higher levels. Debt as a share of GDP would exceed its historical peak of 109 percent by 2023 and would approach 190 percent in 2035 (see Summary Figure 1).

Many budget analysts believe that the alternative fiscal scenario presents a more realistic picture of the nation's underlying fiscal policies than the extended-baseline scenario does. The explosive path of federal debt under the alternative fiscal scenario underscores the need for large and rapid policy changes to put the nation on a sustainable fiscal course.

**Summary Figure 1.****Federal Debt Held by the Public Under CBO's Long-Term Budget Scenarios**

(Percentage of gross domestic product)



Source: Congressional Budget Office.

Note: The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period. (For details, see Table 1-1 on page 4.)

## The Impact of Growing Deficits and Debt

CBO's projections in most of this report understate the severity of the long-term budget problem because they do not incorporate the negative effects that additional federal debt would have on the economy, nor do they include the impact of higher tax rates on people's incentives to work and save. In particular, large budget deficits and growing debt would reduce national saving, leading to higher interest rates, more borrowing from abroad, and less domestic investment—which in turn would lower income growth in the United States. Taking those effects into account, CBO estimates that under the extended-baseline scenario, real (inflation-adjusted) gross national product (GNP) would be reduced slightly by 2025 and by as much as 2 percent by 2035, compared with what it would be under the stable economic environment that underlies most of the projections in this report.<sup>3</sup> Under the alternative fiscal scenario, real GNP would be 2 percent to 6 percent lower in 2025, and 7 percent to 18 percent lower in 2035, than under a stable economic environment.

Rising levels of debt also would have other negative consequences that are not incorporated in those estimated effects on output:

- Higher levels of debt imply higher interest payments on that debt, which would eventually require either higher taxes or a reduction in government benefits and services.
- Rising debt would increasingly restrict policymakers' ability to use tax and spending policies to respond to unexpected challenges, such as economic downturns or financial crises. As a result, the effects of such developments on the economy and people's well-being could be worse.

3. GNP differs from GDP primarily by including the capital income that residents earn from investments abroad and excluding the capital income that nonresidents earn from domestic investment. In the context of analyzing the impact of growing deficits and debt, GNP is a better measure because projected budget deficits would be partly financed by inflows of capital from other countries.

- Growing debt also would increase the probability of a sudden fiscal crisis, during which investors would lose confidence in the government's ability to manage its budget and the government would thereby lose its ability to borrow at affordable rates. Such a crisis would confront policymakers with extremely difficult choices. To restore investors' confidence, policymakers would probably need to enact spending cuts or tax increases more drastic and painful than those that would have been necessary had the adjustments come sooner.

To keep deficits and debt from climbing to unsustainable levels, policymakers will need to increase revenues substantially as a percentage of GDP, decrease spending

significantly from projected levels, or adopt some combination of those two approaches. Making such changes while economic activity and employment remain well below their potential levels would probably slow the economic recovery. However, the sooner that medium- and long-term changes to tax and spending policies are agreed on, and the sooner they are carried out once the economy recovers, the smaller will be the damage to the economy from growing federal debt. Earlier action would permit smaller or more gradual changes and would give people more time to adjust to them, but it would require more sacrifices sooner from current older workers and retirees for the benefit of younger workers and future generations.

# The Long-Term Outlook for the Federal Budget

**T**he federal government has recently been recording the largest budget deficits, relative to the size of the economy, since 1945. As a result, the amount of federal debt held by the public has surged. Debt is expected to equal roughly 70 percent of the economy's annual output, or gross domestic product (GDP), at the end of this fiscal year, up from 40 percent at the end of 2008. That sharp deterioration in the fiscal situation reflects several factors: an imbalance between spending and revenues that predated the 2007–2009 recession and turmoil in financial markets; a decline in tax revenues and an increase in spending on benefit programs caused by that economic downturn; and the costs of federal policies enacted in response to the downturn.

If current laws were to remain unchanged, the budget deficit would drop markedly as a percentage of GDP in the next few years, the Congressional Budget Office (CBO) projects, and federal debt held by the public would stabilize at about 75 percent of GDP for the next decade—the highest percentage in U.S. history except during a brief period around World War II.<sup>1</sup> However, if some policies that are in effect now were extended, instead of expiring or changing as specified in current law, budget deficits and accumulated debt would be greater. In particular, if lawmakers extended expiring tax provisions, limited the reach of the alternative minimum tax (AMT), set most annual appropriations to grow in line with GDP, and made certain other changes to current law, annual budget deficits would still decline relative to GDP during the next few years but would be increasing steadily by the end of the decade. Under that

alternative scenario, debt held by the public would equal more than 100 percent of GDP in 2021 rather than about 75 percent.

This report presents CBO's estimates of the long-term budget outlook under both sets of assumptions—an *extended-baseline scenario*, reflecting the assumption that current laws do not change, and an *alternative fiscal scenario*, which incorporates several changes to current law that are widely expected to occur or that would modify some provisions of law that might be difficult to sustain for a long period, thus maintaining what some analysts might consider “current policy” as opposed to current law.

Looking beyond the next decade, the fiscal outlook worsens further. Although long-term budget projections are highly uncertain, if current laws remained in effect, the aging of the population and rising costs for health care would almost certainly push federal spending up sharply relative to GDP. Under current law, federal revenues would also increase—to significantly higher percentages of GDP than have ever been seen in the United States—but spending would grow at a similar pace, CBO projects. Federal debt would rise from about 75 percent of GDP in 2021 to almost 85 percent by 2035 and then remain fairly high.

Under CBO's alternative fiscal scenario, revenues would increase much more slowly than spending, and debt held by the public would balloon to nearly 190 percent of GDP by 2035. As debt grew, so would the burden of paying interest on it; thus, under that alternative scenario, annual federal spending on interest would rise from about 1 percent of GDP today to 9 percent by 2035. Such a path for federal borrowing would clearly be unsustainable.

1. For more details about CBO's most recent 10-year current-law baseline projections, see Congressional Budget Office, *An Analysis of the President's Budgetary Proposals for Fiscal Year 2012* (April 2011), Table 1-5.

Moreover, those projections of federal debt under the long-term scenarios do not include the harmful effects that rising debt would have on economic growth and interest rates. If those effects were taken into account, projected debt would increase even faster. Chapter 2 presents estimates of the economic effects of growing debt and the impact of those economic changes on the trajectory of debt under both scenarios.

If policymakers are to put the nation on a sustainable budgetary path, they will need to let revenues increase substantially as a percentage of GDP, decrease spending significantly from projected levels, or adopt some combination of those two approaches. With economic activity and employment currently well below the levels that could be achieved if the nation's labor force and capital stock were fully utilized, raising revenues or curbing spending immediately would probably slow the economic expansion. However, the sooner that medium- and long-term changes to spending and revenues are agreed on—and the sooner they are implemented after the period of economic weakness—the smaller will be the damage to the economy from rising federal debt.

## Alternative Scenarios for the Long-Term Budget Outlook

The two sets of long-term budget projections presented in this report are based on the following differing assumptions about future policy (see Table 1-1 on page 4):

- The *extended-baseline scenario* adheres closely to current law. It follows CBO's March 2011 baseline budget projections for the next decade and then extends the baseline concept beyond that 10-year window.<sup>2</sup> The current-law assumption of the extended-baseline scenario implies that many adjustments that lawmakers have routinely made in the past—such as

changes to the AMT and to the Medicare program's payments to physicians—will not be made again.<sup>3</sup> Because of the structure of current tax law, federal revenues would grow significantly faster than GDP over the long run under this scenario, ultimately rising well above the levels that U.S. taxpayers have seen in the past (for more details, see Chapter 6).

- The *alternative fiscal scenario* embodies several changes to current law that would continue certain tax and spending policies that people have grown accustomed to (because the policies are in place now or have been in place recently). Versions of some of the changes assumed in the scenario—such as those related to the tax cuts originally enacted in 2001, the AMT, certain other tax provisions, and Medicare's payments to physicians—have regularly been enacted in the past and are widely expected to be made in some form over the next few years.

After 2021, the alternative fiscal scenario also incorporates modifications to several provisions of current law that might be difficult to sustain for a long period. Thus, the scenario includes changes to certain restraints on the growth of spending for Medicare and to indexing provisions that would slow the growth of federal subsidies for health insurance coverage. In addition, the scenario includes unspecified changes in tax law that would keep revenues constant as a share of GDP after 2021.

Together, the changes incorporated in this scenario represent one interpretation of what it would mean to continue today's underlying fiscal policy. However, different analysts might perceive the underlying intention of current policy differently.<sup>4</sup>

The projections in much of this report understate the size of the budgetary shortfalls that would be likely to result

2. CBO's baseline is a neutral reference point for measuring the budgetary effects of proposed changes to federal revenues or spending. It consists of projections of budget authority, outlays, revenues, and the deficit or surplus over 10 years calculated according to rules originally set forth in the Balanced Budget and Emergency Deficit Control Act of 1985. Those projections are not intended to be predictions of future budgetary outcomes; rather, they represent CBO's best judgment of how economic and other factors would affect federal revenues and spending if current laws did not change.

3. The alternative minimum tax is a parallel income tax system with fewer exemptions, deductions, and rates than the regular income tax. Households must calculate the amount they owe under both the AMT and the regular income tax and pay the larger of the two amounts.

4. CBO discussed alternative policy assumptions in *The Budget and Economic Outlook: Fiscal Years 2011 to 2021* (January 2011), pp. 21–24. The alternative fiscal scenario presented here combines several of the alternative policy paths presented in that report and encompasses others as well.



from those policy paths. In order to clearly illuminate long-term budgetary trends, as distinguished from the resulting economic effects, CBO generally assumes stable economic conditions after 2021 (what it labels its *economic benchmark*). In particular, economic variables such as GDP growth and interest rates are assumed to be the same as if federal debt remained at 76 percent of GDP, the level it reaches in 2021 in CBO's baseline projections. In actuality, if debt grew faster than GDP, economic growth would slow and real (inflation-adjusted) interest rates would rise. The budget projections in most of this report also omit the impact that different effective marginal tax rates would have on people's incentives to work and save.<sup>5</sup> (Although the projections generally do not incorporate those economic effects, the effects are discussed in detail in Chapter 2.)

### The Extended-Baseline Scenario

Under CBO's current-law scenario, primary spending—all spending except interest payments on federal debt—would drop relative to GDP in the next few years, level out for the rest of the decade, and grow significantly in later decades. The severe recession and financial turmoil, as well as federal policies implemented in response to them, pushed primary outlays to 24 percent of GDP in 2009, the highest level since World War II. Such outlays were above 22 percent of GDP in 2010, and CBO projects that they will remain at that level in 2011. However, as the economy recovers and the budgetary effects of those recent policies diminish, primary spending is projected to decline to 20 percent of GDP and stay near that level through 2021. In subsequent years, primary spending would follow a gradual upward path under the extended-baseline scenario, reaching 23 percent of GDP in 2035 (see the top panel of Figure 1-1 on page 6).<sup>6</sup> (This report focuses on primary spending because growth in debt as a share of GDP is determined mainly by the relationship between revenues and primary outlays.)<sup>7</sup>

If current law continued, revenues would also rise considerably; by the 2020s, they would reach higher levels relative to the size of the economy than ever recorded in the nation's history. Under current law, revenues would jump

from about 15 percent of GDP now to 19 percent in 2013 as the economic recovery increased taxable income, as the tax cuts enacted since 2001 expired in 2012 and 2013 as scheduled, and as the reach of the AMT expanded greatly (because, unlike most of the tax code, the dollar amounts of its parameters do not automatically increase with inflation). In later years, revenues would continue to rise relative to GDP, for three main reasons. First, ongoing increases in real income would push taxpayers into higher tax rate brackets. Second, ongoing inflation, although it is projected to be modest, would cause more people to owe tax under the AMT. And third, the excise tax on certain high-premium health insurance plans, which is scheduled to take effect in 2018, would have a growing impact on revenues. Taken together, those factors would cause marginal tax rates to increase and federal revenues to grow faster than the economy, reaching 23 percent of GDP in 2035. By comparison, federal revenues averaged 18 percent of GDP between 1971 and 2010, peaking at 20.6 percent of GDP in 2000.

Even with revenues rising to those projected levels, however (and with the economic effects of the increases in marginal tax rates omitted), the federal government would still experience substantial budgetary shortfalls. By 2035, the deficit (including interest costs) would equal about 4 percent of GDP under the extended-baseline scenario, and federal debt held by the public would equal 84 percent of GDP. In later years, debt would grow at approximately the same rate as the economy, as both revenues and spending increased relative to GDP; therefore, debt would continue to be a much larger percentage of GDP than has been seen in most of U.S. history.

### The Alternative Fiscal Scenario

Under CBO's alternative fiscal scenario, primary spending would be 1.1 percentage points higher as a share of GDP in 2021 than under the extended-baseline scenario (see the bottom panel of Figure 1-1 on page 6). That difference would grow in later years. The higher primary spending stems from several assumptions of the alternative scenario: that through 2021 lawmakers will act to

5. Effective marginal tax rates on labor or capital income represent the percentage of the last dollar of such income that is taken by federal taxes.

6. Longer-term versions of some of the figures in this chapter are presented in Appendix B.

7. Several factors not directly included in budget totals also affect the government's need to borrow from the public. Those factors include increases or decreases in the government's cash balance as well as the cash flows reflected in the financing accounts used for federal credit programs. Changes in those factors were not modeled in this analysis.

**Table 1-1.**  
**Assumptions About Spending and Revenues Underlying CBO’s Long-Term Budget Scenarios**

	Extended-Baseline Scenario	Alternative Fiscal Scenario
	<b>Assumptions About Spending</b>	
Medicare	As scheduled under current law	As scheduled under current law, except that payment rates for physicians are maintained at the 2011 levels through 2021 (rather than at the lower rates of the sustainable growth rate mechanism) and that, after 2021, several policies that would restrain spending growth are assumed not to be in effect <sup>a</sup>
Medicaid	As scheduled under current law	As scheduled under current law
Exchange Subsidies	As scheduled under current law	As scheduled under current law, except that a policy that would slow the growth of per-participant subsidies for health insurance coverage is assumed not to be in effect and eligibility thresholds are assumed to be modified to maintain the share of the population eligible for subsidies
CHIP	As projected in CBO's baseline through 2021; remaining constant as a share of GDP thereafter	As projected in CBO's baseline through 2021; remaining constant as a share of GDP thereafter
Social Security	As scheduled under current law	As scheduled under current law
Other Noninterest Spending	As projected in CBO's baseline through 2021; remaining at the 2021 level as a share of GDP thereafter, except that some refundable tax credits, Medicare premiums, and certain payments by states to Medicare are as scheduled under current law	As projected in CBO's baseline through 2021, except that all discretionary appropriations grow at the same rate as nominal GDP through 2021, and discretionary appropriations are further adjusted by assuming that the number of troops deployed for certain types of military operations is reduced to 45,000 by 2015; <sup>b</sup> thereafter, spending remains at the 2021 level as a share of GDP, except that Medicare premiums and certain payments by states to Medicare are consistent with the projections of Medicare spending in this scenario

Continued

prevent Medicare’s payment rates for physicians from declining; that lawmakers will not allow various restraints on the growth of Medicare costs and health insurance subsidies to have their full effect after the first decade of the projections; and that, as a percentage of GDP, federal spending for things other than Social Security, major mandatory health programs, and interest payments will be close to the level experienced during much of the past decade (rather than falling below that level over the next decade, as under the extended-baseline scenario).<sup>8</sup>

On the revenue side, the alternative fiscal scenario incorporates the assumption that almost all expiring tax provisions will be extended through 2021 (the end of CBO’s 10-year baseline projection period). Most

important, CBO assumes for that scenario that the cuts in individual income taxes enacted since 2001 and most recently extended in 2010, which are now scheduled to expire in 2012 or 2013, will be extended through 2021; that relief from the AMT, which is scheduled to expire at the end of 2011, will continue through 2021; and that the 2012 parameters of the estate tax (adjusted for inflation) will apply through 2021. Thereafter, revenues are

8. Mandatory programs are programs that do not require annual appropriations by the Congress; the funding available for them is generally not limited. Most mandatory spending is for entitlement programs, in which the federal government is required to make payments to any person or entity that meets the eligibility criteria set in law. Discretionary spending, by contrast, is controlled by annual appropriation acts.

Table 1-1.

Continued

## Assumptions About Spending and Revenues Underlying CBO's Long-Term Budget Scenarios

Extended-Baseline Scenario		Alternative Fiscal Scenario
Assumptions About Revenues		
Individual Income Taxes	As scheduled under current law	All provisions scheduled to expire in the next 10 years are extended through 2021, including the income tax reductions and AMT relief temporarily extended in the 2010 tax act; revenues remain constant as a share of GDP thereafter <sup>c</sup>
Payroll Taxes	As scheduled under current law	As scheduled under current law
Corporate Income Taxes	As scheduled under current law through 2021; remaining constant as a share of GDP thereafter	All provisions scheduled to expire in the next 10 years are extended through 2021; revenues remain constant as a share of GDP thereafter
Excise Taxes	As scheduled under current law	All provisions scheduled to expire in the next 10 years are extended through 2021; revenues remain constant as a share of GDP thereafter
Estate and Gift Taxes	As scheduled under current law	The 2012 tax rates and exemption amount (adjusted for inflation) continue through 2021; revenues remain constant as a share of GDP thereafter
Other Sources of Revenue	As scheduled under current law through 2021; remaining constant as a share of GDP thereafter	All provisions scheduled to expire in the next 10 years are extended through 2021; revenues remain constant as a share of GDP thereafter

Source: Congressional Budget Office.

Notes: The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period.

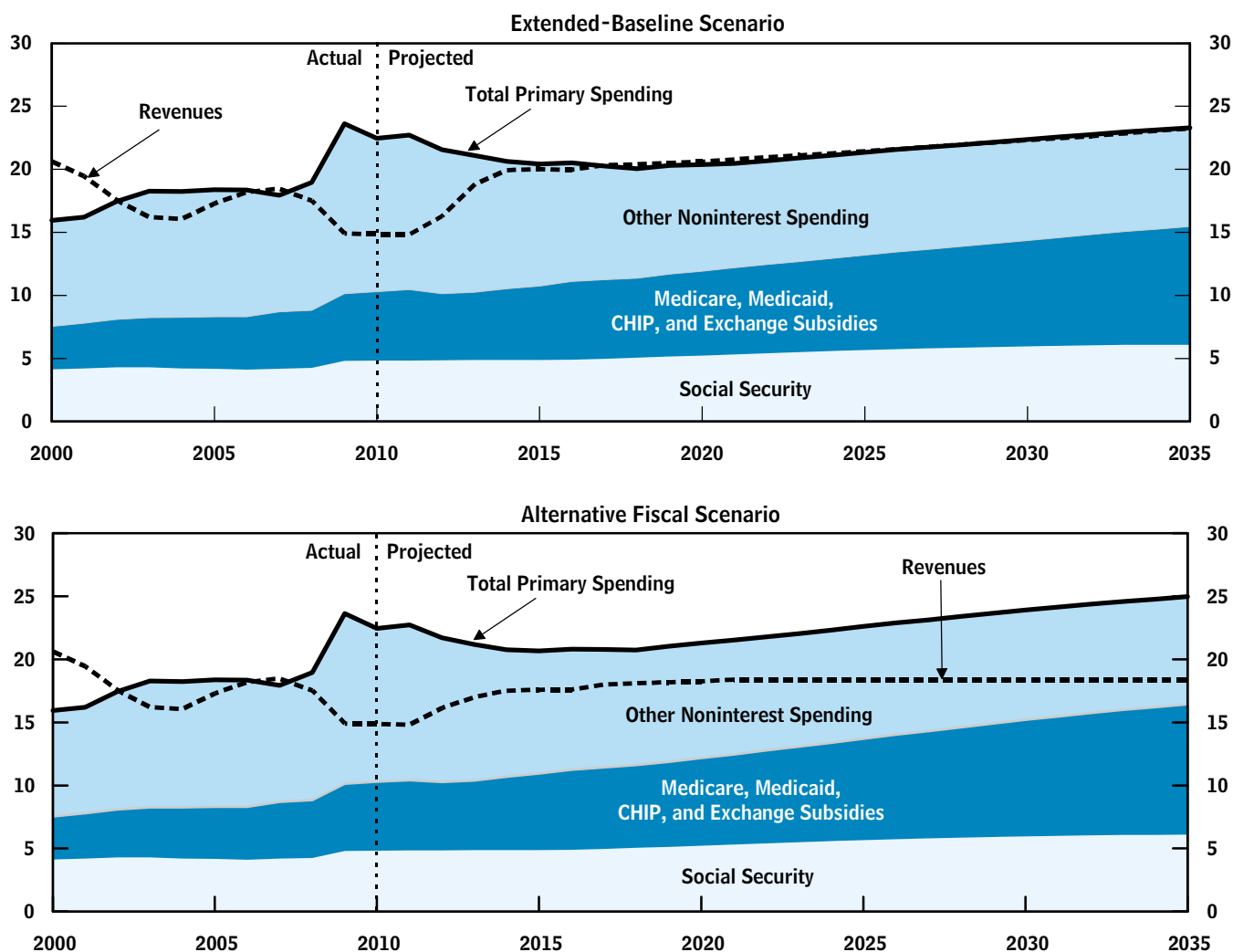
CHIP = Children's Health Insurance Program; GDP = gross domestic product; AMT = alternative minimum tax; 2010 tax act = Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 (Public Law 111-312).

- These assumptions about payment rates for physicians are identical to those in the fourth policy alternative in Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2011 to 2021* (January 2011), Table 1-7.
- These assumptions are identical to those in the first and second policy alternatives in Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2011 to 2021* (January 2011), Table 1-7.
- These assumptions are identical to those in the seventh and eighth policy alternatives in Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2011 to 2021* (January 2011), Table 1-7.

**Figure 1-1.**

## Primary Spending and Revenues, by Category, Under CBO's Long-Term Budget Scenarios

(Percentage of gross domestic product)



Source: Congressional Budget Office.

Notes: Primary spending refers to all spending other than interest payments on federal debt.

The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period. (For details, see Table 1-1 on page 4.)

CHIP = Children's Health Insurance Program.

assumed to remain at their 2021 level of 18.4 percent of GDP, just above the average of the past 40 years. That revenue path, combined with the spending policies described above, would produce a deficit equal to 15 percent of GDP in 2035. It would also push federal debt held by the public to more than 100 percent of GDP by 2021 and soon afterward to levels unprecedented in the United States, reaching almost 190 percent by 2035.

## The Long-Term Outlook for Spending

With interest payments on debt held by the public excluded, federal outlays have averaged 18.6 percent of GDP over the past 40 years. Such primary spending is now unusually high—and is expected to remain so through 2012—because of the recent recession and policies implemented in response to it. However, in CBO's baseline, such outlays are projected to decline to 20 percent of GDP by 2018.

Primary spending would rise again under both of CBO's long-term budget scenarios—to 23 percent of GDP by 2035 under the extended-baseline scenario and to 25 percent under the alternative fiscal scenario (see Table 1-2). In both cases, primary outlays would continue to grow steadily in later years.

### Mandatory Outlays for Health Care Programs and Social Security

Federal spending for mandatory programs has accounted for a sharply rising share of primary outlays in the past few decades, averaging 55 percent in recent years. Most of that growth has been concentrated in the three largest entitlement programs—Social Security, Medicare, and Medicaid. Together, federal outlays for those three programs made up 46 percent of primary spending, on average, over the past 10 years, up from 27 percent in 1975.

Under CBO's two scenarios, all of the projected growth in primary spending as a share of GDP over the long term stems from increases in mandatory spending, particularly in outlays for the government's major health care programs: Medicare, Medicaid, the Children's Health Insurance Program (CHIP), and insurance subsidies that will be provided through the exchanges created by the March 2010 health care legislation.<sup>9</sup> Under both scenarios, total outlays for those health care programs would grow much faster than GDP, increasing from 5.6 percent in 2011 to about 9 percent or 10 percent in 2035.<sup>10</sup> (For details about the long-term projections of health care

spending, see Chapter 3.) Spending on Social Security would rise much more slowly, from almost 5 percent of GDP in 2011 to about 6 percent in the 2030s and beyond (see Chapter 4).

Under both scenarios, the trust funds for Social Security and for Part A of Medicare would be exhausted over time.<sup>11</sup> However, to measure the imbalance between the revenues for those programs and the outlays for benefits currently specified in law, CBO assumes that the two programs will continue to pay benefits as now scheduled. (Spending for other parts of Medicare also flows through a trust fund, but automatic infusions of money from the Treasury's general fund effectively ensure that it cannot become insolvent. Medicaid has no underlying trust fund.)

**Causes of Spending Growth.** Two factors account for the projected increases in outlays for the government's large entitlement programs: aging of the population and rapid growth of health care spending per capita. (For a detailed breakdown of the roles played by those factors, see Box 1-1 on page 10.) The retirement of the large baby-boom generation born between 1946 and 1964 portends a long-lasting shift in the age profile of the U.S. population. That shift will substantially alter the balance between the working-age and retirement-age segments of the population. During the next decade alone, the number of people over the age of 65 is expected to rise by more than a third. Over the longer term, the share of people age 65 or older is projected to grow from about 13 percent now to 20 percent in 2035, whereas the share of people ages 20 to 64 is expected to fall from 60 percent to 55 percent. In later decades, the aging of the population is expected to continue, though at a slower rate, because of further increases in life expectancy.

9. That legislation was the Patient Protection and Affordable Care Act (Public Law 111-148) and the Health Care and Education Reconciliation Act of 2010 (P.L. 111-152).

10. Those totals for major health care programs include gross Medicare spending (that is, they do not subtract offsetting receipts, which consist mainly of premiums paid by Medicare beneficiaries).

11. The balances of those trust funds represent the total amount that the government is legally authorized to spend on each program. For a discussion of the legal issues related to trust fund exhaustion, see Christine Scott, *Social Security: What Would Happen If the Trust Funds Ran Out?* Report for Congress RL33514 (Congressional Research Service, August 20, 2009).

**Table 1-2.****Projected Spending and Revenues Under CBO's Long-Term Budget Scenarios**

(Percentage of gross domestic product)

	2011	2021	2035
<b>Extended-Baseline Scenario</b>			
Spending			
Primary spending			
Social Security	4.8	5.3	6.1
Medicare <sup>a</sup>	3.7	4.1	5.9
Medicaid, CHIP, and exchange subsidies	1.9	2.8	3.5
Other noninterest spending	12.3	8.3	7.8
Subtotal, primary spending	22.7	20.5	23.3
Interest spending	1.4	3.4	4.1
Total Spending	24.1	23.9	27.4
Revenues	14.8	20.8	23.2
Deficit (-) or Surplus			
Primary deficit or surplus	-7.9	0.3	-0.1
Total deficit	-9.3	-3.1	-4.2
Debt Held by the Public <sup>b</sup>	69	76	84
<b>Alternative Fiscal Scenario</b>			
Spending			
Primary spending			
Social Security	4.8	5.3	6.1
Medicare <sup>a</sup>	3.7	4.3	6.7
Medicaid, CHIP, and exchange subsidies	1.9	2.8	3.7
Other noninterest spending	12.3	9.1	8.5
Subtotal, primary spending	22.7	21.5	25.0
Interest spending	1.4	4.4	8.9
Total Spending	24.1	25.9	33.9
Revenues	14.8	18.4	18.4
Deficit			
Primary deficit	-7.9	-3.1	-6.6
Total deficit	-9.3	-7.5	-15.5
Debt Held by the Public <sup>b</sup>	69	101	187

Source: Congressional Budget Office.

Notes: Primary spending refers to all spending other than interest payments on federal debt. The primary deficit or surplus is the difference between revenues and primary spending.

The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period. (For details, see Table 1-1 on page 4.)

CHIP = Children's Health Insurance Program.

- a. Spending for Medicare reflects gross amounts. Beneficiaries' premiums and certain other receipts used to offset a portion of spending for Medicare are included in other noninterest spending.
- b. At the end of the year.

In the case of Social Security, the aging of the population drives the projected growth of spending as a percentage of GDP. Initial Social Security benefits are based on an individual's earnings, indexed to the overall growth of wages. Because average benefits increase at approximately the same rate as average earnings, economic growth does not significantly change Social Security spending as a share of GDP. However, CBO projects that the number of workers per beneficiary will decline significantly over the next quarter century (from about three now to about two in 2035) and then continue to drift downward.

In the case of the major mandatory health care programs, both aging and rapid growth of per capita health care spending (adjusted for changes in the age distribution of the population) are responsible for the projected rise in federal spending as a share of GDP, because more elderly people will use increasingly expensive health care. However, CBO projects that growth in per capita spending for health care programs will moderate from past rates even if federal laws do not change (see Chapter 3). Both Medicaid and CHIP are financed jointly by the federal government and state governments, so growth in federal spending per capita is expected to slow as states move to limit their costs. And even without changes to the laws governing Medicare, growth in per capita spending on that program is projected to slow (though to a lesser degree than for the other health programs) because of future regulatory changes to the program and changes to the health care system as a whole.

**Differences Between the Long-Term Scenarios.** Spending for Social Security would be identical under CBO's extended-baseline and alternative fiscal scenarios. Spending for Medicaid, CHIP, and the exchange subsidies would be slightly higher under the alternative scenario because of differing assumptions about the subsidies (see Chapter 3). In the case of Medicare, spending would be almost 1 percentage point higher relative to GDP in 2035 under the alternative fiscal scenario than under the extended-baseline scenario, and the difference would widen further beyond that. The projected spending paths for Medicare differ for two main reasons:

- Under the current-law assumptions of the extended-baseline scenario, Medicare's sustainable growth rate mechanism would reduce payment rates for physicians by nearly 30 percent in January 2012 and by additional amounts in later years. Under the alternative fiscal scenario, by contrast, Medicare's payment rates

for physicians would remain at their 2011 levels for the next decade.

- Growth in Medicare outlays during the following decade is assumed to be somewhat higher under the alternative fiscal scenario than under the extended-baseline scenario. In particular, under the alternative scenario, several policies that would restrain the growth of spending for Medicare are assumed not to be in effect after 2021. By contrast, under the extended-baseline scenario, those policies are assumed to remain in effect, causing cost growth from 2022 through 2029 to be similar to the growth projected for the end of the 2012–2021 period.

The upshot of those differences is that Medicare spending in 2035 is projected to be 13 percent higher under the alternative fiscal scenario than under the extended-baseline scenario—a difference that persists in later years because the growth rates of spending beyond that point are assumed to be the same under the two scenarios. That gap highlights the important implications of health care policies for the federal budget.

### Other Federal Outlays

A larger difference between the two scenarios involves projections of federal spending for everything besides the major mandatory health care programs and Social Security. Other primary spending (including the offsetting effects of Medicare premiums and other offsetting receipts) currently equals about 12 percent of GDP. It would fall to 8 percent of GDP in 2021 under the extended-baseline scenario and 9 percent under the alternative fiscal scenario, declining slowly thereafter in both cases. (By comparison, such spending has represented more than 8 percent of GDP each year since the 1930s.) Interest payments by the government would increase from 1 percent of GDP now to 4 percent by 2035 under the extended-baseline scenario and then remain at that percentage. Under the alternative fiscal scenario, annual interest spending would grow to 9 percent of GDP by 2035 and would continue to rise dramatically thereafter.

### Other Noninterest Spending Under the Extended-Baseline Scenario.

For the extended-baseline scenario, CBO began with its baseline projections of outlays for 2011 through 2021 for programs other than the major mandatory health care programs and Social Security. That spending category includes a variety of other mandatory programs (such as federal civilian and military

Box 1-1.

How the Aging of the Population and Rising Costs for Health Care Affect Federal Spending on Major Mandatory Programs

In the Congressional Budget Office’s (CBO’s) long-term projections of spending, growth in noninterest spending as a share of gross domestic product (GDP) is attributable entirely to increases in spending on several large mandatory programs: Social Security, Medicare, Medicaid, and (to a lesser extent) insurance subsidies that will be provided through the health insurance exchanges established by the March 2010 health care legislation. The health care programs are the main drivers of that growth; they are responsible for 80 percent of the total projected rise in spending on those mandatory programs over the next 25 years.

Two factors underlie the projected increase in federal spending on the government’s major mandatory health care programs and Social Security: the aging of the U.S. population, which increases the number of beneficiaries in those programs, and rapid growth in health care spending per beneficiary. CBO calculated how much of the projected rise in federal spending for the health care programs and Social Security under the extended-baseline scenario is attributable to aging and how much is attributable to “excess cost growth”—the extent to which health care costs per enrollee (adjusted for changes in the age profile of the population) grow faster than GDP per capita. CBO made that calculation by comparing the outlays projected under the extended-baseline scenario with the

Explaining Projected Growth in Federal Spending on Major Mandatory Health Programs and Social Security by 2035 and 2085, by Source

(Percent)	Excess Cost Growth	
	Aging	
	Major Health Care Programs and Social Security	
2035	64	36
2085	44	56
	Major Health Care Programs	
2035	48	52
2085	29	71

Source: Congressional Budget Office.

outlays that would occur under two alternative paths: one with an aging population but no excess cost growth for health care programs, and one with no aging but with excess cost growth.

The interaction between the aging of the population and excess cost growth accentuates their individual effects. As aging causes the number of beneficiaries of Medicare and Medicaid to rise, higher health care spending per person has a larger impact. Conversely, when health care costs are growing, having more

Continued

retirement, certain veterans’ programs, the Supplemental Nutrition Assistance Program, and unemployment compensation) as well as all discretionary programs. In the baseline, mandatory programs are assumed to operate as they do under current law, and funding for discretionary programs is projected to grow at the rate of inflation. (Under the rules that govern the baseline, CBO does not make any other adjustments to discretionary spending. For example, no adjustment is made for spending that may be temporary, such as outlays for operations in Afghanistan and Iraq.)

Under those assumptions, other mandatory spending would decline dramatically over the baseline period, from 3.2 percent of GDP in 2011 to 1.6 percent in 2021. Such spending is unusually high now because of the automatic increase in spending (such as for unemployment benefits and nutrition programs) that occurs during periods of economic weakness. Discretionary spending would also decline as a share of GDP under the assumptions of the baseline, from 9.1 percent in 2011 to 6.7 percent in 2021. That decline occurs because discretionary spending is assumed to increase at the rate of inflation and CBO



**Box 1-1.****Continued**

## How the Aging of the Population and Rising Costs for Health Care Affect Federal Spending on Major Mandatory Programs

beneficiaries imposes a larger budgetary cost. That interaction can be identified separately—or as in CBO's analysis, it can be allocated according to the shares attributable to aging and excess cost growth.

Of the two factors, aging is the more important over the next 25 years. With the interaction allocated between the two, aging accounts for 64 percent of the total projected growth in spending on Social Security and the major mandatory health care programs by 2035, and excess cost growth accounts for 36 percent (see the table on the facing page and the figure at right). The impact of excess cost growth is felt only in the health care programs; rising health care costs have no direct effect on spending for Social Security. (For a discussion of the rates of excess cost growth that underlie those calculations, and the basis for them, see Chapter 3.) The greater importance of aging is not surprising given that the aging of the baby-boom generation will significantly expand the number of people participating in those programs.

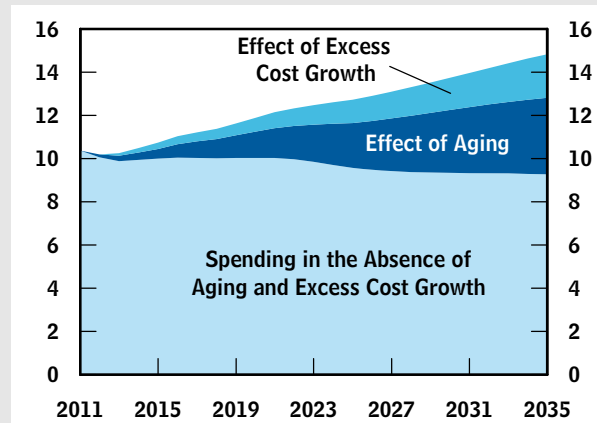
Over the longer term, however, the situation changes. By 2085, excess cost growth is responsible for 56 percent of the total projected growth in federal spending on the health care programs and Social Security, and the share attributable to aging falls to 44 percent. Because of the substantial uncertainties that exist about long-term rates of cost growth for health care,

much more caution should be applied to those longer-term projections.

Looking only at the major health care programs, CBO found that excess cost growth accounts for 52 percent of the programs' projected growth by 2035 and 71 percent by 2085. Again, future rates of aging and especially of excess cost growth could differ substantially from CBO's assumptions, particularly in the longer term.

### Sources of Growth in Federal Spending on Major Mandatory Health Care Programs and Social Security, 2011 to 2035

(Percentage of gross domestic product)



Source: Congressional Budget Office.

projects that GDP will grow faster than inflation. With those pieces taken together, other primary spending would equal 8.3 percent of GDP in 2021.

Beyond 2021, outlays for programs other than the major mandatory health care programs and Social Security are generally assumed to remain constant at their 2021 levels as a share of GDP under the extended-baseline scenario. However, premiums paid by Medicare beneficiaries, certain payments by states to Medicare, and the refundable portions of the earned income tax credit and the child tax credit are estimated as under current law (as described in

Chapter 3 and Chapter 6). Because of the projected changes in those components, other primary spending is projected to decline from 8.3 percent of GDP in 2021 to 7.8 percent by 2035—lower than such spending has been at any point in the past 40 years.

**Other Noninterest Spending Under the Alternative Fiscal Scenario.** In the alternative fiscal scenario, primary spending apart from outlays for the major mandatory health care programs and Social Security is assumed to be somewhat higher than under the extended-baseline scenario, decreasing to 9.1 percent of GDP in 2021

rather than to 8.3 percent. For the first 10 years, CBO's projections of other primary spending under the alternative scenario differ from the projections under the extended-baseline scenario in two ways. First, all discretionary spending is assumed to grow at the same rate as GDP over the next decade instead of at the rate of inflation. Second, the path of such spending is further modified by assuming that the number of U.S. military personnel deployed abroad will decline in the next few years rather than continue at the current level.

After 2021, other noninterest spending—except for projected changes in Medicare premiums and certain payments by states to Medicare—is assumed to remain constant at the 2021 level relative to GDP under the alternative fiscal scenario. With the projected changes to those components included, other primary spending is projected to decline to 8.5 percent of GDP by 2035, well below its average percentage over the past 40 years.

**Interest Spending.** For much of the past decade, federal debt held by the public was relatively constant as a share of GDP. Nevertheless, federal interest spending decreased (from 2.3 percent of GDP in 2000 to a 35-year low of 1.3 percent in 2009) because interest rates fell. In its baseline, CBO projects that interest spending will increase over the next 10 years—from 1.4 percent of GDP in 2010 to 2.0 percent in 2013 and 3.4 percent by 2021—as federal debt grows and as interest rates rebound from their recent unusually low levels.

For the long-term budget projections, CBO assumed that interest rates would remain stable after 2021, meaning that interest spending would grow at the same pace as federal debt. Under the extended-baseline scenario, annual interest spending would increase to 4 percent of GDP in 2035 and then remain at that level. Under the alternative fiscal scenario, interest spending would grow much faster—to 9 percent of GDP by 2035 and much more in later years—because of ballooning debt. Moreover, those projections do not incorporate the effects of rising debt on interest rates; as discussed in Chapter 2, higher federal debt would lead to higher interest rates, making interest outlays even larger, particularly under the alternative fiscal scenario.

## The Long-Term Outlook for Revenues

Federal revenues have fluctuated between about 15 percent and 21 percent of GDP over the past 40 years, averaging 18 percent. Just as mandatory programs have

accounted for a growing share of spending during that period, the composition of revenues has shifted. Receipts from payroll taxes have grown faster than GDP, producing a larger share of total revenue.<sup>12</sup> At the same time, the shares contributed by corporate income taxes and excise taxes have declined.

After totaling nearly 18 percent of GDP in 2008, federal revenues fell sharply, primarily because of the severe recession, and were less than 15 percent of GDP in both 2009 and 2010. CBO expects revenues to remain near 15 percent of GDP this year. However, under the current-law assumptions of CBO's baseline, revenues would rebound over the next decade with expected improvement in the economy, the scheduled expiration of tax cuts enacted since 2001 (and most recently extended in 2010), and sharp growth in the number of taxpayers subject to the alternative minimum tax. As a result, revenues would reach nearly 19 percent of GDP in 2013 and nearly 21 percent in 2021.

Under the extended-baseline scenario, revenues would continue to rise gradually thereafter, reaching roughly 23 percent of GDP by 2035. That increase would occur largely because, under current law, real growth in income would push people into higher tax brackets over time, and inflation-related increases in income would make more income subject to the AMT. The excise tax on certain high-premium health insurance plans that was enacted as part of the March 2010 health care legislation would also contribute to the increase. All told, average tax rates (taxes as a share of income) would rise considerably, and people at various points on the income scale would pay a larger percentage of their income in taxes than people at the same points do today. In addition, the effective marginal tax rate on labor income would rise from about 25 percent now to about 35 percent in 2035.

For the alternative fiscal scenario, by contrast, CBO assumes that tax law will be changed over time to continue certain policies that are widely expected to be extended and to keep revenues at a percentage of GDP more consistent with past patterns. Specifically, for this scenario, CBO assumes that all tax provisions scheduled to expire in the next 10 years—other than the reduction of 2 percentage points in payroll taxes for 2011—will be

12. Most payroll tax revenues come from taxes designated for Social Security and Medicare; the rest come mainly from unemployment insurance taxes.

extended through 2021. Most important, the tax cuts enacted since 2001 are assumed to continue, the reach of the AMT does not expand, and the estate tax is extended with the rates and exemption amounts scheduled to be in effect in 2012 (adjusted for inflation). Beyond 2021, CBO assumes unspecified changes in tax law that keep total revenues at the same share of GDP as in 2021. Under those assumptions, revenues would increase to 18.4 percent of GDP in 2021 (rather than to nearly 21 percent under the extended-baseline scenario) and would remain at that percentage in later years. Thus, the revenues projected under the alternative fiscal scenario are lower than those under the extended-baseline scenario by more than 2 percent of GDP in 2021 and by about 5 percent of GDP in 2035. (For more details about CBO's long-term revenue projections, see Chapter 6.)

## The Size of the Fiscal Imbalance

Under the assumptions about tax and spending policies in CBO's long-term scenarios, the federal government faces a daunting long-term budgetary shortfall. How large is that imbalance? Two measures offer complementary perspectives: Annual amounts of federal debt show how shortfalls accumulate over time, whereas the "fiscal gap" summarizes the shortfall over a given period in a single value. Both measures show that projected revenues are insufficient to support projected spending—with a fairly modest difference under the extended-baseline scenario and a very large one under the alternative fiscal scenario. Looking at how the fiscal gap changes over time demonstrates the effect of delaying action to address the budgetary imbalance.

## The Accumulation of Federal Debt

For a combination of federal spending and revenues to be sustainable over time, debt held by the public—which represents the amount that the government is borrowing in the financial markets (by issuing Treasury securities) to pay for federal operations and activities—must eventually grow no faster than the economy. That borrowing competes with other participants in the credit markets for financial resources and can crowd out private investment.<sup>13</sup>

A useful barometer of the federal government's financial position is the amount of federal debt held by the public relative to annual economic output. Such debt stood at 40 percent of GDP at the end of 2008, a little above the 40-year average of 37 percent. Since then, large deficits have caused debt held by the public to increase sharply—to 62 percent of GDP at the end of 2010 and, CBO projects, to 69 percent by the end of this year. Debt has exceeded 60 percent of GDP during only one other period in U.S. history: between 1943 and 1952, when it spiked (peaking at 109 percent of GDP) because of a surge in federal spending during World War II.

Under the assumptions of CBO's extended-baseline scenario, annual budget deficits would decline to 3.0 percent of GDP by 2014. After that, deficits would generally equal between 3 percent and 4 percent of GDP. Debt held by the public would remain high by historical standards, growing to 84 percent of GDP in 2035 (see Figure 1-2) and staying fairly close to that level in later decades.

Under the alternative fiscal scenario, deficits would also decline for the next few years and then grow again, but at a much faster pace. By 2021, debt would exceed 100 percent of GDP. After that, the growing imbalance between revenues and noninterest spending, combined with the spiraling cost of interest payments, would swiftly push debt to unsustainable levels. Debt would surpass its past peak of 109 percent of GDP by 2023 and would reach almost 190 percent of GDP in 2035.

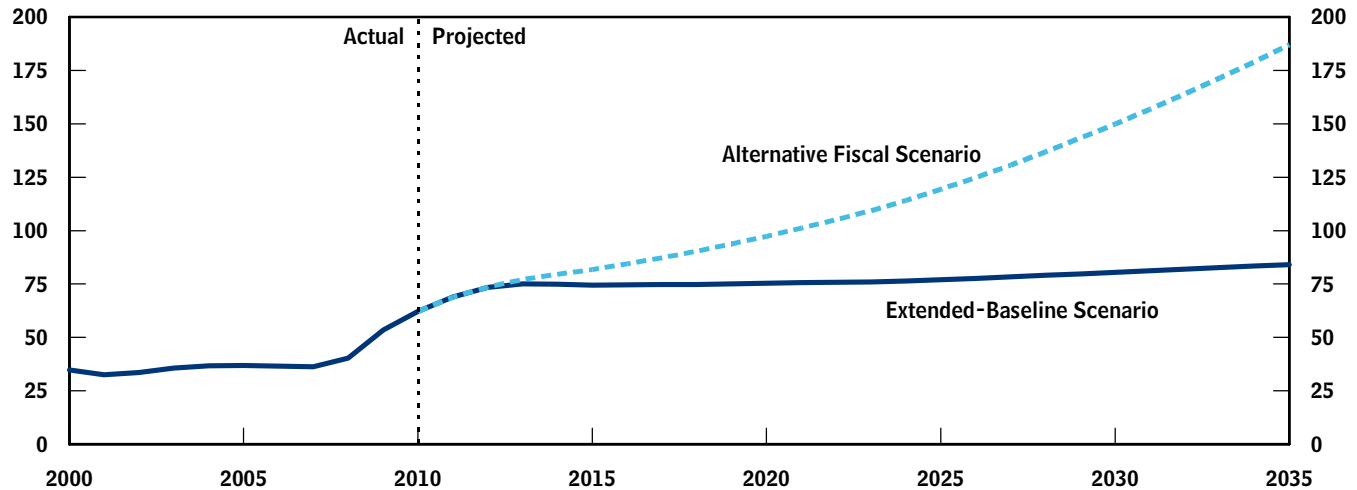
The federal government could not issue ever-larger amounts of debt relative to the size of the economy indefinitely. If debt continued to rise rapidly relative to GDP, investors at some point would begin to doubt the government's willingness to pay interest on the debt. (For more discussion of that risk, see Chapter 2.) Therefore, the government would eventually need to cut spending to well below the levels projected in the alternative fiscal scenario, increase taxes to well above their average historical percentage of GDP, or implement some combination of those two approaches to put the federal budget on a sustainable path.

Current law, if continued, would lead to those sorts of adjustments, which is why debt would rise much more slowly relative to GDP under the extended-baseline scenario. In that scenario, revenues would reach the historically high level of 23.2 percent of GDP in 2035

13. In contrast, debt held by trust funds and other government accounts—which, together with debt held by the public, make up gross federal debt—represents internal transactions of the government and thus has no effect on credit markets. For more information, see Congressional Budget Office, *Federal Debt and Interest Costs* (December 2010).

**Figure 1-2.****Federal Debt Held by the Public Under CBO's Long-Term Budget Scenarios**

(Percentage of gross domestic product)



Source: Congressional Budget Office.

Note: The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period. (For details, see Table 1-1 on page 4.)

(compared with 18.4 percent under the alternative fiscal scenario), and spending for programs other than the major mandatory health care programs and Social Security would reach the lowest level relative to GDP since before World War II, 7.8 percent of GDP in 2035 (compared with 8.5 percent under the alternative fiscal scenario). With the current-law assumptions of the extended-baseline scenario, the sharp increase in outlays projected for the major health care programs and Social Security during the next few decades would be nearly balanced by the increase in revenues, and debt would grow only a little faster than the economy.

Many analysts believe that the alternative fiscal scenario presents a more realistic picture of the nation's underlying fiscal policy than the extended-baseline scenario does—because, for example, it does not allow the impact of the AMT to expand substantially. The explosive path of federal debt under the alternative scenario underscores the need for major changes in current policies to put the nation on a sustainable fiscal course.

**The Fiscal Gap**

How much would policies have to change to avoid unsustainable increases in government debt? A useful answer comes from looking at the fiscal gap, which measures the

immediate change in spending or revenues that would be necessary to keep the debt-to-GDP ratio the same at the end of a given period as at the beginning of the period. The fiscal gap is conceptually similar to the actuarial imbalance for Social Security (see Table 4-1 on page 55). Both measures quantify a long-term shortfall in present-value terms—that is, as a single number that describes a flow of future revenues or outlays in terms of an equivalent lump sum received or spent today—and both can be expressed as a percentage of GDP.<sup>14</sup>

14. The fiscal gap equals the present value of revenues over a given period minus the present value of primary outlays over that period, adjusted to keep federal debt at its current percentage of GDP. Specifically, current debt is added to the outlay measure, and the present value of the target end-of-period debt (which equals GDP in the last year of the period multiplied by the ratio of debt to GDP at the beginning of 2011) is added to the revenue measure. The present value of a stream of future revenues is computed by taking the revenues for each year, discounting each value to 2011 dollars, and summing the resulting series. The same method is applied to the projected stream of primary outlays. CBO used a discount rate equal to the average interest rate on federal debt held by the public, which was assumed to be 2.7 percent on an inflation-adjusted basis in the long term (as explained in Chapter 2).

**Table 1-3.****The Federal Fiscal Gap Under CBO's Long-Term Budget Scenarios**

(Percentage of gross domestic product)

Projection Period	Present Value of the Future Stream of Revenues or Outlays over a Given Period		Fiscal Gap (Outlays minus revenues)
	Adjusted Revenues <sup>a</sup>	Adjusted Outlays <sup>a</sup>	
Extended-Baseline Scenario			
25 Years (2011 to 2035)	23.2	24.1	0.9
50 Years (2011 to 2060)	24.1	24.4	0.4
75 Years (2011 to 2085)	25.4	25.6	0.2
Alternative Fiscal Scenario			
25 Years (2011 to 2035)	20.3	25.1	4.8
50 Years (2011 to 2060)	19.2	25.9	6.6
75 Years (2011 to 2085)	18.9	27.2	8.3

Source: Congressional Budget Office.

Notes: The fiscal gap is a measure of the difference between projected primary spending and revenues over a given period. It represents the extent to which the government would need to immediately and permanently either raise revenues or cut spending—or do both, to some degree—to make the government's debt the same size (relative to gross domestic product, or GDP) at the end of the period that it was at the beginning of 2011.

The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that modify some current provisions that might be difficult to sustain for a long period. (For details, see Table 1-1 on page 4.)

- a. To allow for the increase in the nominal value of federal debt that would occur even if that debt was maintained at its current share of GDP, outlays are adjusted by adding current debt, and revenues are adjusted by adding the present value of the target end-of-period debt. (The end-of-period debt is equal to GDP in the last year of the period multiplied by the ratio of debt to GDP at the beginning of 2011. A present value is a single number that describes a flow of future revenues or outlays in terms of an equivalent lump sum received or spent today.)

The fiscal gap from 2011 to 2035 would amount to 0.9 percent of GDP under the extended-baseline scenario and 4.8 percent under the alternative fiscal scenario (see Table 1-3). In other words, relative to the projections of the alternative fiscal scenario, an immediate and permanent reduction in spending or increase in revenues equal to 4.8 percent of GDP—equivalent to more than \$700 billion in this year's federal budget—would be needed to create a sustainable fiscal path for the next quarter century. If the change came entirely from revenues, it would amount to roughly a one-quarter increase in revenues relative to the amount projected for 2021 and later years. If the change came entirely from spending, it would represent a cut of roughly one-fifth in primary spending from the amount projected for that period.

**The Effect of Delaying Action on the Fiscal Imbalance**

Waiting to close the fiscal gap would make the necessary changes larger. To illustrate the costs of delay, CBO simulated the effects of closing the fiscal gap under the

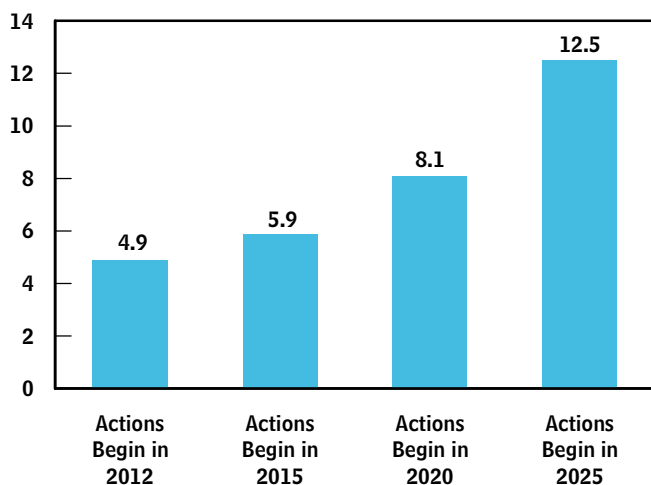
alternative fiscal scenario beginning in 2012, 2015, 2020, or 2025. Those simulations indicate that postponing action would substantially increase the size of the policy adjustments needed to put the budget on a sustainable course. For example, if lawmakers wanted to close the fiscal gap through 2035 but did not begin until 2015, they would have to reduce primary spending or increase revenues over that period by 5.9 percent of GDP, rather than by 4.9 percent if they acted in 2012 (see Figure 1-3). If they waited until 2020 to close the fiscal gap through 2035, they would have to cut noninterest outlays or raise revenues over the remaining period by 8.1 percent of GDP. Moreover, those simulations omit the effects that deficits and debt would have on economic growth and interest rates in the intervening years; incorporating such effects would make the impact of delaying policy changes even more severe.

Another perspective on the size of the fiscal gap comes from considering how much revenues would have to be increased and outlays reduced if changes were made

**Figure 1-3.**

### Reductions in Primary Spending or Increases in Revenues in Various Years Needed to Close the 25-Year Fiscal Gap Under CBO's Alternative Fiscal Scenario

(Percentage of gross domestic product)



Source: Congressional Budget Office.

Notes: Primary spending refers to all spending other than interest payments on federal debt.

The fiscal gap is a measure of the difference between projected primary spending and revenues over a given period. It represents the extent to which the government would need to immediately and permanently either raise tax revenues or cut spending—or do both, to some degree—to make the government's debt the same size (relative to gross domestic product) at the end of the period that it was at the beginning of 2011.

The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period. (For details, see Table 1-1 on page 4.)

gradually (rather than in a single year, as implied by the fiscal gap). As one example of such gradual changes, CBO computed the paths of revenues and noninterest outlays necessary to return to the current debt-to-GDP ratio in 2035, assuming that each path would move by an equal amount relative to the trajectories projected under the alternative fiscal scenario and that the changes would begin in 2015 (see Figure 1-4 on page 18). Closing the 25-year fiscal gap under those assumptions would involve having revenues approach 23 percent of GDP in 2035 and noninterest outlays equal less than 21 percent of GDP, both substantially different from their levels under

the alternative fiscal scenario (18 percent and 25 percent, respectively). The primary surpluses that would be generated between 2024 and 2035 would be used to cover the government's interest costs and pay off some of the debt accumulated between 2011 and 2023. If the fiscal gap was closed by 2035, there would be no need to run large surpluses thereafter; instead, the ratio of debt to GDP would be steady as long as budget deficits remained small as a percentage of GDP.

### Uncertainty of Long-Term Budget Projections

Future budgetary outcomes will depend in large part on future policies—as evidenced by the fact that the two scenarios analyzed in this report, which use the same assumptions about future economic conditions but different assumptions about spending and tax policies, produce widely differing paths for federal debt. However, budgetary outcomes will depend on other factors as well, including changes in the economy, demographic trends, and major military actions.<sup>15</sup>

### Recessions and Financial Crises

The greater the frequency and severity of future recessions, the worse budgetary outcomes would be. Recessions have direct effects on the budget: They reduce revenues by significant amounts and also raise outlays for programs such as unemployment insurance and nutrition assistance.<sup>16</sup> In addition, recessions may prompt policymakers to enact legislation that further reduces revenues and increases spending in order to help people suffering from the weak economy, to bolster the financial condition of state and local governments, and to stimulate additional economic activity and employment. In the recent economic downturn, the combination of automatic budgetary responses and legislation such as the American Recovery and Reinvestment Act of 2009 (Public Law 111-5) had a profound impact on the federal

15. CBO has not quantified the uncertainty of its long-term budget projections, but it has done so for its long-term Social Security projections; see *CBO's 2010 Long-Term Projections for Social Security: Additional Information* (October 2010). That uncertainty analysis is not definitive because it is based on patterns of historical variation, and future variation could differ. For example, mortality could suddenly improve or deteriorate to an extent that was not experienced in the past.

16. See Congressional Budget Office, *The Effects of Automatic Stabilizers on the Federal Budget* (May 2010).



budget. At the beginning of 2008, federal debt equaled 36 percent of GDP, and CBO projected that it would decline slightly relative to GDP over the next few years; by the end of 2010, however, debt was 62 percent of GDP.

Moreover, some recessions occur as a result of, or at the same time as, financial crises that can induce large federal expenditures. For example, the federal government made substantial outlays at the end of the 1980s to resolve the savings and loan crisis and again in the past few years to stabilize the U.S. financial system. In both cases, the policy actions ultimately had smaller effects on federal debt than recessions tend to have.<sup>17</sup> However, the costs of future interventions in financial markets could be much greater, in part because the financial industry has become more concentrated.<sup>18</sup> And if debt rose to a level that made additional federal borrowing difficult, the government might have trouble financing the initial cost of a desired intervention in the financial markets, even if it expected to recoup at least part of that cost over time. Further, as

recent experience has shown, the indirect effects of financial crises on the federal budget can be much larger than the direct effects, as resulting drops in economic activity can be both deep and long-lasting.

### Long-Term Changes in Interest Rates on Federal Debt

Interest rates on Treasury securities have varied a good deal over time, so predicting their future path is difficult. For example, the real interest rate paid on federal debt was 4 percent in the 1980s but averaged -1 percent in the 1970s (because inflation was higher than the nominal interest rate). For the economic benchmark underlying the projections in this report, CBO assumes that the real interest rate on federal debt will rise from less than 1 percent today to an ultimate value of 2.7 percent. (For an explanation of that and other economic projections, see the section titled “CBO’s Long-Term Economic Benchmark” in Chapter 2.)

One particular risk is that growing federal debt would increase the probability of a fiscal crisis, in which investors would lose confidence in the government’s ability to manage its budget and the government would thus lose its ability to borrow at affordable rates. It is possible that interest rates would rise gradually as investors’ confidence faltered, warning lawmakers of the worsening situation and giving them enough time to make policy choices that could avert a crisis. Indeed, because interest rates on Treasury securities are unusually low today, such a crisis does not appear imminent in the United States. But as other countries’ experiences show, investors can lose confidence abruptly, and interest rates on government debt can rise sharply and unexpectedly. (For more discussion of that risk, see the section titled “Other Consequences of Rising Federal Debt” in Chapter 2.)

Budgetary outcomes could be affected significantly if interest rates differed persistently from the path that underlies the projections. CBO projects that under the alternative fiscal scenario, interest payments on debt held by the public would account for one-quarter of federal outlays by 2035. If interest rates were even moderately higher or lower than projected, total federal outlays would be significantly higher or lower, and the effect would compound over time. For example, if interest rates were 0.5 percentage points lower each year than assumed, federal debt under the alternative fiscal scenario would be 175 percent of GDP in 2035 rather than almost 190 percent, as CBO projects. If interest rates were

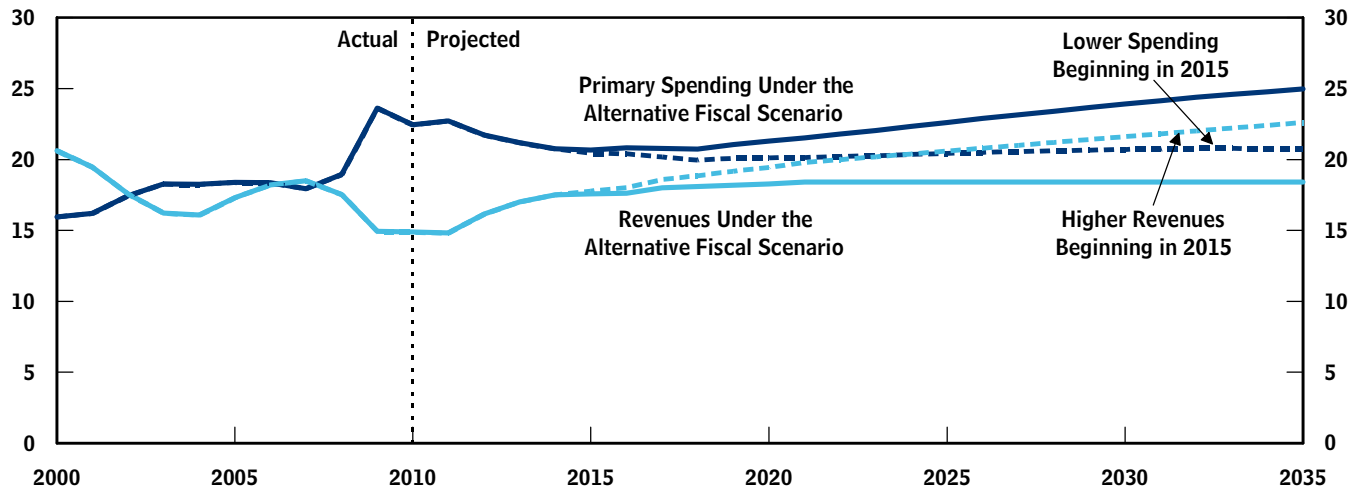
17. Federal losses from the savings and loan crisis have been estimated at \$124 billion; see Timothy Curry and Lynn Shibut, “The Cost of the Savings and Loan Crisis: Truth and Consequences,” *FDIC Banking Review*, vol. 13, no. 2 (2000). Policy actions taken to stabilize the financial system in the past few years included the Troubled Asset Relief Program (TARP), the conservatorship of Fannie Mae and Freddie Mac, and a set of initiatives by the Federal Reserve. CBO estimates that the net costs of the TARP will be \$19 billion (although the program’s cash flows have been much larger); see Congressional Budget Office, *Report on the Troubled Asset Relief Program* (March 2011). On a fair-value basis, the costs of the government’s takeover and continuing operation of Fannie Mae and Freddie Mac will exceed \$300 billion, CBO estimates, but the net effect on federal debt is likely to be smaller than that; see the statement of Deborah Lucas, Assistant Director for Financial Analysis, Congressional Budget Office, before the House Committee on the Budget, *The Budgetary Cost of Fannie Mae and Freddie Mac and Options for the Future Federal Role in the Secondary Mortgage Market* (June 2, 2011). The direct effect of the Federal Reserve’s actions to stabilize financial markets will be to increase remittances to the Treasury, reducing the budget deficit, CBO estimates. However, those actions increase uncertainty about the Federal Reserve System’s future remittances; see Congressional Budget Office, *The Budgetary Impact and Subsidy Costs of the Federal Reserve’s Actions During the Financial Crisis* (May 2010).

18. As an illustration, the assets of the six largest bank holding companies increased from 15 percent of GDP in 1995 to about 55 percent in 2006 and 64 percent in 2010. See the statement of Simon Johnson, Professor of Entrepreneurship, Sloan School of Management, Massachusetts Institute of Technology, before the Senate Committee on the Budget, February 1, 2011.

**Figure 1-4.**

## One Potential Path for Revenues and Noninterest Spending Sufficient to Close the 25-Year Fiscal Gap

(Percentage of gross domestic product)



Source: Congressional Budget Office.

Notes: Primary spending refers to all spending other than interest payments on federal debt.

The fiscal gap is a measure of the difference between projected primary spending and revenues over a given period. It represents the extent to which the government would need to immediately and permanently either raise tax revenues or cut spending—or do both, to some degree—to make the government's debt the same size (relative to gross domestic product) at the end of the period that it was at the beginning of 2011.

The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period. (For details, see Table 1-1 on page 4.)

0.5 percentage points higher, debt would equal about 200 percent of GDP, and interest payments would make up almost 30 percent of federal outlays.

### Long-Term Changes in Demographics, Health Status, and Health Care

Demographic factors will also affect budgetary outcomes over the long run. Federal outlays as a share of GDP are sensitive to the ratio of the number of elderly to the number of working-age adults, because GDP depends importantly on the number of workers, and outlays for Medicare, Medicaid, and Social Security are closely linked to the number of elderly people. Higher rates of fertility or immigration would cause GDP to increase relative to federal spending, whereas faster-than-expected growth in life expectancy would cause federal spending to increase relative to GDP. Differences from the demographic trends assumed in this report could occur relatively suddenly—for example, through a medical breakthrough that reduced mortality or through the spread of a new infectious disease. Alternatively, such differences

could occur gradually—for instance, if trends in fertility rates or mortality improvements diverged steadily from the assumed paths.

The health status of the population could evolve in unexpected ways because of changes in behavior (such as smoking rates or dietary patterns), because of new medical procedures that reduced the occurrence of certain conditions or diseases, or because of new treatments for various illnesses. Such changes in health status would affect federal spending on health care programs and on programs for people with disabilities. For example, outlays for Medicare and Medicaid depend in part on the prevalence of conditions such as obesity, depression, and musculoskeletal disorders, because people with such conditions tend to consume more medical care. Those people are also more likely to qualify for Social Security Disability Insurance, Supplemental Security Income, and Medicaid's long-term care program. To the extent that changes in health status led to changes in mortality, such changes would also affect the number of Medicare and



Social Security beneficiaries and outlays for entitlement programs.

One of the greatest sources of budgetary uncertainty is the future growth of health care costs. The health care system is continually evolving, and spending for health care has a large and growing effect on the federal budget—both through outlays on Medicare, Medicaid, and other health programs and through tax preferences, especially the exclusion of employer-provided health benefits from income and payroll taxes. Although those developments will be affected by whatever federal policies are pursued, great uncertainty would exist even under a specified policy. In both long-term budget scenarios, CBO projects that federal spending on health care per beneficiary will increase more slowly in the future than during the past several decades but will still substantially outpace the growth of per capita GDP. Historically, technological changes have been the main driver of increases in health care costs. Future growth rates for the per-beneficiary costs of federal health care programs will depend largely on the extent to which advances in health technology raise costs. However, changes in the structure of payment systems and the delivery of health care could also prove to be important; indeed, such changes could affect, and be affected by, advances in technology. (For further discussion, see Chapter 3.)

### Long-Term Changes in Productivity

Long-term economic growth could differ greatly from the path that underlies the budget projections in this report. CBO assumes that in the long run, total factor productivity will grow by 1.3 percent annually, approximately the average rate seen over the past half century.<sup>19</sup> A small change in the growth of productivity can, over a long period, have a larger effect on GDP than most recessions do. For example, CBO estimates that during the depths of the recessions experienced since the 1970s, GDP was more than 4 percent lower, on average, than it could have been if the nation's labor force and capital stock had been fully utilized; in addition, output subsequently remained below potential levels for an average of three years. Over the course of a lengthy recession, the cumulative loss in GDP would be substantial, but if the economy fully recovered, GDP would return to its previous growth

path. By comparison, if productivity growth was 0.3 percentage points lower than assumed every year, GDP in the 10th year would be 3 percent lower than projected, but cumulative GDP over that decade would be lower by about 16 percent of one year's output, and that shortfall would be growing at an accelerating rate. In other words, the shortfall from a recession is generally temporary, whereas a change in the long-term rate of productivity growth reduces output by an ever-increasing amount.

The nation could also experience unexpectedly high growth in productivity, most likely because of faster technological improvements. Such faster growth could occur steadily (for example, from the continued integration of information technology into the economy) or could result suddenly from a specific technological breakthrough (such as the development of a new source of energy). Faster economic growth from higher productivity (in the absence of changes in other economic measures, such as the unemployment rate, interest rates, or inflation rates) would result in higher revenues but have relatively little impact on the ratio of outlays to GDP under the extended baseline scenario, so budget deficits would be smaller. Slower economic growth would lead to correspondingly larger budget deficits. Moreover, raising taxes or reducing outlays might be less burdensome if people's incomes were higher and more burdensome if they were lower.

### Catastrophic Events or Major Military Actions

Natural and manmade disasters occur fairly often, and even though they may have significant short-term effects on the national economy or long-term effects on certain regions or economic sectors, they rarely have a lasting impact on the national economy. However, an increased frequency of disasters or the occurrence of a larger catastrophe could affect budgetary outcomes by reducing economic growth over a number of years, by requiring massive additional federal spending, or both. For example, the country could experience more-frequent severe floods, hurricanes, tornadoes, and fires—as some models of climate change predict—or could experience a single massive earthquake, a nuclear meltdown that rendered a large area of the country uninhabitable, or an asteroid strike. Other possibilities include an epidemic (whether on the scale of the 1918 pandemic flu, which killed roughly one out of every 150 people in the United States, or on the scale of the current AIDS epidemic in parts of Africa), a series of major terrorist attacks, a large war, or a number of smaller but sustained military actions. Because

19. Total factor productivity is average real GDP per unit of combined labor and capital services. Thus, the growth of total factor productivity is the growth of real output that is not explained by the growth of labor and capital.

estimates of future risk are generally based on experience, and catastrophic events are extremely rare, estimating the probability of their future occurrence is difficult.

### Policy Choices

Government policy cannot eliminate the risk factors that create uncertainty. But different policy choices can allocate the effects of risk differently and affect the uncertainty of budget projections. For example, under current law, outlays for Medicare and Medicaid depend on the growth of health care costs, but some policymakers have proposed that growth in outlays per beneficiary be fixed in real terms, shifting both risk and control to individuals.<sup>20</sup> Such a policy change would greatly reduce uncertainty about future federal outlays for those programs;

however, it would increase uncertainty about future outlays by other parties, such as program beneficiaries and states. (Most policy changes would affect both the amount of expected federal outlays and uncertainty about those outlays, but those two aspects are separable.)

Although analysts sometimes speak of risk to the government, all risk is ultimately distributed to individuals—as taxpayers, beneficiaries of federal programs, or both. If spending turned out to be higher than projected, the additional imbalance would eventually have to be made up through higher revenues or lower outlays, or it would result in lower future incomes. Conversely, if budget imbalances were smaller than expected, future tax increases and spending cuts would be smaller, or future incomes would be higher. How that risk was distributed—for example, among different income groups or generations—would depend on which specific policies were enacted to deal with the unexpected imbalance.

---

20. See, for example, Congressional Budget Office, “[Long-Term Analysis of a Budget Proposal by Chairman Ryan](#),” attachment to a letter to the Honorable Paul Ryan (April 5, 2011).

# The Economic Impact of Long-Term Budget Policies

**T**he budget estimates presented in the other chapters of this report are based on benchmark economic projections for output, interest rates, wages, and other aspects of the economy in the long run. That benchmark is not intended as a forecast of the likely path of the economy under the Congressional Budget Office's (CBO's) two sets of assumptions about future legislative actions—the extended-baseline scenario and the alternative fiscal scenario.<sup>1</sup> Rather, it is meant to serve as a stable economic foundation for alternative long-run budget projections. For the first decade of the projections in this report (through 2021), the benchmark matches CBO's January 2011 economic forecast. For later years, the benchmark is generally aligned with the economic experience of the past few decades; it also incorporates two specific assumptions about fiscal policy—that debt held by the public will be maintained at 76 percent of gross domestic product (GDP), the level reached in 2021 in CBO's baseline budget projections, and that the effective marginal tax rates on income from work and saving will remain constant after that year.<sup>2</sup>

The long-term tax and spending policies projected under the extended-baseline and alternative fiscal scenarios would lead to different outcomes for the economy than the ones reflected in the benchmark projections. CBO's analysis of the economic impact of those fiscal policies

focuses on the effects of changes in the ratio of debt to GDP and changes in marginal tax rates, although other aspects of the policies might affect the economy in different ways as well.

In the short run, especially when the economy has substantial unemployment and unused factories, offices, and equipment, federal budget deficits—and thus additional debt—generally boost demand, thereby increasing output and employment relative to what would occur with a balanced budget.<sup>3</sup> However, the effects of that greater demand are temporary because stabilizing forces in the economy (such as the responses of prices and interest rates and actions by the Federal Reserve) tend to move output back toward its long-run potential level—that is, toward the amount of goods and services that the economy can produce with a high rate of use of its capital and labor resources. Because this analysis focuses on the long-run effects of tax and spending policies, CBO's estimates in this chapter do not take those short-run effects on demand into account. Indeed, the estimates reflect the assumption that over the long run, output is always at its potential level.

Under CBO's extended-baseline scenario, federal debt would increase from 76 percent of GDP in 2021 to 84 percent of GDP in 2035, and effective marginal tax rates on labor earnings and capital income (for example, stock dividends and interest) would rise over the same period. Marginal tax rates rise under that scenario because the tax cuts enacted since 2001 and recently extended in the 2010 tax act (the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010, Public Law 111-312) are assumed to expire as scheduled in 2012 or 2013 and because the exemption amounts for the individual alternative minimum tax

1. The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period—that is, through 2085. The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period. Chapter 1 discusses the scenarios in detail.
2. The marginal tax rate is the rate that would apply to an additional dollar of a taxpayer's income. The effective marginal tax rate is the weighted average of marginal tax rates across all taxpayers, with the weights depending on income.

3. See Congressional Budget Office, *Policies for Increasing Economic Growth and Employment in 2010 and 2011* (January 2010).

revert to their 2001 levels in 2012 (see Chapter 6 for more details). In CBO's estimation, those factors would diminish gross national product (GNP) under the extended-baseline scenario by as much as 2 percent in 2035 when compared with GNP under the fiscal assumptions underlying the economic benchmark.<sup>4</sup> After 2035, both the projected ratio of debt to GDP and marginal tax rates on labor income would rise further for a while and then eventually fall; marginal tax rates on capital income after 2035 would rise gradually through 2085. As a result of those developments, the estimated negative economic effects under the extended-baseline scenario, relative to the benchmark projections, would also increase and then diminish.

Under the alternative fiscal scenario, nearly all of the tax provisions scheduled to expire over the next 10 years—including the tax cuts enacted since 2001 and recently extended by the 2010 tax act—are assumed to be extended through 2021. Total revenues after 2021 are assumed to remain at the share of GDP they are projected to reach in 2021—that is, 18.4 percent—and effective marginal tax rates are assumed to remain at their 2021 levels. As a result, effective marginal tax rates under the alternative fiscal scenario would be a good deal lower than they would be under the extended-baseline scenario, but debt would be much greater—almost 190 percent of GDP by 2035, even before the negative economic effects of such debt were taken into account. Those changes in tax rates and debt, CBO estimates, would push GNP well below its value in the economic benchmark—for example, GNP would be 2 percent to 6 percent lower by 2025 and 7 percent to 18 percent lower by 2035. Beyond 2035, as projected debt relative to GDP under the alternative fiscal scenario grew even more, the estimated negative effects on the nation's output would increase.

4. GNP differs from GDP (which is the more common measure of the output of the economy) primarily by including the income that U.S. residents earn from their investments abroad and excluding the income that nonresidents earn from their investments in this country. This chapter focuses on GNP because part of the growing budget deficits projected for coming years would be financed by inflows of capital from other countries. That means that over the long term, a growing portion of the nation's income would have to be sent abroad as returns—in the form of profits or interest—on that invested capital and thus would not be available to U.S. households.

Higher levels of debt would have a number of other negative consequences that are not incorporated in those estimated effects on output:

- As federal debt grows, so does the amount of interest that the government pays to its lenders (all else being equal). If policymakers wished to maintain the benefits and services that the government provides while its interest payments grow, then tax revenues would eventually have to increase as well. Alternatively, policymakers could choose to offset those rising interest costs, at least in part, by reductions in benefits and services.
- Rising debt would increasingly restrict policymakers' ability to use tax and spending policies to respond to unexpected challenges, such as economic downturns or financial crises. As a result, those challenges could have larger negative effects on the economy and people's well-being.
- Growing federal debt also would increase the probability of a sudden fiscal crisis, during which investors would lose confidence in the government's ability to manage its budget and the government would thereby lose its ability to borrow at affordable rates. Such a crisis would confront policymakers with extremely difficult choices and probably have a very significant negative impact on the country.

Under the assumptions of the alternative fiscal scenario, the path of federal debt would be unsustainable, and therefore major policy changes to stabilize the budget would be required at some point. The longer the necessary adjustments were delayed, the greater would be the negative consequences of the mounting debt, the more uncertain individuals and businesses would be about future government policies, and the more drastic the ultimate changes in policy would need to be. Waiting to address the long-term budgetary imbalance and allowing debt to mount in the meantime would make future generations worse off, although some current generations could benefit from such a delay.

## CBO's Long-Term Economic Benchmark

The economic benchmark that underlies CBO's long-term budget estimates encompasses projections for a host of demographic and economic variables.

## Demographic Variables

Future federal tax revenues, federal spending, and the performance of the economy will all be affected by the size and composition of the U.S. population. For its long-term benchmark, CBO adopted the intermediate (mid-range) values in the 2010 report of the Social Security trustees for birth and mortality rates as well as rates of disability (specifically, the rates at which people enter and leave Social Security's Disability Insurance program).<sup>5</sup>

CBO's short-run and long-run projections for immigration, however, differ from those of the trustees. In CBO's view, the recent recession has had a greater effect on immigration than the trustees have assumed, and thus fewer immigrants have come to the United States in the past few years. (Levels of immigration in recent years must be estimated because of a lack of data on the number of unauthorized immigrants.) However, CBO anticipates that economic recovery will lead to more immigration in the next few years than the trustees project.<sup>6</sup> Over the long term, the amount of authorized and unauthorized immigration under current law—allowing for possible changes in the implementation and enforcement of that law—is subject to much uncertainty. Therefore, for its benchmark, CBO assumed that in the long run, the amount of immigration would maintain its historical relationship to the size of the U.S. population: 3.2 immigrants per year per 1,000 people in the population.<sup>7</sup> On that basis, CBO projects that net immigration to the United States will increase from 1.3 million immigrants in 2021 to 1.6 million immigrants in 2085—rather than fall from 1.1 million to 1.0 million immigrants, as the trustees have assumed. CBO's current projections for long-term immigration are somewhat above the projections in last year's long-term budget outlook, leading to slightly faster growth of the labor force than CBO projected last year.<sup>8</sup>

5. Social Security Administration, *The 2010 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds* (August 9, 2010). Detailed data from the trustees' 2011 report were not available in time for CBO to incorporate in this analysis.

6. For the latest report in CBO's series on immigration, see Congressional Budget Office, *A Description of the Immigrant Population: An Update* (June 2011).

7. That ratio equals the average net flow of immigrants over the period from 1821 to 2002. See Social Security Administration, Technical Panel on Assumptions and Methods, *Report to the Social Security Advisory Board* (October 2003), p. 28.

## Economic Variables

For 2011 through 2021, CBO's benchmark projections of economic variables match those in its January 2011 economic forecast, which underlies the agency's most recent budget baseline.<sup>9</sup> Beyond that point, the economic benchmark does not reflect the effects that changing marginal tax rates or a rising debt-to-GDP ratio would have on economic growth and interest rates. Rather, for later years, the benchmark is generally aligned with the economic experience of the past few decades; it also incorporates two specific assumptions about fiscal policy—that debt held by the public will be maintained at 76 percent of GDP, the level reached in 2021 in CBO's baseline budget projections, and that the effective marginal tax rates on income from work and saving will remain constant after that year. (Annual values for selected economic variables through 2085 can be found in the supplementary data for this report on CBO's Web site, [www.cbo.gov](http://www.cbo.gov).)

**Interest Rates.** The interest rates that CBO projects for its benchmark include the interest rate on 10-year Treasury notes, the average interest rate on government debt, and the interest rate on holdings of the Social Security and Medicare trust funds. For the long run, CBO projects a real (inflation-adjusted) interest rate on 10-year Treasury notes of 3.0 percent, which is near the average of the past four decades and close to the rate CBO projected for 2021 in its January 2011 economic forecast. In the benchmark projections for interest rates, CBO took into account both the amount of debt relative to GDP, which is well above the level in recent decades, and the projected rate of growth of the labor force, which CBO estimates will be slower than in recent decades. The effects of those two factors on the rate for 10-year Treasury notes, CBO anticipates, will roughly offset each other.

An increase in government debt tends to raise interest rates by leading people to allocate a larger portion of their savings to the purchase of government securities, such as Treasury bonds, and thereby “crowding out” investment in productive capital goods, such as factories and computers. By itself, that effect would imply higher interest rates than those seen in the past few decades. Specifically,

8. See Congressional Budget Office, *The Long-Term Budget Outlook* (June 2010, revised August 2010).

9. See Congressional Budget Office, *An Analysis of the President's Budgetary Proposals for Fiscal Year 2012* (April 2011).

if debt was 76 percent of GDP instead of its 40-year average of 37 percent, the interest rate in the long run, all else being equal, would be roughly 1 percentage point higher, CBO estimates.

However, long-term trends in the labor force are expected to largely offset that effect on interest rates. Growth in the number of workers is likely to be slower in coming decades than in past ones because of the aging of the population and lower birth rates. Other things being equal, slower growth in the labor force will increase the ratio of the capital stock (such as computers and factory equipment) to the supply of labor, which will lower the productivity of incremental units of capital. That lower productivity means that investment in capital will generate a smaller return, pushing interest rates lower.<sup>10</sup>

The benchmark value for the average real interest rate on federal debt held by the public over the long term is slightly lower—at 2.7 percent—than the projected rate on 10-year Treasury notes. That difference arises because CBO projects that interest rates on short-term debt will be lower than those on long-term debt, as is typically the case, and because the average maturity of federal debt is expected to be less than 10 years. In general, CBO used the same 2.7 percent value as a discount rate for calculating the present value of future streams of total federal revenues and outlays.<sup>11</sup> However, the Social Security and Medicare trust funds hold longer-term debt, so CBO assumed that the rates of interest earned on the balances in those funds would be higher than the average real interest rate on federal debt. Therefore, in calculating the present value of future streams of revenues and outlays for the trust funds, CBO used 3.0 percent as the discount rate.

**Inflation.** For its benchmark, CBO projects that inflation for consumer goods and services—as measured by the annual rate of change in both the consumer price index

for urban wage earners and clerical workers and the consumer price index for all urban consumers—will be 2.5 percent in the long run. The two indexes measure the level of consumer prices using typical “market” baskets of specified goods and services. The rate of 2.5 percent for the change in the prices of consumer goods and services is a little above the rate that CBO projected for 2021 in its January 2011 forecast and the same rate that CBO used for its long-term projections last year.

This year, however, CBO has changed its assumption about inflation for productive capital goods to better align its estimates with the trend in prices over the past several decades. During that time, the prices of capital goods, on average—and especially the prices of computer equipment—increased more slowly than the consumer price indexes. This year’s economic benchmark thus incorporates the assumption that over the long term, the prices of capital goods will continue to rise more slowly than the prices of consumer goods and services—and in particular that the relative price of computer equipment will continue to fall. By contrast, for last year’s benchmark, CBO assumed that changes in the prices of capital goods would move more closely in line with changes in other prices.

Another measure of inflation is the GDP deflator. Unlike the consumer price indexes, with their typical market baskets of consumer goods and services, the GDP deflator measures the level of prices of all final goods and services that the economy produces. The GDP deflator grows more slowly than the consumer price indexes both because it fully accounts for the ability of buyers to shift their purchases as relative prices change and because it encompasses a greater proportion of items, such as computers, whose prices are projected to rise more slowly than the prices of most other goods and services.

For its benchmark, CBO projects that over the 2021–2085 period, the GDP deflator will increase 0.3 percentage points less per year, on average, than the consumer price indexes will—about the same differential that CBO projects for the years through 2021.

**Labor Market Factors.** Important projections regarding the labor market for CBO’s benchmark include the unemployment rate, the share of total compensation received as taxable earnings, and average hours worked.

10. See Congressional Budget Office, *How Slower Growth in the Labor Force Could Affect the Return on Capital*, Background Paper (October 2009).

11. The discount rate is the rate of interest used to translate those future cash flows into current dollars (and the higher that rate, the lower the present value of the future flows). For example, if \$100 is invested on January 1 at an annual interest rate of 5 percent, it will grow to \$105 by January 1 of the next year. Hence, at an annual 5 percent interest—that is, discount—rate, the present value of \$105 payable a year from today is \$100.



*The Unemployment Rate.* CBO projects that the unemployment rate will return to the natural rate of unemployment (the rate that reflects unemployment arising from all sources except fluctuations in overall demand related to the business cycle) by 2017 and remain equal to the natural rate thereafter.<sup>12</sup> CBO expects that the natural rate will remain slightly elevated over the next decade because of the aftereffects of the recent recession. (For example, some older unemployed workers whose skills do not match those demanded by employers may not be able to find employment before they retire.) As the recession's lingering impact on labor markets dissipates, the natural rate of unemployment is projected to decline. All told, the unemployment rate in CBO's economic benchmark declines from its current level of roughly 9 percent to 5.2 percent in 2017 and remains at that level through 2021, matching CBO's January 2011 economic forecast for that period; the rate then declines to 5.0 percent in 2031 and remains at that level.

*The Taxable Earnings Share of Compensation.* Workers' total compensation consists of taxable earnings and non-taxable benefits, such as employers' contributions for health insurance and pensions, paid leave, and so on. Primarily because the cost of health insurance has grown more quickly than compensation in the past several decades, the share of compensation attributable to taxable earnings has slipped from about 90 percent in 1960 to about 80 percent in 2010.

Looking ahead, CBO expects that health care costs will continue to increase more rapidly than taxable earnings, a trend that by itself would further decrease the proportion of compensation that workers receive as taxable earnings. However, the Patient Protection and Affordable Care Act of 2010 (Public Law 111-148) instituted an excise tax on some employment-based health insurance plans that have premiums above a specified threshold. Some employers and workers will respond to that tax by shifting to less

expensive plans, thereby reducing the share of compensation represented by health insurance premiums and increasing the share of taxable earnings. CBO's estimate of the extent of that shift over the long term is now larger than the estimate incorporated in its 2010 long-term budget outlook. CBO thus projects that the effects of the excise tax on the taxable earnings share of compensation will more than offset the effects of rising costs for health care for a few decades after the tax takes effect in 2018 but that thereafter the effects of rising health care costs will outweigh the effects of the tax.<sup>13</sup> As a result, in CBO's benchmark, the share of compensation that workers receive as taxable earnings first rises to about 84 percent in about 2050 and then falls, ending up near its 2021 level of 81 percent by 2085. (For more about the effects of the excise tax, see Chapter 6; for a discussion of trends in costs for health care, see Chapter 3.)

*Average Hours Worked.* Different segments of the population work different numbers of hours, on average; for example, men tend to work more hours than women do, and people between the ages of 30 and 40 tend to work more hours than people between the ages of 50 and 60 do. CBO assumes that going forward, the average number of hours worked by people in each demographic group will remain constant. However, CBO expects that the composition of the labor force will shift somewhat toward groups, such as older workers, that tend to work less, slightly reducing the average number of hours worked in the economy as a whole. By 2085, CBO estimates, the average number of hours worked per person in the labor force will have declined by 2 percent relative to the number of hours worked in 2021.

**Real GDP and Earnings per Worker.** For its economic benchmark, CBO projects that from 2022 through 2085, real GDP will grow at an average annual rate of 2.2 percent and real earnings per worker will grow at an average annual rate of 1.4 percent. Those rates of growth are

12. The sources of unemployment covered by the natural rate include frictional unemployment, which is associated with the normal turnover of jobs, and structural unemployment. The latter includes unemployment caused by mismatches between the skills of available workers and the skills necessary to fill vacant positions; and unemployment caused when wages exceed their market-clearing levels (the levels that equalize the demand for and the supply of labor) because of institutional factors, such as legal minimum wages, the presence of unions, social conventions, and employers' wage-setting practices intended to increase workers' morale and effort.

13. For several decades, CBO projects, the excise tax will induce people to move to less expensive health care plans, which will tend to increase the taxable share of compensation. After a while, however, that effect will diminish, both because there is a limit to how little health insurance people are willing to carry and because the Patient Protection and Affordable Care Act of 2010 established minimum levels of coverage for health care plans. As the number of people moving to less expensive plans declines, the effect of that movement, in CBO's estimation, will eventually be dominated by the effect of continuing increases in the cost of health care, which will tend to reduce the taxable share of compensation.

derived from the demographic and economic variables described earlier and from assumptions about the growth of the capital stock and productivity.

The key elements underlying the projected growth of the capital stock are assumptions about federal fiscal policy, private saving, flows of capital to and from other countries, and the rate of increase in the prices of capital goods. In CBO's long-term benchmark projections and in the midrange assumptions it used for analyzing the economic effects of rising debt (described below), CBO assumes that each dollar added to the federal budget deficit increases private saving by 40 cents and net inflows of private capital from other countries by 24 cents. Those two effects offset part of the decrease in investment in the domestic capital stock that would stem from higher budget deficits; as a result, such investment is assumed to be reduced by 36 cents for each dollar added to the deficit. For the benchmark, in addition to assuming that debt held by the public stays at 76 percent of GDP after 2021, CBO makes a further adjustment to the path of private saving to maintain a constant rate of return on investments in capital goods and thus a steady interest rate. Given the assumed response of international capital flows to the changes in private saving just noted, net capital inflows from other countries are projected to fall gradually relative to GDP over time.

Also influencing the projected growth of the capital stock is the assumed rate of increase in the prices of capital goods. The lower the prices of such goods, the greater the rate of increase in the real capital stock for any given nominal amount of investment. Therefore, holding all else equal, CBO's current assumption of a slower rise in the prices of capital goods tends to boost the growth of the capital stock relative to the projection in last year's long-term budget outlook.

CBO estimates that over the long term, total factor productivity—real output per unit of combined labor and capital services—will grow at an annual rate of 1.3 percent. That assumption, together with the growth projected for the supply of labor and capital, leads to average projected growth in labor productivity—real output per hour worked—of 1.7 percent a year.

The projection in the benchmark for the growth of real earnings per worker—1.4 percent, on average, over the 2022–2085 period—is slightly higher than the projection of 1.3 percent growth used for the 2010 long-term

outlook. The projection for this year increased in part because of the faster growth CBO now forecasts for the capital stock and in part because of the change in the agency's expectations about the long-run effects that the excise tax on certain high-premium health insurance plans will have on the ratio of taxable earnings to total compensation.

CBO's projection for the growth of real GDP—an average rate of 2.2 percent per year from 2022 through 2085—is now above the 2.0 percent rate used for the 2010 long-term outlook. That upward revision stems from the faster projected growth in the capital stock and from CBO's assumption of more immigration.

Although the pace of economic growth under the long-term benchmark is a bit faster than the pace CBO projected for last year's long-term outlook, it is substantially slower than the tempo of economic growth over the past few decades—primarily because of the slowdown CBO anticipates in the growth of the labor force. At the same time, interest rates in the benchmark are projected to be close to their levels in recent decades. As a result, the projected average real interest rate on debt held by the public (2.7 percent) exceeds the projected average rate of growth of real output (2.2 percent)—by comparison with the experience of the past few decades, when on average interest rates were roughly equal to the growth of output. Thus, for any given policy regarding taxes and noninterest spending, debt is projected to climb faster relative to output than it would if the differential were closer to its historical average.

## How Rising Debt and Changing Marginal Tax Rates Would Affect Output

CBO's economic benchmark is based on the assumptions that debt held by the public will remain at 76 percent of GDP after 2021 and effective marginal tax rates will remain at their 2021 levels. In order to clearly identify budgetary patterns, the estimates of demographic and economic variables incorporated in the benchmark are held unchanged for the budget projections presented in the other chapters of this report, even though those projections produce levels of debt and marginal tax rates that differ from those assumed for the benchmark. In other words, the projections in other chapters do not incorporate the effect of budgetary outcomes on economic outcomes.



By contrast, the analysis presented in this chapter assesses how the economy would fare in the long run under the extended-baseline and alternative fiscal scenarios. In particular, to the extent that the scenarios involved larger deficits and increased government borrowing, they would reduce investment and boost interest rates; reductions in investment tend to lower pretax wages, which reduces people's incentives to work, and increases in interest rates strengthen people's incentives to save. To the extent that the scenarios involved higher marginal tax rates, those higher rates would discourage people from working and saving.

### Effects of Increased Government Borrowing

Increased government borrowing generally draws money away from (crowds out) private investment in productive capital, leading to a smaller stock of capital and lower output in the long run than would otherwise be the case. Deficits generally have that effect on private investment because the portion of people's savings used to buy government securities is not available to finance private investment.

Two factors offset part of that crowding-out effect. One is that additional government borrowing tends to lead to greater private saving, which increases the funds available to both purchase government debt and finance private investment. That response occurs for several reasons:

- Additional government borrowing tends to raise interest rates, which boosts the return on saving;
- Some people anticipate that policymakers will raise taxes or lower spending in the future to cover the cost of paying interest on the accumulated debt, so they increase their own saving to prepare for paying higher taxes or receiving smaller benefits; and
- The policies that give rise to deficits (such as tax cuts or increases in government transfer payments, such as Social Security or unemployment benefits) put more money in private hands, some of which is probably saved.

Overall, however, the rise in private saving is generally smaller than the change in the deficit, so greater government borrowing leads to less national saving.<sup>14</sup>

A second factor offsetting some of the crowding-out effect is that higher interest rates tend to increase net

inflows of capital from other countries by attracting more foreign capital to the United States and inducing U.S. savers to keep more of their money at home. Those additional net inflows prevent U.S. investment from declining as much as national saving does in the face of more government borrowing.<sup>15</sup> (In the benchmark's long-term projections, net inflows of private capital rise by 24 cents for every dollar increase in government borrowing.) But such inflows also create the obligation for more profits and interest to flow overseas. Therefore, although flows of capital into the United States can help moderate a decline in domestic investment, the income earned on that additional investment does not fully accrue to U.S. residents. In this chapter, CBO emphasizes the effects of fiscal policies on gross national product because, unlike the more commonly cited gross domestic product, GNP is reduced by net flows of interest and profits to foreigners and therefore better represents the resources available to U.S. households.<sup>16</sup>

The crowding out of private investment affects incentives to work and save by altering pretax wages and rates of return on saving. The reduction in the capital stock it leads to makes workers less productive and decreases pretax wages relative to what they would otherwise be. Those lower wages reduce people's incentive to work. However, the productivity of existing capital is greater because more

14. National saving equals total saving by all sectors of the economy: personal saving, business saving (corporate after-tax profits not paid as dividends), and government saving (budget surpluses). National saving represents all income not consumed, publicly or privately, during a given period.

15. Capital inflows can also affect other aspects of the U.S. economy, such as the distribution of income, but those effects are beyond the scope of this analysis.

16. The difference between the impact of rising debt on GDP and the impact on GNP depends on the amount of additional capital that foreigners invest in the United States and the rate of return they receive on that additional investment. In recent decades, foreign investors have earned a lower average return on U.S. investments than domestic investors have. (For a related discussion, see Congressional Budget Office, *Why Does U.S. Investment Abroad Earn Higher Returns Than Foreign Investment in the United States?* Issue Brief, November 2005.) However, economic theory suggests that over the long run, there should be little difference between the returns earned by foreigners on their investments in the United States and the returns earned by domestic investors on comparable investments. In assessing the impact of rising federal debt on GNP, CBO expects that the additional inflows of capital spurred by that rising debt will be invested in assets that earn the same return as that earned by domestic investments.

**Table 2-1.**  
**The Effect of the Fiscal Policies Assumed in CBO's Long-Term Budget Scenarios on Real GNP and GDP in 2025 and 2035**

(Percentage difference from benchmark level)

	Extended-Baseline Scenario		Alternative Fiscal Scenario	
	GNP	GDP	GNP	GDP
2025	-0.2 to -0.4	* to -0.2	-2.2 to -5.7	-0.4 to -3.1
2035	-0.5 to -1.6	-0.2 to -1.3	-6.8 to -17.6	-2.4 to -9.9

Source: Congressional Budget Office.

Notes: The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period. (For details, see Table 1-1 on page 4.)

Real (inflation-adjusted) gross national product (GNP) differs from real gross domestic product (GDP), the more common measure of the output of the economy, primarily by including the income that U.S. residents earn from their investments abroad and excluding the income that nonresidents earn from their investments in this country.

\* = between -0.05 percent and 0.05 percent.

workers are utilizing each piece of capital—for example, each computer, machine tool, or structure. That increased productivity pushes up interest rates, which strengthens the incentive to save.

**Effects of Changes in Marginal Tax Rates**

Changes in marginal tax rates (the rates that apply to an additional dollar of a taxpayer's income) also affect output. For example, a lower marginal tax rate on capital income (income derived from wealth, such as stock dividends, realized capital gains, or the owner's profits from a business) increases the after-tax rate of return on saving, strengthening the incentive to save; more saving implies more investment, a larger capital stock, and greater output. However, if that lower marginal tax rate increases people's after-tax returns on savings, they do not need to save as much to have the same future standard of living, which reduces the supply of saving. CBO concludes, as do most analysts, that the former effect outweighs the latter, such that a lower marginal tax rate on capital income

increases saving. A higher marginal tax rate on capital income has the opposite effect.

Similarly, a lower marginal tax rate on labor income increases the incentive to work, raising the number of hours people work and therefore the amount of output. However, if that lower marginal tax rate increases people's after-tax income from the work they are already doing, then they do not need to work as much to maintain their standard of living, which reduces the supply of labor. Again, CBO concludes, as do most analysts, that the former effect outweighs the latter and that lower marginal tax rates on labor income increase the labor supply. A higher marginal tax rate on labor income has the opposite effect.

**Economic Effects of the Fiscal Policies Assumed in CBO's Extended-Baseline and Alternative Fiscal Scenarios**

Under the extended-baseline scenario, CBO projects, real GNP would be reduced slightly by 2025 and by as much as 2 percent by 2035, compared with what it would be under the long-term economic benchmark (see Table 2-1). Under the alternative fiscal scenario, real GNP would be from 2 percent to 6 percent lower in 2025, and from 7 percent to 18 percent lower in 2035, than it would be under the benchmark.<sup>17</sup>

Under both long-term scenarios, GDP would be less affected by rising debt than GNP would be because the change in GDP does not reflect the increased future outflow of profits and interest generated by the additional capital inflows. Under the extended-baseline scenario, real GDP would be as much as 1 percent lower in 2035 than it would be under the benchmark (see Table 2-1). Under the alternative fiscal scenario, real GDP would be as much as 3 percent lower in 2025, and from 2 percent to 10 percent lower in 2035, than it would be under the benchmark.

CBO estimated those economic effects using the agency's Solow-type growth model, an enhanced version of a

17. By the early 2040s under the alternative fiscal scenario, debt is so high relative to GDP that CBO's model cannot reliably estimate the level of output. The assumptions about private saving and capital inflows incorporated in CBO's model are based on historical experience. If interest rates and the debt-to-GDP ratio rise to levels well outside of that experience, those assumptions may no longer be valid.

widely used model originally developed by Robert Solow.<sup>18</sup> In CBO's Solow-type model, people base their decisions about working and saving primarily on current economic conditions—especially wage levels, interest rates, and government policies. People's responses to changes in those conditions are generally assumed in the model to mirror their responses to economic and policy developments in the past; as a result, the responses reflect people's anticipation of future policies in a general way but not their expectations of specific future developments. For example, in the model, people are assumed to increase their saving in response to an increase in deficits, in part because they anticipate the future increases in taxes or cuts in spending that typically follow a rise in deficits. However, they do not behave as if they anticipate the details of future changes in government policies.

To reflect the high degree of uncertainty that attends estimates of the economic impact of fiscal policy, CBO used ranges of assumptions about the effect of budget deficits on investment and the effect on labor supply of changes in marginal tax rates on labor income. Specifically, CBO used three assumptions about the degree to which private saving would grow when deficits increased. Those assumptions imply that for each dollar that deficits rise, investment is reduced by 20 cents, 36 cents, or 50 cents.<sup>19</sup> Similarly, CBO used three assumptions about how people would adjust the number of hours they worked in response to changes in marginal tax rates: a "strong labor supply response," under which workers' response is on the high side of the consensus range of empirical estimates from studies based on one-year changes in labor supply; a "weak labor supply response," under which workers respond very little; and a "medium labor supply response," under which workers' response is roughly midway between strong and weak.<sup>20</sup>

The much greater effect on GNP under the alternative fiscal scenario reflects significantly more crowding out of

investment and greater net payments to foreigners than the extended-baseline scenario reflects because the increase in debt is so much larger. That additional crowding out is partly offset, however, by the boost to labor supply and private saving from the alternative fiscal scenario's assumption that various tax cuts are extended, which holds down marginal tax rates on labor and capital income. Yet even with the negative impact of fiscal policy under the alternative scenario, real GNP per person would be considerably higher in 2035 than it is now because of continued growth in productivity (see Figure 2-1).

The estimated negative economic effects of fiscal policy under the alternative fiscal scenario are smaller than the impact presented in CBO's 2010 long-term budget outlook. That change is the net result of several factors.

- First, CBO has refined its analysis to more fully reflect the effects on saving, and therefore investment, of changing after-tax returns. In contrast to last year's projections, this year's estimates incorporate a positive effect on saving and investment from the lower marginal tax rates on capital (relative to those assumed for the economic benchmark) in the alternative fiscal scenario. That positive effect on investment tends to increase the capital stock, output, and pretax wages compared with what they would be without the effect. CBO's current estimates also incorporate a positive effect on saving and investment from the higher pretax interest rates caused by the additional debt accruing under the alternative fiscal scenario. Because those changes increase projected investment, they imply a smaller estimated reduction in GNP under the alternative fiscal scenario.

- Second, this year's estimates incorporate a response in the supply of labor to changes in wages. Under the alternative fiscal scenario, two forces push wages in opposite directions. The lower productivity of the labor force caused by the smaller capital stock reduces pretax wages and therefore the supply of labor. However, the lower marginal tax rates on the income from labor raise after-tax wages (for any given level of pretax wages) and increase labor supply. Early in the projection period, the effect of lower marginal tax rates dominates, after-tax wages are higher, and labor supply is greater than in the benchmark, implying a smaller

18. For details of that model, see Congressional Budget Office, *An Analysis of the President's Budgetary Proposals for Fiscal Year 2012*, Appendix A.

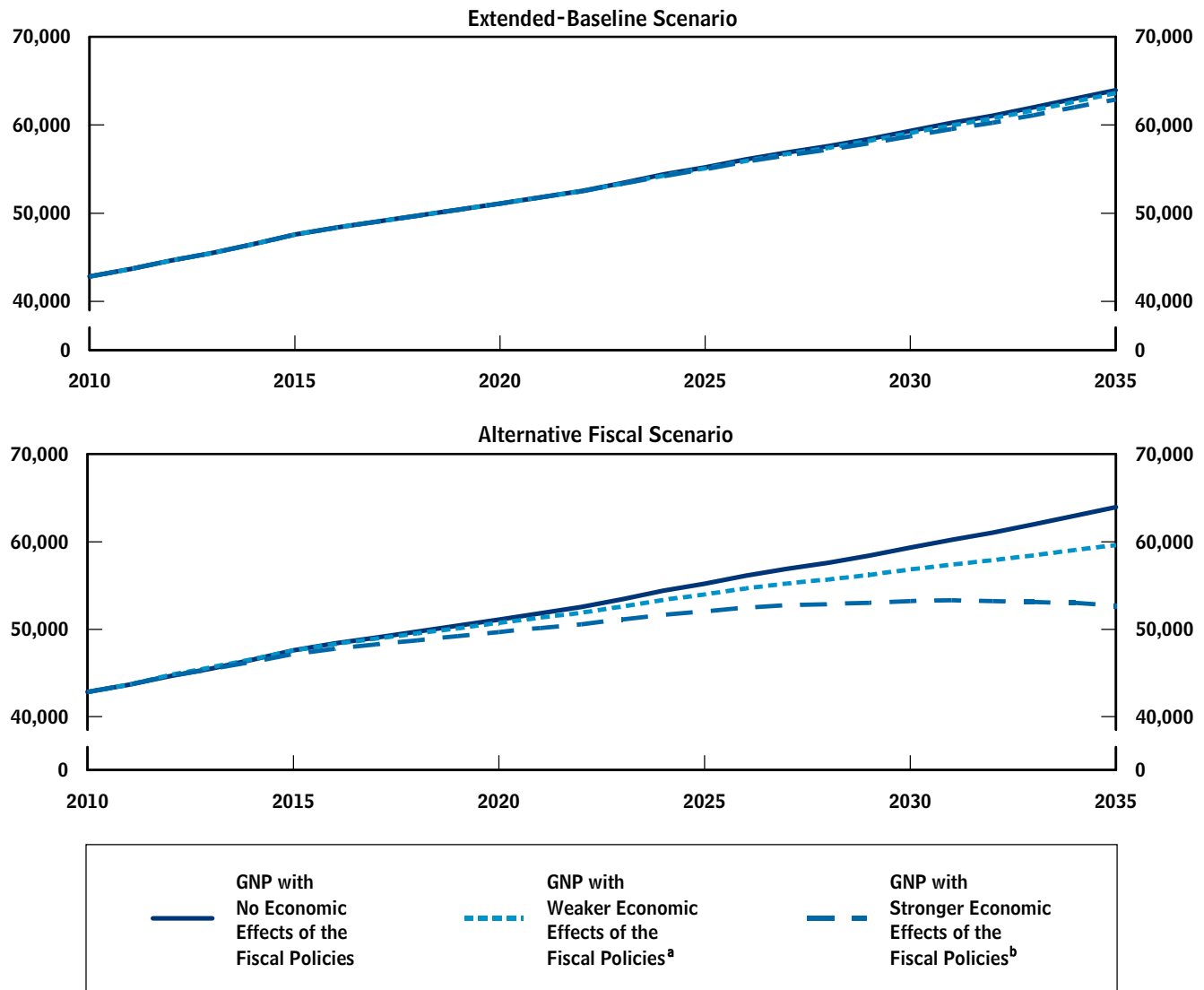
19. Ibid.

20. For its estimates under the two budget scenarios, CBO used data from a large sample of taxpayers to account for the effects on labor supply of changes in marginal tax rates and after-tax income. The estimates incorporated a larger response to changes in marginal tax rates among secondary earners (workers in a household other than the main breadwinner) than among primary earners.

**Figure 2-1.**

## The Effect of the Fiscal Policies Assumed in CBO's Long-Term Budget Scenarios on Real Gross National Product per Person

(2010 dollars)



Source: Congressional Budget Office.

Notes: The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period. (For details, see Table 1-1 on page 4.)

The range of estimates shown stems from varying assumptions about how much deficits "crowd out" investment in capital goods such as factories and computers (because a larger portion of people's savings is being used to purchase government securities) and how much people respond to alterations in after-tax wages and interest rates by changing the number of hours they work and the amount they save.

Real (inflation-adjusted) gross national product, or GNP, differs from gross domestic product (the more common measure of the output of the economy) primarily by including the income that U.S. residents earn from their investments abroad and excluding the income that nonresidents earn from their investments in this country.

- a. The highest estimated value for GNP per person in each year.
- b. The lowest estimated value for GNP per person in each year.

estimated reduction in GNP under the alternative fiscal scenario. By 2035, under most of CBO's assumptions about the responsiveness of labor supply and investment, the effect of lower pretax wages dominates, after-tax wages are lower, and labor supply is reduced relative to the benchmark's levels, implying a larger estimated reduction in GNP under the alternative fiscal scenario.

- Third, for this year's analysis, CBO altered its assumption about the rate of return earned on the additional foreign-owned assets in the United States that result from capital inflows associated with increases in government debt. CBO now assumes that rate of return will equal the rate earned on domestic investments. By contrast, the 2010 estimates reflected the assumption that the rate earned on additional foreign-owned assets would equal 80 percent of the domestic rate in the long run. The change in CBO's assumption for this year tends to increase the estimated flow of payments to foreigners, implying a larger estimated reduction in GNP.
- Finally, this year's analysis corrects some errors in the 2010 estimates, which incorporated too low a projected path for private saving under the alternative fiscal scenario. Correcting those errors yields a smaller estimated reduction in GNP under that scenario.

In addition to those changes, this year's long-term budget outlook presents a range of results rather than a single point estimate for the economic effects of fiscal policy under the scenarios.

Differences in the levels of economic activity and interest rates under the two budget scenarios analyzed in this report would, in turn, affect budgetary outcomes. Incorporating those effects would change the projections of debt as a percentage of GDP relative to the initial paths presented in Chapter 1. Under both scenarios, interest rates are higher than they are in the benchmark, and the growth of output is slower. Higher interest rates would increase interest payments on government debt and thus—if noninterest spending and revenues were kept unchanged—would lead to higher debt relative to GDP. In addition, slower growth of output means that for any amount of debt, the ratio of debt to GDP would be higher.<sup>21</sup> Those effects are quite small for the extended-baseline scenario, so their impact on budgetary outcomes is quite small: Incorporating the economic effects of fiscal policy boosts the projected debt-to-GDP ratio under that

scenario by about 2 percentage points in 2035 (see Figure 2-2). The increase in interest rates and the reduction in output are much larger under the alternative fiscal scenario, so the increase in the projected debt-to-GDP ratio from incorporating the economic changes is much greater—22 to 64 percentage points—leading to a total of roughly 210 percent to 250 percent.

## The Effects of Waiting to Resolve the Long-Term Budgetary Imbalance

In a previous analysis, CBO assessed the economic impact of waiting a decade to resolve the long-term budgetary imbalance.<sup>22</sup> It compared economic outcomes under a policy that would stabilize the ratio of debt to GDP starting in 2015 with outcomes under a policy that would delay stabilizing that ratio until 2025. Any number of government policies could be implemented to keep the ratio of debt to GDP from increasing; CBO analyzed two possible policies: raising marginal tax rates or reducing government transfer payments (which were assumed to go mainly to older people). CBO performed that analysis using a model of the economy that differs from the Solow-type model used for the projections presented in this chapter. That model, a life-cycle growth model, incorporates the assumption that people make decisions about how much to work and save on the basis of current and anticipated government policies and economic conditions (such as wages and interest rates).

CBO's analysis suggested that, depending on the policy used to stabilize the debt, delaying action for 10 years, and thus allowing the debt-to-GDP ratio to rise by an additional 40 percentage points under the assumptions of that analysis, would cause output to be lower in the long run—by between 2½ percent and 7 percent—than it would have been if the ratio had been stabilized earlier at a lower level. (Despite those potential reductions,

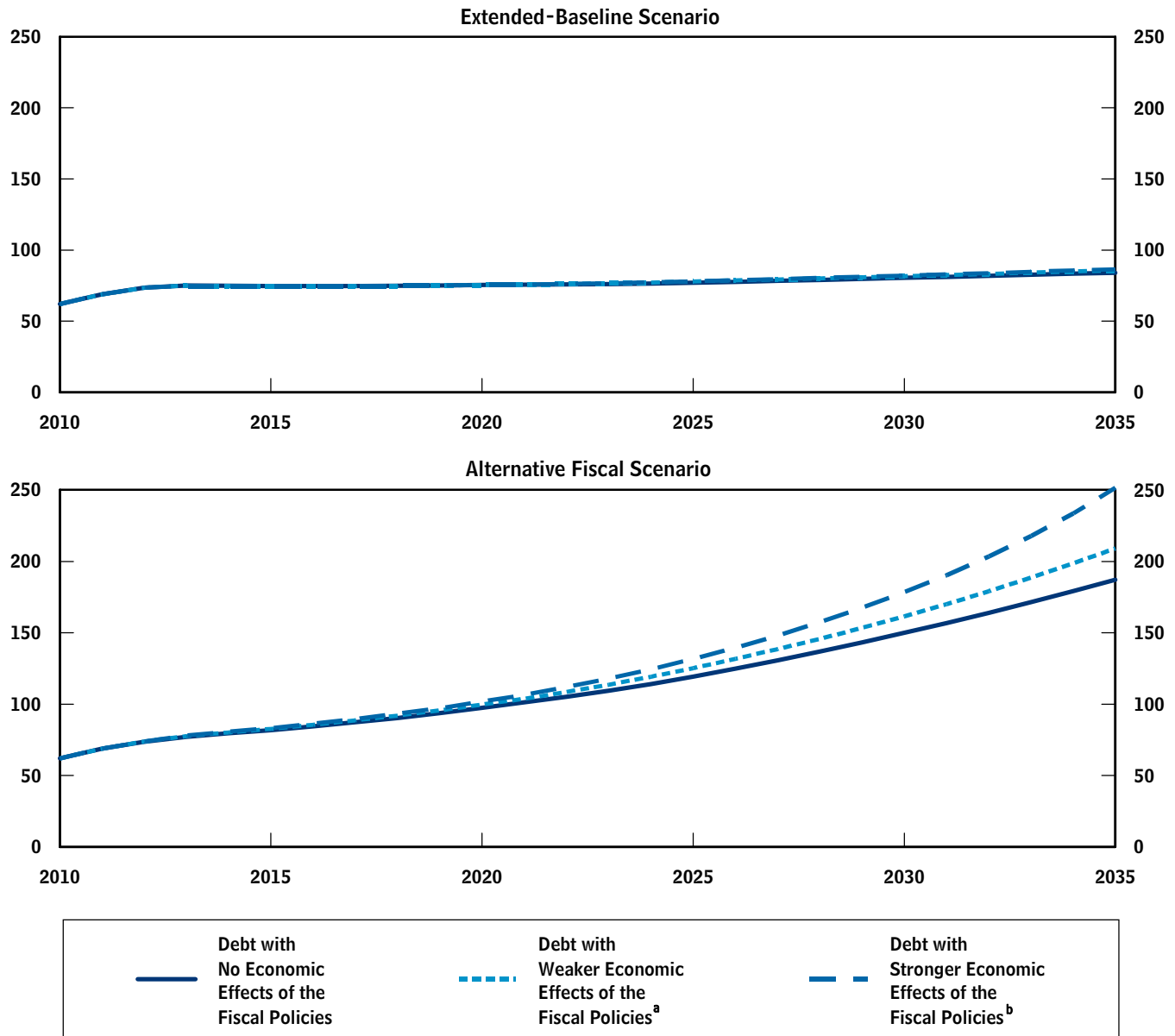
21. The slower growth of output also implies slower growth of revenues and, under the assumptions governing the two budget scenarios, slower growth of noninterest spending. In this chapter's analysis of the economic effects of fiscal policies, as a rough approximation, CBO assumed that changes in output would affect revenues and primary (noninterest) spending by about the same percentage, so the net impact on the primary budget deficit (that is, on the total budget deficit excluding net interest) of changes in output would be small.

22. Congressional Budget Office, *Economic Impacts of Waiting to Resolve the Long-Term Fiscal Imbalance*, Issue Brief (December 2010).

**Figure 2-2.**

## Federal Debt Held by the Public, With and Without the Economic Effects of the Fiscal Policies Assumed in CBO's Long-Term Budget Scenarios

(Percentage of gross domestic product)



Source: Congressional Budget Office.

Notes: The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period. (For details, see Table 1-1 on page 4.)

The range of estimates shown stems from varying assumptions about how much deficits "crowd out" investment in capital goods such as factories and computers (because a larger portion of people's savings is being used to purchase government securities) and how much people respond to alterations in after-tax wages and interest rates by changing the number of hours they work and the amount they save.

- a. The lowest ratio of debt to GDP for each year.
- b. The highest ratio of debt to GDP for each year.



output would continue to be higher than current levels because of continued growth in productivity.) Most of the decline in output would stem from two factors: the crowding out of investment in productive capital, which would cause the capital stock to be from 7 percent to 18 percent smaller if action was delayed, and the effects of higher marginal tax rates on people's incentives to work and save (in the case of the policy involving higher taxes).

Another conclusion of CBO's analysis was that generations born after about 2015 would be worse off if action to stabilize the debt-to-GDP ratio was postponed from 2015 to 2025. People born before 1990, however, would be better off if action was delayed, largely because they would partly or wholly avoid the policy changes needed to stabilize the debt (with the exception of the negative effects stemming from a possible fiscal crisis and the government's reduced flexibility to respond to economic challenges, which are discussed below). Generations born between 1990 and 2015 could either gain or lose from a delay, depending on the details of the policy used to stabilize the debt (again, with the exception of some other effects of growing debt). In the long run, a 10-year delay would reduce the well-being of all future generations by amounts equivalent to a cut of roughly 1 percent to 3 percent in their lifetime spending, depending on the specific policies that were adopted.

## Other Consequences of Rising Federal Debt

Persistent, large budget deficits that are not related to economic downturns—like the deficits that CBO projects for coming decades—have a number of significant negative consequences beyond those incorporated in CBO's quantitative estimates. Those negative consequences include both budgetary and economic effects.<sup>23</sup>

### The Need for Higher Taxes or Less Spending on Government Programs

As federal debt grows, so does the amount of interest that the government pays to its lenders (all else being equal). If policymakers wished to maintain the benefits and services that the government provides while interest payments grow, tax revenues would eventually have to rise as well.

To the extent that additional tax revenues were generated by boosting marginal tax rates, those higher rates would discourage people from working and saving, further reducing output and incomes.<sup>24</sup> Alternatively, policy-makers could choose to offset the rising interest costs, at least in part, by reductions in benefits and services.

To be sure, slowing the growth of government debt to hold down future interest payments would require increases in taxes or reductions in government benefits and services anyway. But increases in interest costs as a share of the budget make attaining fiscal balance more difficult. Earlier action would permit the necessary changes in policy to be smaller and more gradual, and it would give people more time to adjust to them—although it would also require more sacrifices sooner from older workers and retirees for the benefit of younger workers and future generations.

### A Reduced Ability to Respond to Domestic and International Problems

Having a small amount of debt outstanding gives policymakers the ability to borrow to address significant unexpected events such as recessions, financial crises, and wars. In contrast, a large amount of debt leaves less flexibility for government actions to address financial and economic crises, which in many countries have been very costly for the governments as well as the residents.<sup>25</sup> A large amount of debt could also harm national security by constraining military spending in times of crisis or limiting the country's ability to prepare for a crisis.

In the United States, the level of federal debt a few years ago gave the government the flexibility to boost spending and cut taxes to stimulate economic activity, to provide public funding to stabilize the financial sector, and to continue paying for other programs even as tax revenues

23. For an additional discussion, see Congressional Budget Office, *Federal Debt and the Risk of a Fiscal Crisis*, Issue Brief (July 2010).

24. Tax revenues could also be increased without raising marginal tax rates by, for example, reducing tax expenditures (that is, special exclusions, exemptions, or deductions from gross income; preferential tax rates; or deferrals of tax liabilities).

25. See Carmen M. Reinhart and Kenneth S. Rogoff, *Banking Crises: An Equal Opportunity Menace*, Discussion Paper DP7131 (London: Centre for Economic Policy Research, January 2009). The authors estimate that debt in countries that undergo banking crises increases by an average of 86 percent in the three years after those crises. See also Luc Laeven and Fabian Valencia, *Systemic Banking Crises: A New Database*, Working Paper No. 08-224 (Washington, D.C.: International Monetary Fund, November 2008).

dropped sharply because of the decline in output and incomes. If the amount of federal debt (relative to output) stayed at its current level or increased further, the government would find it more difficult to undertake similar policies in the future. As a result, future recessions and financial crises could have larger negative effects on the economy and people's well-being. Moreover, the reduced financial flexibility and increased dependence on foreign investors that would accompany rising debt could weaken the United States' international leadership.

### **An Increased Chance of a Fiscal Crisis**

A rising level of government debt would have another significant negative consequence. Combined with an unfavorable long-term budget outlook, it would increase the probability of a fiscal crisis for the United States.<sup>26</sup> In such a crisis, investors become unwilling to finance all of a government's borrowing needs unless they are compensated with very high interest rates; as a result, the interest rates on government debt rise suddenly and sharply relative to rates of return on other assets. Unfortunately, there is no way to predict with any confidence whether and when such a crisis might occur in the United States. In particular, there is no identifiable tipping point of debt relative to GDP that indicates a crisis is likely or imminent. All else being equal, however, the larger the debt, the greater the risk of such a crisis.

Fiscal crises around the world have often begun during recessions and, in turn, have often exacerbated them. In

a number of cases, a crisis was triggered by news that a government would, for any number of reasons, need to borrow an unexpectedly large amount of money. Then, as investors lost confidence and interest rates spiked, borrowing became more difficult and expensive for the government. That development forced policymakers either to immediately and substantially cut spending and increase taxes to reassure investors—or to renege on the terms of the country's existing debt or increase the supply of money and boost inflation. In some instances, the crisis made borrowing more expensive for private borrowers as well, because uncertainty about the government's policy response to the crisis raised risk premiums throughout the economy.<sup>27</sup> Higher private interest rates, combined with reductions in government spending and increases in taxes, have tended to worsen economic conditions in the short term.

If a fiscal crisis occurred in the United States, policymakers would have only limited and unattractive options for responding to it. In particular, the government would need to undertake some combination of three actions: restructuring its debt (that is, seeking to modify the contractual terms of its existing obligations); pursuing inflationary monetary policy (that is, increasing the supply of money); and adopting an austerity program of spending cuts and tax increases. Thus, such a crisis would confront policymakers with extremely difficult choices and probably have a very significant negative impact on the country.

26. See Congressional Budget Office, *Federal Debt and the Risk of a Fiscal Crisis*.

27. The risk premium is the additional return (over the risk-free rate) that investors require to hold assets whose returns are uncertain.



## The Long-Term Outlook for Mandatory Spending on Health Care

**S**pending for health care in the United States has been growing faster than the economy for many years, posing a challenge not only for the federal government's two major health insurance programs, Medicare and Medicaid, but also for state and local governments and the private sector. Measured as a percentage of the nation's gross domestic product (GDP), total spending on health care services and supplies increased from 4.8 percent in 1960 to 9.8 percent in 1985 and 16.5 percent in 2009, the most recent calendar year for which data are available. Federal spending for Medicare and Medicaid rose from 2.2 percent of GDP in fiscal year 1985 to 5.5 percent in 2010. Underlying those trends, health care spending per person has grown faster than the nation's economic output per person by an average of a little less than 2 percentage points per year during the past several decades. Key factors contributing to that faster growth have been the emergence and increased use of new medical technologies, rising personal income, and the expanding scope of health insurance coverage.

Such rates of growth cannot continue indefinitely, however, because if they did, total spending on health care would eventually account for all of the country's economic output—an implausible outcome. Instead, over time, people will try to limit their spending for health care in order to maintain their consumption of other goods and services. In addition, state governments—which pay a large share of Medicaid's costs and have considerable influence on those costs—will need to reduce spending growth in order to balance their budgets. Thus, even in the absence of changes in federal law, growth in spending on Medicaid and on health care in the private sector will gradually slow. The rate of growth of spending on Medicare is also expected to slow without changes in federal law, but to a lesser extent, reflecting changes in medical practices common to all patients, regulatory

changes allowed under the law, and the increasing pressure of premiums and cost-sharing requirements, such as copayments and deductibles, on enrollees' finances.

Even assuming that such changes occur, the Congressional Budget Office (CBO) anticipates that federal spending on the government's major mandatory health care programs will continue to rise relative to GDP. CBO has projected spending for those health care programs—Medicare, Medicaid, the Children's Health Insurance Program (CHIP), and the insurance subsidies that will be provided through the health insurance exchanges that will be established starting in 2014—under two scenarios.<sup>1</sup> Under the extended-baseline scenario, which reflects current law, federal spending for those programs would grow from 5.6 percent of GDP today to about 9 percent of GDP in 2035; about 6 percent of GDP would be devoted to Medicare, and about 3 percent would be spent on Medicaid, CHIP, and the exchange subsidies. For the alternative fiscal scenario, CBO assumes that several policies designed to restrain federal spending on health care will not be continued. As a result, under that scenario, mandatory federal spending on health care programs would grow faster, reaching about 10 percent of GDP by 2035. Medicare spending would grow to about 7 percent of GDP, while federal spending on Medicaid, CHIP, and the exchange subsidies would reach about 4 percent of

1. In this report, federal discretionary spending on health care—that is, spending that is subject to annual appropriations—is included in the budget projections for other noninterest spending (see Chapter 5 and Table 1-2 on page 8). Such discretionary spending includes federal support for health research and federal spending on health care provided by the Veterans Health Administration. Some mandatory spending on health care (for example, spending for care for federal retirees) is also included in other noninterest spending; that mandatory spending represents a very small share of the federal budget.

GDP, both slightly higher than under the extended-baseline scenario. Beyond 2035, federal health care spending would continue to climb relative to GDP under both scenarios.

Quantifying the extent to which the rate of growth of health care spending will decline under current law is difficult. The growth of such spending relative to the growth of the economy has varied greatly from year to year during the past several decades, so projections of the likely difference in growth rates during the next few decades are very uncertain. As the projection period lengthens, the uncertainties mount because the likelihood of significant changes in medical practice and technology increases. As a result, CBO's projections of health care spending for the next few decades probably provide more real information than do its projections for the longer term.

The enactment in March 2010 of the Patient Protection and Affordable Care Act, or PPACA (Public Law 111-148), as amended by the Health Care and Education Reconciliation Act of 2010 (P.L. 111-152), has significant implications for federal spending. The projections reported here are consistent with CBO's previous estimates of the effects of that legislation through the end of the 2020s (except as modified to reflect different policies under the alternative fiscal scenario).<sup>2</sup> Looking beyond the next two decades, projecting the impact of the legislation on federal health care spending is very difficult because the uncertainties involved are so great. Consequently, CBO's approach in formulating the longer-term projections in this report has been to incorporate the projected effects of the legislation on the *level* of federal spending for health care over the next one or two decades (depending on the scenario) and to extrapolate such spending beyond those periods using the same *growth rates* that would have been applied in the absence of the legislation. The use of that mechanical approach reflects CBO's judgment that the agency does not have an analytic basis for projecting the effects of the March 2010 health care legislation on the growth rate of federal health care spending over the very long term.<sup>3</sup>

2. See the statement of Douglas W. Elmendorf, Director, Congressional Budget Office, before the Subcommittee on Health, House Committee on Energy and Commerce, *CBO's Analysis of the Major Health Care Legislation Enacted in March 2010* (March 30, 2011).

## Overview of Major Government Health Care Programs

Today, a combination of private and public sources finances the provision of health care in the United States. CBO estimates that about 48 million people are covered by Medicare and that 56 million are covered by Medicaid, the two main sources of public financing.<sup>4</sup> Medicare provides nearly universal coverage for the elderly and also covers several million nonelderly people; Medicaid covers a variety of low-income individuals, including both the elderly and the nonelderly. The majority of Americans under the age of 65, however, have private health insurance. CBO estimates that about 150 million nonelderly people currently have an employment-based health plan as their primary source of coverage, and about 13 million people have primary insurance coverage purchased directly from an insurer. At any given time during this year, in CBO's estimation, about 50 million people will be uninsured.

In 2009, the most recent calendar year for which data are available, total spending for health care in the United States amounted to about \$2.3 trillion, or 16.5 percent of the nation's GDP.<sup>5</sup> In that year, 51 percent of spending was financed privately; the rest of the spending came from public sources (see Figure 3-1):

- Payments by private health insurers were the largest component of private spending, making up 34 percent of total expenditures on health care. Consumers' out-of-pocket expenses, which include payments made to

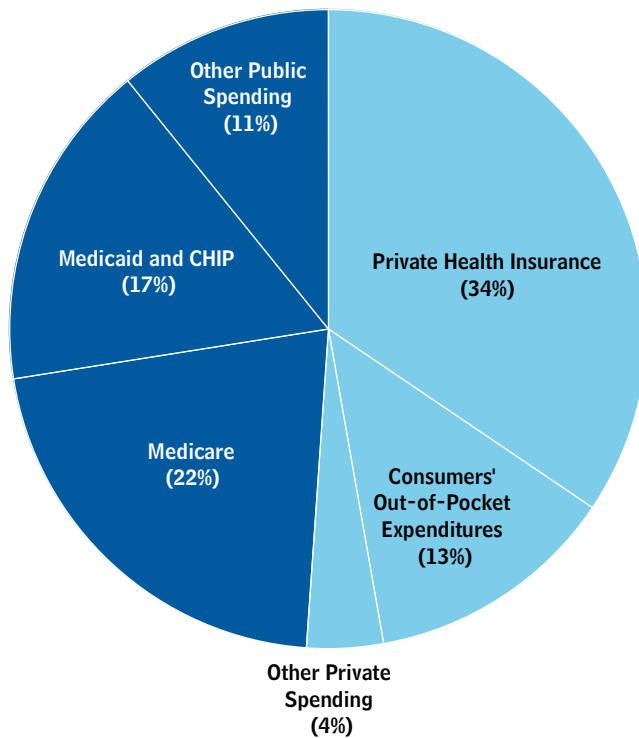
3. For further discussion of the challenges of projecting the long-term effects of legislation on federal health care spending, see Congressional Budget Office, [letter to the Honorable Max Baucus about different measures for analyzing current proposals to reform health care](#) (October 30, 2009).

4. Some people have coverage from more than one source at a time. Currently, about 7.7 million people with Medicaid coverage are also covered by Medicare, which is their primary source of coverage. All of the estimates here reflect average monthly enrollment during the year.

5. This report defines "total health care spending" as health consumption expenditures as defined in the national health expenditure accounts maintained by the Centers for Medicare and Medicaid Services. That concept excludes spending on medical research, structures, and equipment. Under a broader definition that includes those categories, total national health expenditures in 2009 were 17.6 percent of GDP.

**Figure 3-1.**

## Distribution of Spending for Health Services and Supplies, 2009



Source: Congressional Budget Office based on data from the Centers for Medicare and Medicaid Services.

Note: CHIP = Children's Health Insurance Program.

satisfy deductibles and copayments for services covered by insurance, as well as payments for services not covered by insurance, accounted for 13 percent of those expenditures.<sup>6</sup> Other sources of private funds, such as philanthropy, accounted for 4 percent of total health care spending.

- Federal spending for Medicare made up 22 percent of total expenditures on health care in 2009, and federal and state spending for Medicaid and CHIP accounted for 17 percent. Another 11 percent was accounted for by various other public programs, including those run by state and local governments' health departments, by the Department of Veterans

Affairs, and by the Department of Defense, as well as by workers' compensation programs.

### Medicare

In 2011, Medicare will provide federal health insurance for 48 million people who are elderly or disabled (the elderly make up nearly 85 percent of enrollees) or who have end-stage renal disease or amyotrophic lateral sclerosis (also known as Lou Gehrig's disease). People become eligible for Medicare on the basis of age when they reach 65; disabled individuals become eligible for the program 24 months after they qualify for benefits under Social Security's Disability Insurance program.

The Medicare program provides a specified set of benefits. Hospital Insurance (HI), or Medicare Part A, primarily covers inpatient services provided by hospitals as well as skilled nursing, home health care, and hospice care. Part B mainly covers services provided by physicians and other practitioners and by hospitals' outpatient departments, and Part D provides a prescription drug benefit. Most enrollees in Medicare are in the traditional fee-for-service program, in which the federal government pays for covered services directly, but enrollees can instead obtain coverage for Medicare's benefits through a private health insurance plan under Part C of Medicare. In 2010, gross spending for Medicare was \$520 billion.

The various parts of the program are financed in different ways. Part A benefits are financed primarily by a payroll tax (currently 2.9 percent of taxable earnings), the revenues from which are credited to the HI trust fund. Beginning in 2013, an additional 0.9 percent tax on wages over \$200,000 (\$250,000 for couples) will also be credited to the HI trust fund.<sup>7</sup> For Part B, premiums paid by beneficiaries cover about one-quarter of outlays, and the government's general funds cover the rest. (Payments to private insurance plans under Part C are financed by a blend of funds from Parts A and B.) Enrollees' premiums under Part D are set to cover about one-quarter of the cost of the basic prescription drug benefit, although many low-income enrollees receive larger subsidies; general funds cover most of the remaining cost. Taking all of the parts of Medicare together, in calendar year 2010, about 35 percent of gross federal spending was financed by the payroll tax, about 12 percent by beneficiaries' premiums, and about 39 percent by amounts transferred

6. In this analysis, out-of-pocket payments do not include the premiums that people pay for health insurance (because premiums fund the payments that insurers provide, which are already included in the measure of private spending).

7. Those thresholds will not be indexed for inflation.

from general funds of the federal government. Various other sources, including a portion of the federal income taxes that people pay on their Social Security benefits, provide the remainder of the funding for Medicare.

Cost-sharing requirements in Medicare vary widely, and the program does not set an annual cap on the amount of health care costs for which beneficiaries are responsible. However, the vast majority of beneficiaries who receive care in the fee-for-service portion of Medicare have supplemental insurance that covers many or all of the program's cost-sharing requirements. According to one recent study, the most common sources of supplemental coverage in 2006 were plans for retirees offered by former employers (held by 38 percent of beneficiaries in the fee-for-service part of Medicare), individually purchased medigap policies (33 percent of beneficiaries), and Medicaid (17 percent).<sup>8</sup>

The March 2010 health care legislation contained numerous provisions that, on balance, will reduce federal spending on Medicare. The provisions with the greatest effect on the projected growth of Medicare spending impose permanent reductions in the annual updates to Medicare's payment rates for many types of fee-for-service health care providers (other than physicians). Under prior law, those payment updates generally would have been equal to the estimated change in the average cost of providers' inputs (such as labor and equipment). Under current law, however, those updates will equal those changes in costs minus the estimated rate of economy-wide growth in productivity—a measure that seeks to capture, for the economy as a whole, how much more output is being produced from a given level of inputs. (Under certain circumstances, the law also specifies additional reductions in the update factors.)<sup>9</sup>

The March 2010 health care legislation also established an Independent Payment Advisory Board (IPAB), which will be required to submit proposals to reduce Medicare's spending per enrollee if the growth of such spending is projected to exceed certain targets. Those proposals would go into effect automatically unless blocked or

replaced by subsequent legislative action. From 2015 through 2019, the target growth rate is the average of inflation in the economy generally and inflation for medical services in particular; in subsequent years, the target growth rate is the percentage increase in per capita GDP plus 1 percentage point. The 2010 health care legislation places a number of limitations on the actions available to the IPAB, including a prohibition against modifying Medicare's eligibility rules or reducing benefits. According to CBO's projections, under current law, growth in Medicare spending will remain below the IPAB's target growth rate during the next decade.<sup>10</sup> In subsequent years, however, the IPAB mechanism would be expected to generate savings because Medicare spending is projected to grow at rates that generally exceed the IPAB's target of 1 percentage point more than the rate of growth in GDP per capita.

### Medicaid, CHIP, and the Health Insurance Exchanges

Medicaid is a joint federal/state program that pays for health care services for a variety of low-income individuals. As a result of the major health care legislation enacted in March 2010, most nonelderly people with income below 138 percent of the federal poverty level (FPL) will become eligible for Medicaid starting in 2014.<sup>11</sup> The people who are gaining eligibility for Medicaid under that legislation consist primarily of nonelderly adults with low income who are not parents of dependent children. Most low-income children and some of their parents already qualified for Medicaid under prior law, although the income thresholds vary by state.

The federal government's share of Medicaid's spending for benefits varies among the states. That share historically has averaged 57 percent, but legislation has temporarily boosted it in response to the economic downturn; in 2010, the federal share averaged two-thirds. Beginning in 2014, the federal government will pay all of

8. Estimates are based on information in Medicare Payment Advisory Commission, *A Data Book: Healthcare Spending and the Medicare Program* (June 2010), p. 65.

9. In the past, payment updates have frequently been set to be lower than the estimated increases in providers' costs, but those adjustments have generally not been permanent, applying for one year or a few years instead.

10. The IPAB mechanism can either result in savings or have no budgetary effect; it cannot increase spending. Taking into account the probabilities of no budgetary effect and of savings of various amounts, CBO estimates that eliminating the IPAB mechanism would be expected to increase spending modestly during the 10-year budget window.

11. PPACA expanded eligibility for Medicaid to include nonelderly residents with income up to 133 percent of the federal poverty level. A provision of the Health Care and Education Reconciliation Act of 2010 effectively increased that threshold to 138 percent of the FPL. The FPL is currently \$22,350 for a family of four.

the costs of covering enrollees newly eligible under the program's expansion. From 2017 to 2020, the federal share of that spending will decline gradually to 90 percent, where it will remain. According to CBO's estimates, those changes will increase the average federal share of Medicaid spending to 61 percent by 2020.

In fiscal year 2010, federal spending for Medicaid was \$273 billion, of which \$250 billion covered benefits for enrollees. (In addition to benefits, Medicaid's spending included payments to hospitals that treat a "disproportionate share" of low-income patients, costs for the Vaccines for Children program, and administrative expenses.) According to the Centers for Medicare and Medicaid Services, states spent \$127 billion on Medicaid in calendar year 2009, the most recent year for which data are available.

States administer their Medicaid programs under federal guidelines that specify a minimum set of services that must be provided to certain categories of low-income individuals. Required services include inpatient and outpatient hospital services, services provided by physicians and laboratories, and nursing home and home health care. To be eligible for Medicaid, a person must have a low income and (in certain cases) only a few assets—although the minimum financial thresholds vary depending on the basis for an enrollee's eligibility. Groups that must be eligible include low-income children and families who would have qualified for the former Aid to Families with Dependent Children program, certain other low-income children and pregnant women, and most elderly and disabled individuals who qualify for the Supplemental Security Income program.

Subject to those requirements and other statutory limits, states have flexibility in administering the Medicaid program and determining its scope. Partly as a result, the program's rules are complex, and it is difficult to generalize about the types of enrollees covered, the benefits offered, and the cost sharing required. States may choose to make additional groups of people eligible (such as individuals with income above the mandatory eligibility thresholds and those who have high medical expenses relative to their income) or to provide additional benefits (such as coverage for prescription drugs and dental services), and they have exercised those options to varying degrees. Moreover, many states seek and receive federal waivers that allow them to provide benefits and cover groups that would otherwise be excluded. By one estimate, federal and state expenditures on optional

populations and benefits accounted for about 60 percent of the Medicaid program's total spending in 2001.<sup>12</sup>

About 70 million people will be enrolled in Medicaid at some point during 2011, CBO estimates; the average enrollment over the course of the year will be about 56 million. Those two ways of measuring enrollment yield such divergent estimates because many people are eligible for Medicaid for only part of the year.

About half of Medicaid's enrollees are children in low-income families, and another one-quarter are either the parents of those children or low-income pregnant women. The elderly and disabled constitute the remaining one-quarter of Medicaid's enrollees. Expenses tend to be higher for beneficiaries who are elderly and disabled, many of whom require long-term care, than for other beneficiaries. About one-third of Medicaid's spending is for long-term care, which includes nursing home services, home health care, and other medical and social services for people whose disabilities prevent them from living independently. Medicaid accounts for 40 percent of total spending on long-term care services and 43 percent of total spending on nursing home care in the United States.<sup>13</sup> Overall, the elderly and disabled account for about two-thirds of the program's spending.<sup>14</sup>

CHIP is a joint federal/state program that provides health insurance coverage for uninsured children living in families with income that is relatively low but too high for them to qualify for Medicaid.<sup>15</sup> Like Medicaid, CHIP is administered by the states within broad federal guidelines. Unlike Medicaid, however, CHIP is a matching-grant program with a fixed nationwide cap on federal spending. In 2010, federal spending on CHIP was \$7.9 billion, and about 8 million people (mostly

12. See Kaiser Commission on Medicaid and the Uninsured, *Medicaid Enrollment and Spending by "Mandatory" and "Optional" Eligibility and Benefit Categories* (Washington, D.C.: Henry J. Kaiser Family Foundation, June 2005), p. 11.

13. Kaiser Commission for Medicaid and the Uninsured, *Medicaid and Long-Term Care Services and Supports* (Washington, D.C.: Henry J. Kaiser Family Foundation, October 2010).

14. As the March 2010 health care legislation is implemented, some of those proportions are expected to shift; for instance, by 2020, CBO estimates, the elderly and disabled will account for about one-fifth of people enrolled in the program and just over half of the program's spending.

15. Under certain conditions, parents of enrolled children are also eligible for CHIP, but they constitute a very small percentage of the program's enrollment.

children) were enrolled in the program at some point during the year. The federal share of CHIP spending varies among the states but usually averages 70 percent.

Under current law, in 2014 certain people with income up to 400 percent of the FPL will be eligible for federal subsidies, provided through newly established health insurance exchanges, to reduce their cost of obtaining private health insurance. Subsidies will limit the percentage of income that eligible people have to pay to purchase a relatively inexpensive plan providing a specified level of benefits; people choosing more expensive plans will have to pay additional amounts. In 2014, the percentages of income will range from 2 percent for the lowest-income households to 9.5 percent for households with income between 300 percent and 400 percent of the FPL. Those percentages will be indexed in future years. Initially, the percentages of income that enrollees must pay are indexed so that the subsidies will cover roughly the same share of the total premiums over time. After 2018, however, an additional indexing factor will probably apply; if so, the shares of income that enrollees have to pay will increase more rapidly, and the shares of the premiums that the subsidies cover will decline.<sup>16</sup>

People with income below 250 percent of the FPL will also be eligible to receive subsidies to reduce their cost-sharing requirements. People will not be eligible to receive subsidies through the exchanges if they already qualify for public coverage—including Medicaid—or if they are offered coverage through their employment, unless they would have to pay more than a specified share of their income for such coverage or if the benefits covered fall below a certain threshold.

## The Historical Growth of Health Care Spending

Total spending for health care in the United States—that is, private and public spending combined—has risen significantly as a share of GDP over the past several decades. Such spending has grown relative to GDP in most years, with the notable exception of the period from 1993 to

2000, when spending for health care remained relatively stable as a share of the economy. Many analysts have attributed that lull in growth to a substantial rise in the number of people enrolled in managed care plans as well as to excess capacity among some types of providers, which increased the leverage that health plans had in negotiating payments. Also, economic growth was relatively rapid in that period.

Spending for Medicare and Medicaid has also grown quickly in recent decades, in part because of rising enrollment and in part because of rising costs per enrollee. Between 1985 and 2010, gross federal spending for Medicare rose from 1.7 percent of GDP to 3.6 percent, and federal spending for Medicaid increased from 0.5 percent of GDP to 1.9 percent. Over that same period, total spending for Medicaid (including spending by the states) increased from 1.0 percent of GDP to 2.7 percent.

### Underlying Factors

A crucial factor underlying the rise in per capita spending for health care in recent decades has been the emergence, adoption, and widespread diffusion of new medical technologies and services.<sup>17</sup> Major advances in medical science allow providers to diagnose and treat illnesses in ways that previously were impossible. Many of those innovations rely on costly new drugs, equipment, and skills. Other innovations are relatively inexpensive, but their costs add up quickly as growing numbers of providers and patients make use of them. Although technological advances can sometimes reduce costs, in medicine such advances and the resulting changes in clinical practice have generally increased total spending.

Other factors that have contributed to the growth of per capita health care spending include increases in personal income and the expanded scope of health insurance coverage. Demand for medical care tends to rise as real (inflation-adjusted) family income increases. Moreover, the expanding scope of insurance coverage in recent decades, as evidenced by the substantial reduction in the percentage of health care costs that people pay out of pocket, has also increased demand, because insurance coverage reduces the cost of medical care for consumers. (The share of the population with health insurance has declined slightly in recent decades.) Spending on health

16. The additional indexing factor will apply in any year (after 2018) in which the total costs of exchange subsidies exceed a specified percentage of GDP. CBO's baseline projections account for uncertainty about whether the additional indexing factor will apply, but CBO expects that eventually it will. See Congressional Budget Office, "Additional Information About CBO's Baseline Projections of Federal Subsidies for Health Insurance Provided Through Exchanges" (May 12, 2011).

17. See Congressional Budget Office, *Technological Change and the Growth of Health Care Spending* (January 2008).



care would also be expected to grow if people were developing more health problems or were becoming more likely to contract diseases, but the evidence is mixed on whether those factors have substantially increased the use of health care in the past few decades.<sup>18</sup>

Disentangling the effects of technology, income, and insurance on the growth of health care spending is difficult because the growth of income and insurance coverage has increased the demand for new technologies. A recent study estimated that new medical technologies and rising income were the most important factors explaining the growth in health care spending since 1960, with the two accounting for similar shares of that growth.<sup>19</sup> But the study also noted that the effect of the expansion in insurance coverage on spending growth is highly uncertain. Another recent study concluded that the expansion of insurance coverage resulting from the introduction of Medicare had a substantial impact on national health care spending—raising costs not just for the elderly patients who gained coverage but for nonelderly patients as well. It attributed part of the impact to more rapid and widespread adoption of existing treatment methods (such as those provided by cardiac intensive care units) but concluded that questions remained about the magnitude of those effects.<sup>20</sup>

Studies that have analyzed the sources of spending growth in the past have consistently found that the aging of the population has had only a small effect. Although older adults generally have higher average medical expenses than younger adults do, the age composition of the

population has not changed sufficiently to account for much of the increase in per capita spending. Aging has had a larger effect on federal spending for health care, however, because nearly all U.S. residents become eligible for Medicare when they turn 65. Since 1985, the share of the population that was age 65 or older grew by about 10 percent—from almost 12 percent to 13 percent.

### Excess Cost Growth

When analyzing historical trends in the growth of health care spending and developing projections for future growth of that spending, it is useful to distinguish between various components of that growth. As part of that analysis, it is common to calculate the increase in health care spending per person relative to the growth of GDP per person after removing the effects of demographic changes on health care spending—in particular, changes in the population's age distribution. The remaining difference in growth rates is generally referred to as “excess cost growth.” The phrase is not intended to imply that growth in per capita spending for health care is necessarily excessive or undesirable; it simply measures the extent to which the growth in such spending (adjusted for changes in the age composition of the population) exceeds the growth in per capita GDP.

CBO's calculations indicate that rates of excess cost growth have ranged between 1.1 and 2.4 percentage points across programs and during various periods in the past several decades (see Table 3-1).<sup>21</sup> Excess cost growth was lower, on average, during the 1985–2007 period than during the longer 1975–2007 period.<sup>22</sup> That slowing probably stems, at least in part, from two important shifts: First, private health insurance moved away from indemnity policies—which generally reimburse enrollees for their incurred medical costs and which predominated

18. For additional discussion, see Congressional Budget Office, *Key Issues in Analyzing Major Health Insurance Proposals* (December 2008), p. 23. See also Congressional Budget Office, *How Does Obesity in Adults Affect Spending on Health Care*, Issue Brief (September 2010).

19. Sheila Smith, Joseph P. Newhouse, and Mark S. Freeland, “Income, Insurance, and Technology: Why Does Health Spending Outpace Economic Growth?” *Health Affairs*, vol. 28, no. 5 (September/October 2009), pp. 1276–1284.

20. Amy Finkelstein, “The Aggregate Effects of Health Insurance: Evidence from the Introduction of Medicare,” *Quarterly Journal of Economics*, vol. 122, no. 1 (February 2007), pp. 1–37. One factor that may have contributed to that study's findings was the relatively generous payment system that Medicare adopted. Following the common practice of private insurers at the time, Medicare initially paid hospitals on the basis of their incurred costs—an approach that gave hospitals little incentive to control those costs. The increase in hospital spending that resulted from Medicare's creation might have been smaller under a less generous payment system.

21. For Medicare, CBO also adjusts for changes in the projected life expectancy (time until death) of beneficiaries. For Medicaid, CBO adjusts for changes in the program's case mix—that is, the proportions of beneficiaries who are children, disabled people, elderly people, and other adults—rather than for changes in age composition. The introduction of Medicare's Part D drug benefit in 2006 resulted in a one-time shift in some spending from Medicaid to Medicare; to adjust for that shift, CBO assumed that excess cost growth in 2006 for both Medicare and Medicaid was equal to the average of excess cost growth in the two programs for that year.

22. CBO excluded data for 2008 and 2009 from the calculation because the recent economic downturn led to rates of excess cost growth for those two years that probably do not represent longer-term average rates of excess cost growth.

**Table 3-1.****Excess Cost Growth in Spending for Health Care**

(Percentage points)

	Medicare	Medicaid	All Other	Total
1975 to 2007	2.4	2.0	1.9	2.0
1980 to 2007	2.2	1.7	2.0	2.0
1985 to 2007	1.4	1.3	1.9	1.7
1990 to 2007	1.6	1.1	1.5	1.5

Source: Congressional Budget Office.

Note: Excess cost growth refers to the extent to which the annual growth rate of Medicare or Medicaid spending per beneficiary or of all other health care spending per capita—adjusted for demographic characteristics of the relevant populations—exceeded the annual growth rate of nominal gross domestic product per capita, on average.

before the 1990s—and toward greater management of care. Second, Medicare shifted from cost-based payment methods to fee schedules that constrain price increases. Excess cost growth was even lower, on average, during the shorter 1990–2007 period, but that average gives a good deal of weight to the years in the 1990s when managed care was spreading most rapidly; some of that difference probably represented a one-time downward shift in health care costs rather than a change in the underlying growth rate.

In CBO's judgment, the average rate of excess cost growth since 1985—1.7 percentage points—best reflects features of the health care and health insurance systems that are likely to endure for a number of years. That percentage, with various adjustments, serves as a basis for CBO's long-term projections of health care costs.

**CBO's Methodology for Long-Term Projections**

CBO projected mandatory federal spending on health care under two scenarios: an extended-baseline scenario, which is intended to reflect the provisions of current law, and an alternative fiscal scenario, which incorporates several changes to current law that are widely expected to occur or that would modify provisions that might be difficult to sustain over a long period.

CBO adopted different approaches for its projections for different time horizons. Projecting federal health care spending for decades into the future is very difficult

because of the considerable uncertainties involved. A wide range of changes could occur—in people's health, in the sources and extent of their insurance coverage, and in the delivery of medical care—that are almost impossible to predict but that could have a significant effect on federal health care spending. Therefore, to project mandatory federal spending on health care for the longer term, CBO has adopted a relatively formulaic approach.

In contrast, the projections for the next two decades reflect more-detailed analysis. For the extended-baseline scenario, the projections for the next 10 years match CBO's March 2011 baseline budget projections, which reflect a comprehensive analysis of each program, assuming that existing laws remain unchanged. For the alternative fiscal scenario, the baseline projections for the next 10 years were adjusted to account for certain assumed changes in law. For both scenarios, the projections for the decade beyond the initial 10-year span involve transitions from growth rates for that initial span to longer-term growth rates based on the projections of eligible populations and economic conditions described elsewhere in this report and projections of excess cost growth in health care.

**The Paths of Excess Cost Growth in the Longer Term**

CBO's projections of spending on federal health care programs over the longer term are based largely on the rate of excess cost growth observed in the health care system between 1985 and 2007 and the assumption that this rate will decrease over time in response to the pressures created by rising costs.

**Longer-Term Responses to Rising Health Care Costs.**

Health care expenditures cannot rise more quickly than GDP per capita forever. When health care expenditures increase as a share of GDP, they absorb a rising share of people's income, reducing growth in the consumption of other goods and services. Thus, continued growth in health care spending will create mounting pressure to slow the growth of costs, even in the absence of changes in federal law.

The private sector and state governments will probably respond to rising costs for health care by instituting various changes. Employers can intensify their efforts to reduce the costs of the insurance plans they sponsor—for example, by working with insurers to make the delivery of health care more efficient or by reducing the extent of the insurance coverage they offer. To avoid higher premiums, employees can shift to plans with more tightly



managed benefits or higher cost-sharing requirements. The excise tax included in the March 2010 health care legislation on certain health insurance plans with high premiums will also encourage individuals and employers to choose plans with lower premiums. State governments can respond to growing costs for Medicaid by limiting the services they choose to cover or by tightening eligibility to reduce the number of beneficiaries. Because the federal government's spending for Medicaid depends on what the states spend, actions by the states that reduce the growth of their Medicaid spending will also slow the growth of federal spending for the program.

Many features of the Medicare program cannot be altered without changes in federal law. Still, a slowdown in spending growth outside of Medicare will affect Medicare, which is integrated to a significant degree with the rest of the health care system. In particular, Medicare will probably experience some reduction in cost growth to the extent that actions by individuals, businesses, and states result in lower-cost "patterns of practice" by physicians, slower development and diffusion of new technologies, and cost-limiting changes to the structure of the overall health care system. Moreover, the federal government will probably make regulatory changes aimed at slowing the growth of spending for Medicare (and Medicaid), and the demand for health care services by Medicare beneficiaries will be constrained as the program's premiums and cost-sharing amounts consume a growing share of beneficiaries' income.

A sizable slowdown in excess cost growth in the health care system, which CBO projects will occur over the long term even in the absence of changes in federal law, probably can be achieved only through significant changes in the nature of health care, access to care, the amount that households pay directly for care, or policies at the state and local levels. For example, in the private sector, households will probably face increased cost sharing; new and potentially useful health technologies will probably be introduced more slowly or be used less frequently than they would without the pressures of rising costs; and more treatments and interventions may simply not be covered by insurance. In addition, households that would otherwise receive health insurance through Medicaid might become ineligible because of tightened eligibility rules or might be eligible but find that the scope of covered services has been reduced.

**The Projected Slowdown in Excess Cost Growth.** In the absence of changes in federal law, state governments and

the private sector have more flexibility to respond to the pressures of rising health care spending than does the federal government. Consequently, CBO projects that excess cost growth in Medicaid spending and in premiums in the insurance exchanges will slow more than it will in Medicare spending.

Specifically, CBO assumed that the rate of excess cost growth for both Medicaid and premiums in the insurance exchanges in 2085 (the final year of the current 75-year projection period) would be zero, whereas the rate of excess cost growth for Medicare in 2085 would be 1.0 percentage point. To define an underlying rate of excess cost growth, CBO assumed a starting point in 2022 of 1.7 percentage points—which is the average rate of excess cost growth observed in the health care system between 1985 and 2007. CBO further assumed that, between 2022 and 2085, excess cost growth would decline linearly—that is, by the same fractional number of percentage points each year. That linear decline reflects a judgment that, over time, the steps needed to keep reducing growth rates will become increasingly onerous but that the pressure to take them will also intensify because of continued increases in health care spending. Under the extended-baseline scenario, for Medicare and subsidies in the insurance exchanges, CBO modified the underlying rates of excess cost growth just described, incorporating a period of adjustment during the 2020s to reflect the projected effects of provisions of current law.

It may be difficult to envision how excess cost growth in Medicare's spending could outstrip spending for Medicaid and health insurance premiums in the exchanges over such a long period, but such an outcome can occur. For instance, actions taken to reduce spending growth in the private sector could weaken the incentives to develop and disseminate new medical technologies for nonelderly people but have less of an effect on new technologies focused on diseases that principally affect the elderly. Indeed, excess cost growth in Medicare has exceeded that for other health care spending by as much as half a percentage point over periods of a few decades (even though past growth rates reflect changes in law that have probably helped to slow growth in Medicare's costs).

### The Extended-Baseline Scenario

For 2012 through 2021, CBO's projections of spending for Medicare, Medicaid, CHIP, and exchange subsidies under the extended-baseline scenario match those in its March 2011 baseline budget projections. Those projections reflect the assumption that Medicare spending will

be constrained by the sustainable growth rate mechanism, which determines the program's payment rates for physicians' services. Under current law, those payment rates will be reduced by nearly 30 percent in January 2012 and by additional amounts in subsequent years, CBO projects. In addition, in its baseline, CBO assumes that payment rates for many other types of health care providers will follow the provisions of the March 2010 health care legislation, which specifies slower growth in payments than would have occurred under prior law. Through those changes and numerous others, the 2010 legislation significantly decreased Medicare outlays relative to what they would have been under prior law.<sup>23</sup> Over the 2012–2021 period, CBO's baseline projections imply an average annual rate of excess cost growth for Medicare of -0.4 percentage points; that is, spending per beneficiary for Medicare is projected to grow more slowly than per capita GDP. For Medicaid, no comparable provisions of federal law to constrain the growth of spending are in place; as a result, the implied rate of excess cost growth of federal Medicaid spending over the 2012–2021 period is 1.7 percentage points, which is consistent with historical experience.<sup>24</sup>

To project spending under the extended-baseline scenario beyond the initial 10-year span, CBO transitioned from the growth rates based on a detailed analysis of each program to the growth rates in the long-term paths described above:

- For Medicare, from 2022 through 2029, CBO used a rate of excess cost growth equal to the average rate for the final two years of the initial 10-year projection period (2020 and 2021), which is 0.8 percentage points. That figure reflects the projected effects of the March 2010 health care legislation as well as all other provisions of current law. Because of the growing uncertainty involved in projecting the effects of that legislation on cost growth still farther into the future, CBO assumed that beginning in 2030, excess cost

growth in Medicare would follow the path of underlying excess cost growth described above. With those different rates (the one through 2029 and the underlying path beginning the next year) combined, excess cost growth for Medicare averages 1.2 percentage points per year during the 2022–2085 period. CBO projected the number of Medicare beneficiaries to grow with the size of the population over age 65 adjusted for changes in the age distribution and with the number of Social Security Disability Insurance recipients.

- For Medicaid, CBO projected spending beyond the initial 10-year span by using the path of underlying excess cost growth described above. As a result, excess cost growth for Medicaid averages 0.8 percentage points per year during the 2022–2085 period. CBO projected the number of Medicaid beneficiaries to grow with the size of the population adjusted for changes in the age distribution.
- Currently, spending on CHIP is subject to a statutory cap. CBO projected that spending on the program would be constant as a share of GDP after 2021.
- To project federal subsidies of health insurance premiums for plans in the exchanges from 2022 through 2029, CBO used a growth rate consistent with what it estimates for the latter part of the initial 10-year projection period. CBO's projections of those subsidies beyond the end of the 2020s are based on the same path of underlying excess cost growth described above and on projected growth in the number of people receiving different amounts of subsidies. CBO expects that a smaller percentage of people will be eligible for exchange subsidies over time because incomes are projected to increase more quickly than the eligibility thresholds. Moreover, because of the additional indexing factor described above, CBO projects that federal subsidies will cover a declining share of the premiums for the plans available through the exchanges.

23. See the statement of Douglas W. Elmendorf, Director, Congressional Budget Office, before the Subcommittee on Health, House Committee on Energy and Commerce, *CBO's Analysis of the Major Health Care Legislation Enacted in March 2010* (March 30, 2011).

24. The expansion of Medicaid benefits to people with income up to 138 percent of the federal poverty level will increase total Medicaid spending but not per capita Medicaid spending. Because excess cost growth reflects the increase in health care spending per person relative to the growth of GDP, the expansion is not expected to have a large impact on excess cost growth.

### The Alternative Fiscal Scenario

For the first 10 years, the alternative fiscal scenario differs from the extended-baseline scenario in two respects: First, the additional indexing factor for exchange subsidies is assumed not to apply. Second, rather than assuming that Medicare's payment rates for physicians' services would be reduced as projected under current law, CBO assumed that those rates would be maintained at their 2011 levels through 2021. That approach is consistent with the

observation that since Medicare's current mechanism for updating physicians' payment rates was enacted in 1997, it has regularly been modified to keep scheduled reductions from taking place.<sup>25</sup> Under this scenario, excess cost growth for Medicare spending averages 0.2 percentage points per year during the 2012–2021 period.

Because Medicaid policies are assumed to be the same in the two scenarios during the initial 10 years, the average annual rate of excess cost growth for federal Medicaid spending for that period is 1.7 percentage points under the alternative fiscal scenario, the same as under the extended-baseline scenario. Spending on CHIP is also assumed to be the same in the alternative fiscal scenario as in the extended-baseline scenario.

Beyond the initial 10-year span, CBO assumed that three Medicare policies that might be difficult to sustain over a long period—further reductions in payment updates for most providers in the fee-for-service program, the sustainable growth rate mechanism for payment rates for physicians, and the IPAB—would not continue past 2021. Without those policies in place, CBO expects that excess cost growth will follow the path of underlying excess cost growth described above. As a result, excess cost growth for Medicare averages 1.3 percentage points between 2022 and 2085. Projections of the number of Medicare beneficiaries are the same as those under the extended-baseline scenario.

Projected federal spending on Medicaid and CHIP is the same in the alternative fiscal scenario as in the extended-baseline scenario because there are no assumed policy differences between the scenarios for those two programs. Thus, for the alternative fiscal scenario, CBO projected Medicaid spending after the initial 10-year period by applying the same path of underlying excess cost growth used for the extended-baseline scenario, and the agency assumed that CHIP spending would remain a constant share of GDP.

To project health insurance premiums for plans in the exchanges, CBO applied the same path of underlying excess cost growth used for the extended-baseline scenario. However, CBO assumed that the law regarding the subsidies for those premiums would be altered in two ways. First, CBO assumed that the eligibility thresholds

would be modified after 2029 to ensure that the shares of the population with incomes corresponding to the various ranges of subsidies would remain constant. Second, CBO assumed that the additional indexing factor described above would not take effect, so the federal subsidies would cover a constant share of the premiums per enrollee over time. Consequently, the projections for the alternative fiscal scenario imply that more people would be eligible for exchange subsidies and that the subsidies would cover a higher share of the premiums over time than would be the case under the extended-baseline scenario.

## Long-Term Projections of Mandatory Spending on Health Care

Federal spending on mandatory health programs is projected to increase significantly as a share of the economy in the coming decades under both the extended-baseline and the alternative fiscal scenarios. In all of the projections, the outlays for exchange subsidies are presented in combination with outlays for Medicaid and CHIP both for ease of exposition and to reflect the fact that they all constitute federal subsidies for health insurance for lower- and moderate-income households.

### Projected Spending

In 2011, federal spending on Medicare, Medicaid, and CHIP will amount to 5.6 percent of GDP, CBO expects, with Medicare accounting for 3.7 percent of GDP and federal spending on Medicaid and CHIP adding 1.9 percent of GDP. Under the extended-baseline scenario, federal spending for those programs and for the exchange subsidies would total about 9 percent of GDP in 2035; about 6 percent would be for Medicare, and about 3 percent would be for Medicaid, CHIP, and the exchange subsidies (see Figure 3-2).<sup>26</sup> Under the alternative fiscal scenario, mandatory federal spending on the major health

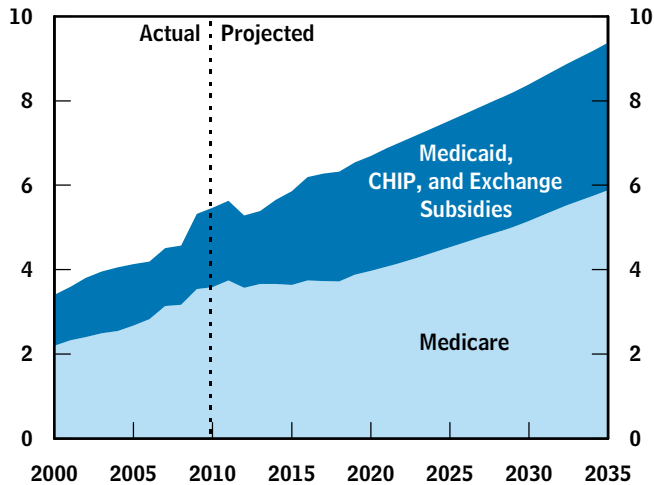
25. In 2002, payment rates for services on the physician fee schedule were reduced by 4.8 percent. Since then, the payment rates have been increased by an average of about 1 percent a year.

26. Although the subsidies of premiums are structured as tax credits, most of the funds involved will be classified as outlays because their value will often exceed what enrollees' income tax liability would otherwise be. To the extent that receiving a tax credit reduces what a person owes in taxes, the credit results in a reduction in revenues. Because the tax credits are refundable, however, people can receive a credit that exceeds their income tax liability, in which case a cash payment will be made for the portion beyond the liability; such payments appear in the federal budget as outlays. In addition, the subsidies to reduce enrollees' cost sharing will be classified as outlays. This chapter presents the effects of the subsidies on outlays; the smaller effects on revenues are included in the projections presented in Chapter 6.

**Figure 3-2.**

### Mandatory Federal Spending on Health Care, by Category, Under CBO's Extended-Baseline Scenario

(Percentage of gross domestic product)



Source: Congressional Budget Office.

Notes: The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. (For details, see Table 1-1 on page 4.)

CHIP = Children's Health Insurance Program.

care programs would be higher because CBO assumed that several policies designed to limit that spending would not continue. Specifically, Medicare's spending would grow to almost 7 percent of GDP by 2035, and federal spending on Medicaid, CHIP, and the exchange subsidies would reach almost 4 percent of GDP—so total federal spending on those programs would be just over 10 percent of GDP (see Figure 3-3).

Both the aging of the population and excess cost growth are responsible for the projected rise in federal spending on the major health care programs and will drive total national spending on health care in the future as well. Over the next 25 years, each accounts for about half of the programs' spending growth; over a longer period, excess cost growth is the predominant factor (see Box 1-1 on page 10.) However, future rates of aging and especially of excess cost growth could differ substantially from CBO's assumptions, particularly in the longer term.

Although the focus of this chapter is federal spending on health care, CBO also projected total national spending

on health care. To do so, CBO combined its projections of mandatory federal spending on health care with rough projections of other health care spending (see Box 3-1). According to that analysis, national spending on health care as a share of GDP will continue to rise—from about one-sixth of GDP now to more than a quarter of GDP by 2035.

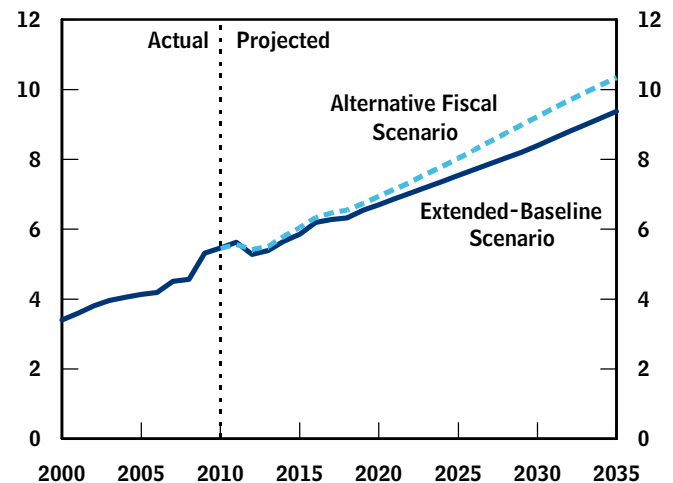
### Projections Under Alternative Assumptions

Although all long-term economic and demographic trends are uncertain and thus difficult to forecast, excess cost growth in health care spending during the next 75 years may be particularly so. The current systems of health care and health care financing have existed for only a few decades, and medical technology continues to evolve rapidly. The projections in this report will undoubtedly prove to be inaccurate in one direction or another. And judging their accuracy will be difficult even

**Figure 3-3.**

### Mandatory Federal Spending on Health Care Under CBO's Long-Term Budget Scenarios

(Percentage of gross domestic product)



Source: Congressional Budget Office.

Note: The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period. (For details, see Table 1-1 on page 4.)

**Box 3-1.****National Spending on Health Care**

The Congressional Budget Office (CBO) has a limited ability to project national spending on health care because the agency does not track several components of those expenditures as closely as it analyzes the components that are part of the federal budget. To generate projections of total expenditures on health care over the longer term, the agency has combined its own projections with estimates and projections developed by the Office of the Actuary in the Centers for Medicare and Medicaid Services (CMS).<sup>1</sup> The projections are rough and involve substantial uncertainty—especially as one looks farther into the future—and thus should be viewed with caution.

To project total spending for health care for the 2012–2021 period, CBO started with its projections of federal spending on the government's major mandatory health care programs—Medicare, Medicaid, the Children's Health Insurance Program, and the subsidies of health insurance premiums for plans in the exchanges to be established starting in 2014 under the March 2010 health care legislation (the Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act of 2010). Other spending for health care includes payments by private health insurers, out-of-pocket payments by households, and other public spending. CBO projected such spending using its estimates of payments by private health insurers and the CMS actuaries' projections of all other categories. Because those projections by CMS are available only through 2019, CBO used the historical rate of excess cost growth to extend them for the following two years.<sup>2</sup>

To project total spending for health care after 2021, CBO again started with its projections of federal spending on the government's major mandatory health care programs. The agency then added estimates of other spending on health care by combining its projections of demographic and economic changes with assumptions about excess cost growth for such spending (that is, growth in spending per person that exceeds the growth of gross domestic product [GDP] per person, after adjusting for changes in the population's age distribution).<sup>3</sup> CBO used the average rate of excess cost growth from 1985 through 2007 for total health care spending—1.7 percentage points—as the initial rate of excess cost growth for the longer-term projections.<sup>4</sup> CBO then assumed that the rate of excess cost growth for other health care spending would slow to zero in 2085 in reaction to the pressures from rising spending. Between 2022 and 2085, excess cost growth, CBO assumed, would decline linearly—that is, by the same number of fractional percentage points each year.

Since 1985, total spending on health care, measured as a share of the economy, has increased by about two-thirds, growing from 9.8 percent to 16.5 percent of GDP in 2009. Under CBO's extended-baseline scenario, which reflects current law, total spending for health care would increase to about 26 percent of GDP by 2035. Under the agency's alternative fiscal scenario, in which several policies designed to restrain federal spending on health care are assumed not to continue, total spending on health care as a share of GDP would be about 1 percentage point higher in 2035. The gap in spending between the two scenarios would widen after 2035.

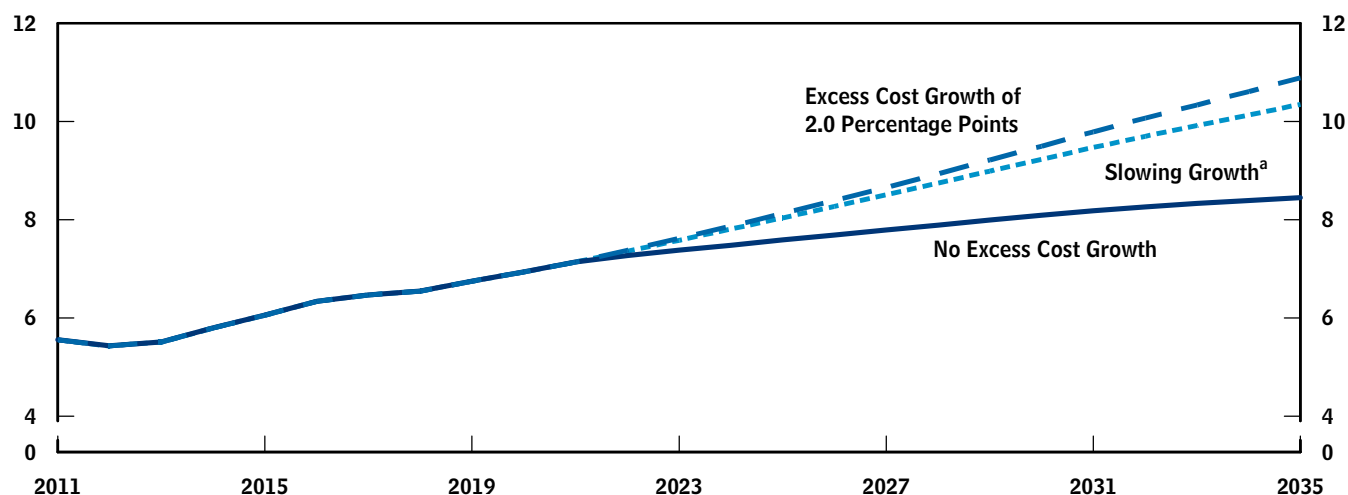
1. As used here, "total health care spending" is health consumption expenditures as defined in the national health expenditure accounts maintained by CMS. That concept excludes spending on medical research, structures, and equipment.
2. See Andrea M. Sisko and others, "National Health Spending Projections: The Estimated Impact of Reform Through 2019," *Health Affairs*, vol. 29, no. 10 (October 2010), pp. 1933–1941.

3. For the components derived using CMS's projections, CBO used the historical rate of excess cost growth beginning in 2020 and reduced that rate beginning in 2023, which is consistent with the treatment of other categories of health care spending.
4. CBO excluded data for 2008 and 2009 from the calculation because the recent economic downturn led to rates of excess cost growth for those two years that are probably not representative of longer-term average rates of excess cost growth.

**Figure 3-4.**

## Mandatory Federal Spending on Health Care Under CBO's Alternative Fiscal Scenario and Different Assumptions About Excess Cost Growth After 2021

(Percentage of gross domestic product)



Source: Congressional Budget Office.

Notes: Excess cost growth refers to the extent to which the annual growth rate of health care spending per beneficiary—adjusted for demographic characteristics of the relevant populations—is assumed to exceed the annual growth rate of nominal gross domestic product per capita.

The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period. (For details, see Table 1-1 on page 4.)

- a. In the alternative fiscal scenario, the rate of excess cost growth is assumed to decline each year from an initial value of 1.7 percentage points in 2022.

after the fact, because they assume no changes in federal law or policies, and such changes are certain to occur. Even without policy changes, though, actual spending for health care could be much lower or much higher than the figures contained in CBO's and other forecasters' projections.

For comparison purposes, CBO projected federal spending for Medicare, Medicaid, CHIP, and the exchange subsidies using varying assumptions about excess cost growth after 2021 under the alternative fiscal scenario. If excess cost growth for those programs follows the paths described above, such spending is projected to be about 10 percent of GDP in 2035. A projection in which excess cost growth is held constant at zero is useful because it isolates the effect that the aging of the population has on spending (see Figure 3-4). In that case, the federal government's mandatory spending on health care would increase from 5.6 percent of GDP in 2011 to 8.5 percent by 2035. If, instead, excess cost growth for those programs equaled 2 percentage points starting in 2022 and continuing indefinitely—or roughly the average rate

observed since 1985—mandatory spending for health care would grow to almost 11 percent of GDP by 2035.

### Trust Fund Measures

Projections of the balances in the Hospital Insurance Trust Fund offer another way to look at the financial status of Part A of Medicare. A commonly used measure is the actuarial balance—that is, the present value of noninterest revenues plus the current trust fund balance minus the present value of outlays and the desired trust fund balance (one year of outlays) at the end of a specified period.<sup>27</sup>

27. A present value is a single number that expresses a flow of current and future income or payments in terms of an equivalent lump sum received or paid today. Here, it is calculated over 75 years using a 3 percent real discount rate. That discount rate is equal to the interest rate that trust fund securities are projected to receive in the long term. The rate differs from the effective rate on debt held by the public because of differences in the term structure of the debt.

**Table 3-2.**

### Financial Measures for Medicare's Hospital Insurance Trust Fund Under CBO's Extended-Baseline Scenario

(Percentage of taxable payroll)

Projection Period (Calendar years)	Income Rate	Cost Rate	Actuarial Balance
25 Years (2011 to 2035)	3.6	4.6	-1.0
50 Years (2011 to 2060)	3.8	5.7	-1.9
75 Years (2011 to 2085)	4.0	6.9	-2.8

Source: Congressional Budget Office.

Notes: Over the relevant periods, the income rate is the present value of annual noninterest revenues (including the initial trust fund balance), and the cost rate is the present value of annual outlays (including the target trust fund balance at the end of the period), each divided by the present value of taxable payroll. The actuarial balance is the difference between the income and cost rates.

The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. (For details, see Table 1-1 on page 4.)

That difference is usually shown as a percentage of the present value of taxable payroll over the same period. A negative actuarial balance means that outlays plus the desired trust fund balance will exceed revenues plus the current balance; the value of the actuarial balance represents the amount by which revenues as a percentage of taxable payroll (the income rate) would have to be increased immediately and in every year of the projection period to cover all projected costs and provide the desired balance in the trust fund at the end of the period. Alternatively, outlays as a percentage of taxable payroll (the cost rate) could be reduced by an equivalent amount—or

a combination of the two approaches yielding the same total effect could be used to address the imbalance.

Using CBO's current projections for the extended-baseline scenario, the actuarial imbalance for the HI trust fund over 75 years is 2.8 percentage points, which is the difference between projected income equal to 4.0 percent of taxable payroll and projected costs totaling 6.9 percent of taxable payroll (see Table 3-2). Eliminating a gap of that size would require, as an example, either an immediate increase in the basic rate of HI payroll taxes from its current 2.9 percent to 5.7 percent, or an immediate cut of about one-third in spending on Part A. Given the tremendous uncertainty surrounding long-term projections of spending for health care, however, a more useful metric may be the actuarial imbalance in the nearer term. CBO estimates that the imbalance over 25 years is 1.0 percentage point under the extended-baseline scenario. (The projected imbalances are somewhat larger under the alternative fiscal scenario because, under that scenario, Medicare spending is higher and tax revenues are lower.)

Another commonly used measure of the program's sustainability is the trust fund's exhaustion date. According to CBO's March 2011 baseline projections, the HI trust fund will be exhausted in 2020. Once the HI trust fund is exhausted, the Centers for Medicare and Medicaid Services will no longer have legal authority to pay health plans and providers. Annual outlays would therefore be limited to annual revenues. If payments to health plans and providers could be made only from annual revenues, which are inadequate to cover total costs, beneficiaries' access to health care services could be reduced. Projections in this report incorporate an assumption that Medicare benefits would continue to be paid regardless of the financial status of the HI trust fund.





## The Long-Term Outlook for Social Security

**T**he federal government spends more on Social Security than it does on any other single program. Created in 1935, the program has long consisted of two parts: Old-Age and Survivors Insurance (OASI), which pays benefits to retired workers and to their dependents and survivors, and Disability Insurance (DI), which makes payments to disabled workers who have not reached full retirement age (the age of eligibility for full retirement benefits) and to their dependents. In all, about 56 million people will receive Social Security benefits in 2011. The Congressional Budget Office (CBO) estimates that outlays for that program in fiscal year 2011 will total about \$733 billion, accounting for one-fifth of all federal spending.

During the program's first four decades, spending for Social Security increased relative to the size of the economy, reaching about 4 percent of gross domestic product (GDP) in the mid-1970s. That increase was caused largely by repeated expansions of the program. Costs rose to 4.9 percent of GDP in 1983, the year that the last major piece of legislation affecting Social Security was enacted. Between 1984 and 2008, spending for Social Security fluctuated between 4.1 percent and 4.6 percent of GDP. During the most recent recession, GDP contracted and Social Security outlays increased more rapidly than they would have with stable economic growth because the number of OASI and DI claimants rose as the job market deteriorated. As a result, outlays grew to 4.8 percent of GDP in 2009 (see Figure 4-1). CBO anticipates that, if the full benefits specified under current law are paid, spending for Social Security will reach 6.1 percent of GDP in 2035 and remain close to that figure in ensuing decades.

### How Social Security Works

Social Security is often characterized as a retirement program because a majority of its beneficiaries—69 percent—are retired workers or the spouses and children of those people. In general, workers qualify for retirement benefits if they are age 62 or older and have paid sufficient Social Security taxes for at least 10 years. However, Social Security also provides other types of benefits, such as those to deceased workers' survivors, who make up 12 percent of beneficiaries. In addition, workers younger than the full retirement age who have had to limit their employment because of a physical or mental disability can qualify for DI benefits, in many cases with a shorter employment history. Disabled workers and their spouses and children account for 19 percent of beneficiaries.<sup>1</sup> In dollar terms, retired workers and their dependents receive 67 percent of Social Security benefits, survivors receive 15 percent, and disabled workers and their spouses and children receive 18 percent of benefits.<sup>2</sup>

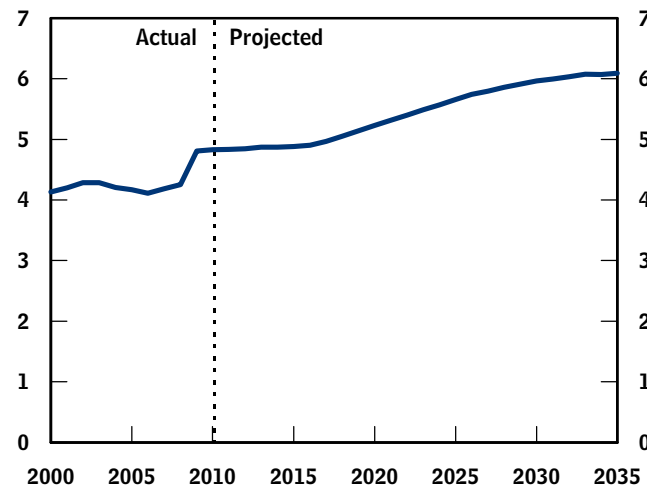
The benefits that retired or disabled workers initially receive are based on their individual earnings histories, although those earnings and the formula used to compute initial benefits are indexed to changes in average annual

- 
1. See Congressional Budget Office, *Social Security Disability Insurance: Participation Trends and Their Fiscal Implications*, Issue Brief (July 2010).
  2. The distributions of beneficiaries and benefits are not completely consistent; some beneficiaries receive more than one type of benefits. For instance, some retired workers also are entitled to survivors' benefits. Those beneficiaries are classified as retired workers for the distribution of beneficiaries, but their benefit payments are prorated between the retired worker and survivor categories for this analysis.

**Figure 4-1.**

## Spending for Social Security Under CBO's Long-Term Budget Scenarios

(Percentage of gross domestic product)



Source: Congressional Budget Office.

Note: Projected spending for Social Security is identical under CBO's two long-term budget scenarios, the extended-baseline scenario and the alternative fiscal scenario. (For details of the scenarios, see Table 1-1 on page 4.)

earnings for the workforce as a whole. In subsequent years, a cost-of-living adjustment is applied to the initial benefit to reflect annual growth in consumer prices.

Workers born before 1938 could receive full retirement benefits at the age of 65. The full retirement age increases gradually for people born later; it will be 67 for people born after 1959. The age at which workers may start receiving reduced benefits, 62, remains the same.<sup>3</sup>

The Social Security Administration estimates that workers who retire at age 65 in 2011 and who had average annual earnings—earnings equal to the average earnings of all workers in the country—throughout their career will qualify for an annual benefit of about \$17,100. That amount will replace approximately 40 percent of their preretirement earnings. In coming decades, the replacement rate will be lower for workers with average earnings who retire at age 65, mainly as a result of the scheduled increase in the full retirement age. Nevertheless, because initial benefits are based on beneficiaries' previous earn-

ings indexed to overall average wages and because wages grow over time, the real (inflation-adjusted) value of benefits will rise over time.

The Social Security program is funded by two sources of dedicated tax revenues. Roughly 96 percent of those revenues derive from a payroll tax—generally, 12.4 percent of earnings—that is split evenly between workers and their employers.<sup>4</sup> Only earnings up to a maximum annual amount (\$106,800 in 2011) are subject to the payroll tax. That amount, referred to as the taxable maximum, generally increases each year at the same rate as average earnings in the United States. However, the share of economywide earnings that falls below the taxable maximum varies each year as the distribution of earnings changes. When earnings inequality increases, as it has in recent decades, the taxable share of earnings declines. CBO projects that earnings inequality will grow somewhat during the next few decades and that the share of earnings subject to the payroll tax, which has been above 85 percent in recent years, will decline to around 82 percent in 2035. The remaining share of tax revenues—4 percent—is collected from income taxes on benefits. Single filers must pay taxes on Social Security benefits if the sum of their non-Social Security income and half of their benefits exceeds \$25,000. The threshold for joint filers is \$32,000. Under current law, those thresholds remain fixed, with no adjustment for earnings growth or inflation.

Revenues from both sources are credited to the two Social Security trust funds (the Old-Age and Survivors Insurance Trust Fund and the Disability Insurance Trust Fund). Social Security benefits and the program's administrative costs are paid from those funds; benefit payments represent roughly 99 percent of total outlays for the program. Interest on those balances is credited to the trust funds, but because those interest transactions represent payments from one part of the government (the general fund of the Treasury) to another (the Social Security trust funds), they do not affect federal budget deficits or surpluses. The balances currently credited to the funds (\$2.6 trillion at the end of May 2011) have

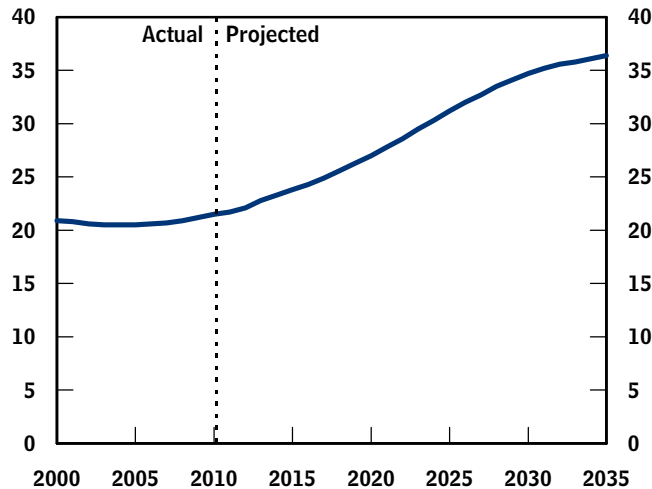
3. For a more detailed description of the Social Security program, see Congressional Budget Office, *Social Security Policy Options* (July 2010), "An Overview of Social Security," pp. 1–4.

4. The workers' portion of the payroll tax was reduced by 2 percentage points for 2011, but the reduction in tax revenues is being made up by reimbursements from the Treasury's general fund to the two Social Security trust funds. In this report, Social Security tax revenues include those reimbursements.

**Figure 4-2.**

## The Population Age 65 or Older as a Percentage of the Population Ages 20 to 64

(Percent)



Source: Congressional Budget Office.

accumulated over many years, during which revenues and interest received by the trust funds have exceeded the benefits paid from those funds.

## The Outlook for Social Security Spending and Revenues

The cost of the Social Security program will rise significantly in coming decades—a development that analysts have long foreseen. Average benefits per beneficiary tend to grow over time because the earnings on which those benefits are based also increase.<sup>5</sup> In addition, as more members of the baby-boom generation reach retirement age, and as longer life spans lead to longer retirements, a significantly larger share of the population will draw Social Security benefits.<sup>6</sup> As a result, the total amount of benefits scheduled to be paid under current law will grow faster than the economy.

In 2010, for the first time since the enactment of the Social Security Amendments of 1983, annual outlays for the program exceeded annual revenues excluding interest credited to the trust funds. CBO projects that the gap will continue; outlays will be somewhat greater than such revenues (by around 4 percent) over the next five years. By the end of this decade, an increasing number of baby boomers will have reached retirement age, and the shortfall will grow. CBO projects that the population age 65 or older

will increase by almost 90 percent between now and 2035, compared with an increase of just 11 percent over that period in the number of people ages 20 to 64. Today, that older group is about one-fifth the size of the younger group; at those rates of growth, it will be more than a third the size of the younger group by 2035 (see Figure 4-2). About 97 million people will collect benefits in 2035, CBO projects, compared with 56 million who will receive them this year. Moreover, the average benefit will have grown nearly as fast as GDP per person. CBO therefore estimates that, unless changes are made to Social Security, spending for the program will rise from 4.8 percent of GDP today to 6.1 percent by 2035. Spending will then dip slightly as members of the baby-boom generation die, but it will later turn upward again a little as a result of beneficiaries' increasing life spans.

Projections for Social Security benefits were based on CBO's detailed microsimulation model, which starts with individual-level data from a representative sample of the population and projects demographic and economic outcomes for that sample through time. For each individual in the sample, the model simulates birth, death, immigration and emigration, marital pairings and transitions, fertility, labor force participation, hours worked, earnings, payroll taxes, and claims for and amounts of Social Security benefits.<sup>7</sup>

5. CBO expects that private-sector costs for health care will continue to grow more quickly than compensation over the long-term projection period. That trend alone would reduce the share of compensation that workers receive as wages subject to the Social Security payroll tax. However, the Patient Protection and Affordable Care Act (Public Law 111-148) instituted an excise tax on some high-premium employment-based health insurance plans. Some people will respond by shifting to less expensive plans, thus reducing the share of compensation represented by health insurance premiums and increasing the share of cash wages. (See Chapter 2, "The Taxable Earnings Share of Compensation," on page 25.) CBO projects that the effects of the excise tax will more than offset the effects of rising health care costs for several decades but that the reverse will be true thereafter. The share of compensation workers receive as taxable wages will first rise and then fall, ending up near the 2021 level by 2085, and Social Security revenues and benefits will be greater than they would be if health insurance premiums remained a constant share of compensation.
6. For analysis of the outlook for the baby boomers' financial situation in retirement, see Congressional Budget Office, *Will the Demand for Assets Fall When the Baby Boomers Retire?* Background Paper (September 2009); and *The Retirement Prospects of the Baby Boomers*, Issue Brief (March 2004).
7. See Congressional Budget Office, *CBO's Long-Term Model: An Overview*, Background Paper (June 2009).

CBO's projections of outlays for Social Security are the same under both of the scenarios discussed in this report—the extended-baseline scenario and the alternative fiscal scenario—but projections of Social Security revenues depend somewhat on which scenario is used. The revenues generated by payroll taxes are identical under the two scenarios; however, projections of revenues derived from the taxation of Social Security benefits are higher under the extended-baseline scenario.<sup>8</sup> Under that scenario, which is based on the assumption that current laws remain unchanged, both the number of Social Security beneficiaries subject to taxes on benefits and average income tax rates would increase from current levels.<sup>9</sup> As a result, income taxes on Social Security benefits would grow to 4 percent of benefits in 2015 and exceed 6 percent in 2035. Under the alternative fiscal scenario, which is based on the assumption that tax revenues remain closer to their historical average share of GDP, the income taxes on Social Security benefits that are credited to the Social Security trust funds would equal 4 percent of benefits in 2021 and later. Consequently, the projections of Social Security's finances are somewhat less favorable under the alternative fiscal scenario than they are under the extended-baseline scenario. According to CBO's extended-baseline scenario, by 2035, the benefits scheduled to be paid under current law would exceed dedicated revenues (the combination of payroll taxes and taxes on benefits) by about 24 percent; under the alternative fiscal scenario, benefits would exceed dedicated revenues by about 28 percent.

A commonly used measure of the sustainability of a program that has a trust fund and a dedicated revenue source is its actuarial balance over a given period; that is, the sum of the present value of tax revenues and the current trust fund balance minus the sum of the present value of outlays and a target balance at the end of the period.<sup>10</sup> For

Social Security, that difference is traditionally presented as a percentage of the present value of taxable payroll. Under its extended-baseline scenario, CBO estimates that over the next 75 years, the program has an actuarial shortfall equal to 1.6 percent of taxable payroll, or 0.6 percent of GDP (see Table 4-1). Thus, to bring the program into actuarial balance through 2085, payroll taxes could be increased immediately by 1.6 percent of taxable payroll and kept at that higher rate, or scheduled benefits could be reduced by an equivalent amount. Under the alternative fiscal scenario, the shortfall is estimated to be 2.0 percent of taxable payroll, or 0.7 percent of GDP.

Another commonly used measure of the program's sustainability is the trust funds' exhaustion date, which CBO projects will be 2038 under the assumptions of the extended-baseline scenario or 2036 under those of the alternative fiscal scenario.<sup>11</sup> Once the trust funds are depleted, the Social Security Administration would no longer have legal authority to pay full benefits. In the years after the exhaustion of the trust funds, annual outlays would therefore be limited to annual revenues. As a result, the benefits that can be paid under current law are substantially below those that are scheduled to be paid. Thus, benefits can be projected in two ways: as "payable benefits," which reflect the limits imposed by the availability of balances in the trust funds, or as "scheduled benefits," which reflect the benefit formulas specified in law, regardless of the trust funds' balances. This report uses the latter approach, which is consistent with a long-standing requirement that CBO, in its baseline projections, assume that laws are implemented as specified and that funding for entitlement programs is adequate to make all payments.<sup>12</sup>

8. Those projections do not incorporate the economic effects of the two scenarios.

9. For information about CBO's projections of total income taxes under the two scenarios, see Chapter 6. For details on the impact of differing assumptions about income taxes on Social Security benefits, see Congressional Budget Office, *The Outlook for Social Security* (June 2004), Box 3-1.

10. To account for the difference between the trust fund's current balance and the desired balance at the end of the period, the balance at the beginning is added to the projected tax revenues and an additional year of costs at the end of the period is added to projected outlays. The present value is a single number that expresses a flow of current and future income or payments in terms of an equivalent lump sum received or paid today.

11. Under both scenarios, CBO anticipates that the Disability Insurance Trust Fund will be exhausted in 2017. According to the extended-baseline scenario, the Old-Age and Survivors Insurance Trust Fund will be exhausted in 2040; under the alternative fiscal scenario, it will be exhausted in 2038. However, this document focuses on the combined trust funds. In 1994, the annual report of the Social Security Trustees projected that the DI trust fund would be exhausted in 1995. That outcome was prevented by legislation that redirected revenues from the OASI trust fund to the DI trust fund. In part because of that experience, it is a common analytical convention to consider the DI and OASI trust funds as combined.

12. Section 257 of the Balanced Budget and Emergency Deficit Control Act of 1985 specified the rules for generating baseline projections. Although that statutory requirement has expired, CBO continues to follow those baseline construction rules as requested by the House and Senate Committees on the Budget.

**Table 4-1.****Financial Measures for Social Security Under CBO's Long-Term Budget Scenarios**

Projection Period (Calendar years)	Income Rate	Cost Rate	Actuarial Balance
<b>As a Percentage of Taxable Payroll</b>			
<i>Extended-Baseline Scenario</i>			
25 Years (2011 to 2035)	15.3	15.4	-0.1
50 Years (2011 to 2060)	14.5	15.6	-1.1
75 Years (2011 to 2085)	14.3	15.9	-1.6
<i>Alternative Fiscal Scenario</i>			
25 Years (2011 to 2035)	15.1	15.4	-0.3
50 Years (2011 to 2060)	14.2	15.6	-1.4
75 Years (2011 to 2085)	13.9	15.9	-2.0
<b>As a Percentage of Gross Domestic Product</b>			
<i>Extended-Baseline Scenario</i>			
25 Years (2011 to 2035)	5.6	5.7	-0.1
50 Years (2011 to 2060)	5.4	5.8	-0.4
75 Years (2011 to 2085)	5.3	5.9	-0.6
<i>Alternative Fiscal Scenario</i>			
25 Years (2011 to 2035)	5.6	5.7	-0.1
50 Years (2011 to 2060)	5.3	5.8	-0.5
75 Years (2011 to 2085)	5.2	5.9	-0.7

Source: Congressional Budget Office.

Notes: Over the relevant periods, the income rate is the present value of annual tax revenues (including the initial trust fund balance), and the cost rate is the present value of annual outlays (including the target trust fund balance at the end of the period), each divided by the present value of taxable payroll or gross domestic product. The actuarial balance is the difference between the income and cost rates.

The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period. (For details, see Table 1-1 on page 4.)



## The Long-Term Outlook for Other Federal Spending

In 2010, just over one-half of federal spending went toward programs other than the major mandatory health care programs (Medicare, Medicaid, and the Children's Health Insurance Program), Social Security, and interest payments on debt held by the public. That category, which is referred to in this report as other federal spending, includes discretionary programs funded through the annual appropriation process and mandatory programs (other than the health care programs and Social Security) that usually are funded according to underlying statutes that establish eligibility and payment standards.<sup>1</sup> This category of mandatory spending also includes the refundable portions of the earned income tax credit and the child tax credit, which the budget records as outlays, and offsetting receipts such as Medicare premiums paid by beneficiaries and some other payments collected from the public.

The Congressional Budget Office (CBO) projected other federal spending under two scenarios, an extended-baseline scenario and an alternative fiscal scenario (see Figure 5-1):

- In the extended-baseline scenario, other federal spending for 2011 through 2021 equals the amounts in CBO's 10-year baseline projections under current law. Given the assumptions that guide the baseline projections, such spending drops from 12.2 percent of gross domestic product (GDP) in 2010 to 8.3 percent in 2021. Beyond 2021, other spending stays at the same share of GDP projected for 2021 except that three components—Medicare premiums, certain payments by states to Medicare, and some refundable tax credits—are projected separately. Including those components, other federal spending declines slightly

relative to GDP after 2021, reaching 7.8 percent in 2035 under this scenario.

- In the alternative fiscal scenario, other federal spending for 2011 through 2021 is on a higher trajectory than in the 10-year baseline projections for reasons that are explained below, but it still declines to 9.1 percent of GDP in 2021. Beyond 2021, other spending stays at the same share of GDP projected for 2021 except for Medicare premiums and certain payments by states to Medicare, which are projected separately; all told, such spending declines to 8.5 percent of GDP in 2035 under this scenario.

### Other Federal Spending Over the Past Four Decades

During the past 40 years, federal spending other than that for the major mandatory health care programs, Social Security, and interest payments on the public debt has averaged 11 percent of GDP. Such spending declined from 14 percent of GDP in 1971 to 8 percent in the late 1990s, stayed close to 10 percent through 2008, and then spiked to more than 13 percent in 2009 before receding slightly to about 12 percent of GDP in 2010.

#### Discretionary Spending

A distinct pattern in the federal budget since the 1970s has been the diminishing share of spending that is provided through annual appropriations. As a share of total federal spending, discretionary spending fell from 58 percent in 1971 to 39 percent in 2010. Measured relative to the size of the economy, discretionary spending declined from 11.3 percent of GDP in 1971 to 9.3 percent in 2010.

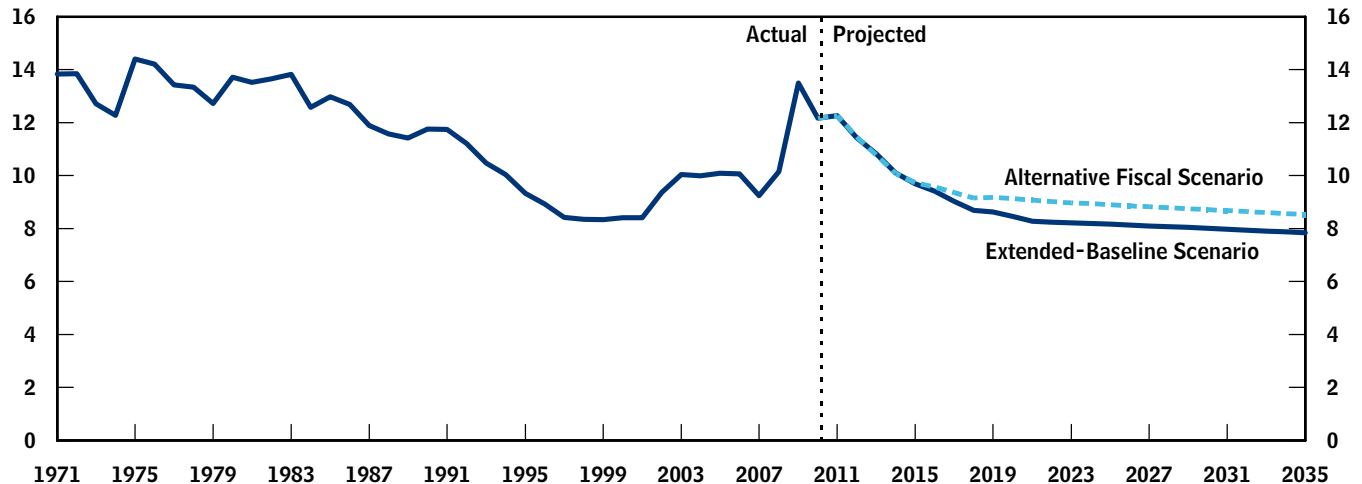
**Defense Discretionary Spending.** Over the past four decades, defense discretionary spending has declined

1. For a discussion of federal spending categories, see Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2011 to 2021* (January 2011), Box 3-1.



**Figure 5-1.****Other Federal Spending Under CBO's Long-Term Budget Scenarios**

(Percentage of gross domestic product)



Source: Congressional Budget Office.

Notes: Other federal spending is all spending other than for the major mandatory health care programs, Social Security, and interest payments on debt held by the public.

The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period. (For details, see Table 1-1 on page 4.)

significantly, on net, as a share of the economy (see Figure 5-2). At the peak of the Vietnam War in the late 1960s, that category of spending reached a peak of 9.5 percent of GDP. After 1975, it dropped to around 5 percent until the defense buildup between 1982 and 1986, when it averaged 6 percent. Defense spending then fell again relative to GDP after the end of the Cold War, to a low of 3.0 percent of GDP at the turn of the century. In 2002, however, spending began to climb again; it reached 4.7 percent of GDP in 2009 and 2010, mainly as a result of operations in Iraq and Afghanistan and related activities.

**Nondefense Discretionary Spending.** Nondefense discretionary spending—including spending for education, transportation, income security, veterans' health care, and homeland security—totaled 4.5 percent of GDP in 2010. Over the past 40 years, nondefense discretionary spending has usually ranged between about 3 percent and 4 percent of GDP, although from 1976 to 1981 it averaged 5 percent of GDP. In the past two years, funding from the American Recovery and Reinvestment Act of 2009 (Public Law 111-5), along with other funding

associated with the federal government's response to the recent recession, helped boost that share.

**Other Mandatory Spending**

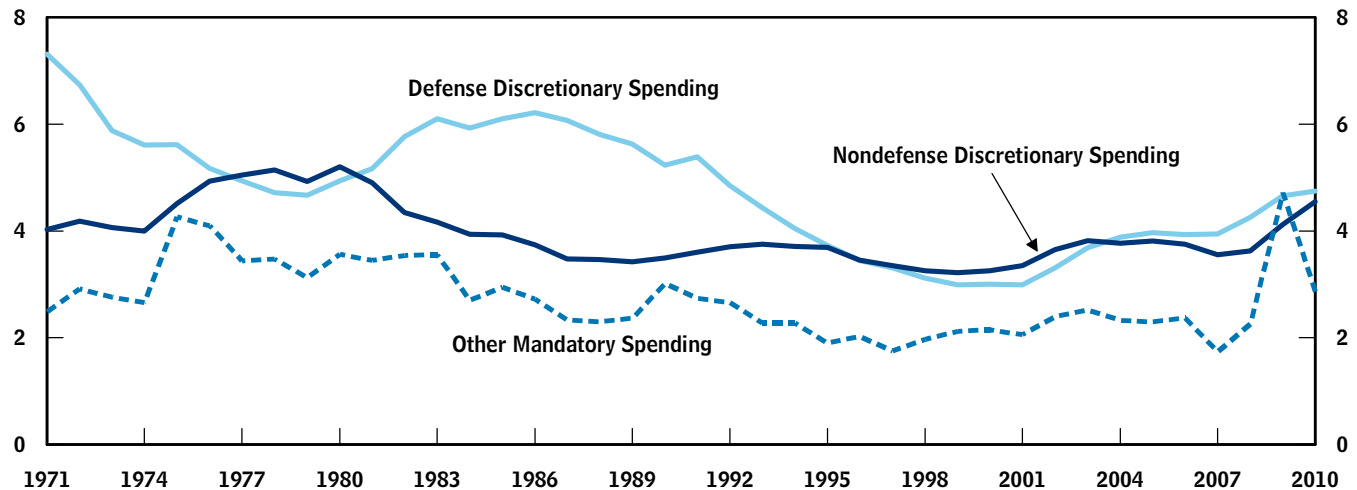
Mandatory spending other than for Medicare, Medicaid, the Children's Health Insurance Program, and Social Security totaled about 2.9 percent of GDP in 2010. The category includes unemployment compensation, federal civilian and military retirement benefits, the Supplemental Nutrition Assistance Program (formerly known as Food Stamps), veterans' benefits, and other income security programs. The category also includes offsetting receipts, such as Medicare premiums, the government's contributions to the federal civilian and military retirement programs, and proceeds from energy leases on the Outer Continental Shelf.

Other mandatory spending averaged almost 4 percent of GDP from the mid-1970s until the early-1980s. Then, between the mid-1980s and 2008, it moved up and down around an average of a little more than 2 percent of GDP. In 2009, the amount of such spending relative to GDP more than doubled, to 4.7 percent, because of the



**Figure 5-2.****Other Federal Spending, by Category, 1971 to 2010**

(Percentage of gross domestic product)



Source: Congressional Budget Office.

Note: Other federal spending is all spending other than for the major mandatory health care programs, Social Security, and interest payments on debt held by the public.

recession and the federal government's response to it. Other mandatory spending then fell back to 2.9 percent of GDP in 2010; much of the change was attributable to unusually large negative outlays recorded for the Troubled Asset Relief Program (reflecting reductions in the estimated cost of the program) and deposit insurance (reflecting advance payments of premiums) and to a decline in payments to Fannie Mae and Freddie Mac (two institutions that facilitate the flow of funding for home loans nationwide). CBO's projections do not include a recurrence of the very large negative outlays for the Troubled Asset Relief Program; other mandatory spending therefore is estimated to increase to 3.2 percent of GDP in 2011.

### Projections of Other Federal Spending Under CBO's Long-Term Budget Scenarios

The extended-baseline scenario and the alternative fiscal scenario embody two possible paths for other federal spending. Under the extended-baseline scenario, other federal spending declines from 12.3 percent of GDP in 2011 to 7.8 percent in 2035; under the alternative fiscal scenario, it declines to 8.5 percent in 2035.

### The Extended-Baseline Scenario

In the extended-baseline scenario, CBO used the projections for other federal spending from its 10-year baseline for 2011 to 2021.<sup>2</sup> In the baseline, funding for discretionary programs is projected to grow at the rate of inflation. Under the rules that govern the baseline, CBO does not make any other adjustments to discretionary spending; for example, no adjustment is made for spending that may be temporary, such as outlays for operations in Afghanistan and Iraq. Because CBO projects that GDP will grow faster than the rate of inflation, discretionary spending declines as a share of GDP, from 9.1 percent in 2011 to 6.7 percent in 2021 (see Table 5-1). In the baseline, mandatory programs are assumed to operate as they do under current law. Other mandatory spending is elevated now by the automatic increases in spending (for unemployment insurance and federal nutrition programs, for example) that occur during periods of economic weakness.<sup>3</sup> As the economy improves and that spending declines, other mandatory spending is projected to decline from 3.2 percent of GDP in 2011 to 1.6 percent

2. CBO's most recent 10-year baseline projections were published in *An Analysis of the President's Budgetary Proposals for Fiscal Year 2012* (April 2011).

3. See Congressional Budget Office, *The Effects of Automatic Stabilizers on the Federal Budget* (April 2011).

**Table 5-1.****CBO's Baseline Projections of Other Federal Spending**

(Percentage of gross domestic product)

	2011	2021
Discretionary Spending		
Defense spending	4.7	3.6
Nondefense spending		
Education, employment, and social services	0.8	0.5
Transportation	0.6	0.4
Income security	0.5	0.3
Health	0.4	0.3
Administration of justice	0.4	0.3
Veterans' benefits	0.4	0.3
International affairs	0.3	0.3
Other	1.0	0.7
Subtotal	4.4	3.1
<b>Total Discretionary Spending</b>	<b>9.1</b>	<b>6.7</b>
Other Mandatory Spending		
Civilian and military retirement	1.0	0.8
Unemployment compensation	0.8	0.3
Nutrition programs	0.6	0.4
Earned income and child tax credits	0.5	0.2
Veterans' benefits	0.5	0.4
Supplemental Security Income	0.4	0.3
Offsetting receipts	-1.3	-1.3
Other	0.7	0.6
<b>Total Other Mandatory Spending</b>	<b>3.2</b>	<b>1.6</b>
<b>All Other Federal Spending</b>	<b>12.3</b>	<b>8.3</b>

Source: Congressional Budget Office.

Note: Other federal spending is all spending other than for the major mandatory health care programs, Social Security, and interest payments on debt held by the public.

in 2021. In all, other federal spending is projected to equal 8.3 percent of GDP in 2021—its lowest share since the 1930s.

Under the extended-baseline scenario, most other federal spending after 2021 is assumed to remain constant as a share of GDP, although CBO modeled three components of that spending separately. Premiums paid by Medicare beneficiaries and certain payments by states to Medicare (both classified in the budget as offsetting receipts, which are recorded as negative outlays) are estimated to total

0.5 percent of GDP in 2011 and are projected to increase at the same rate as gross Medicare outlays. As those offsetting receipts rise, total spending falls. In addition, the refundable portions of the earned income tax credit and the child tax credit, which the budget records as outlays, were modeled as part of the projections of total federal revenues. Those outlays are expected to equal 0.5 percent of GDP in 2011 but are projected to fall with the 2012 expiration of the temporary increase in the child tax credit and then to decline even more over time as incomes rise. CBO projects that the outlays for refundable tax credits will be 0.2 percent of GDP by 2021. Because of the projected changes in those components, other federal spending is projected to decline to 7.8 percent of GDP in 2035.

**The Alternative Fiscal Scenario**

In the alternative fiscal scenario, the projections of other federal spending during the next 10 years differ from such spending in the baseline.<sup>4</sup> First, all discretionary spending is assumed to grow with GDP rather than with inflation. In addition, whereas the baseline carries forward the current amount of spending for operations in Iraq and Afghanistan, the alternative fiscal scenario incorporates an assumption that there will be a reduction in the number of U.S. military personnel deployed abroad and therefore a reduction in spending for overseas military operations. Given those two differences, other federal spending is projected to equal 9.1 percent of GDP in 2021.

Under the alternative fiscal scenario, other federal spending after 2021 is modeled in the same way as it is under the extended-baseline scenario. Specifically, other federal spending is assumed to consume a constant share of GDP except for projected changes in Medicare premiums and certain payments by states to Medicare. (In this scenario, after 2021, total federal revenues and refundable tax credits remain a constant share of GDP.) In all, other federal spending is projected to decline to 8.5 percent of GDP by 2035.

4. For more discussion of these alternative assumptions, see Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2011 to 2021*, "Alternative Paths for Discretionary Spending," pp. 79–81.

## The Long-Term Outlook for Revenues

**F**ederal revenues come from various sources, including individual and corporate income taxes, social insurance (payroll) taxes, excise taxes, estate and gift taxes, and other taxes and fees. Currently, proceeds from individual income taxes and payroll taxes account for more than 80 percent of the federal government's revenues.

Predicting the amount of revenues that will be collected in the future is difficult because revenues are sensitive to economic developments and because policymakers frequently make changes to tax law. This analysis examines revenues under two sets of assumptions about future policy—the extended-baseline scenario and the alternative fiscal scenario.

The extended-baseline scenario is based on the assumption that the provisions of current law remain in effect, which is the same assumption that underlies the Congressional Budget Office's (CBO's) 10-year baseline projections. Under that scenario, the tax cuts that were enacted since 2001 and most recently extended by the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 (the 2010 tax act, Public Law 111-312) are assumed to expire as scheduled in 2012 or 2013. In addition, the exemption amounts for the individual alternative minimum tax (AMT) revert to their 2001 levels in 2012.<sup>1</sup>

Under the extended-baseline scenario, revenues would rise considerably over time as a share of gross domestic product (GDP). The scheduled expiration of various tax reductions would boost receipts, as would the scheduled tax increases enacted in March 2010 in the Patient Protection and Affordable Care Act (PPACA, P.L. 111-148)

and the Health Care and Education Reconciliation Act of 2010 (P.L. 111-152). In addition, the ongoing economic recovery, real (inflation-adjusted) growth in incomes over the long run, and the interaction of the tax system with inflation would cause revenues to grow more rapidly than GDP. Taking all of those factors together, revenues would rise from about 15 percent of GDP in 2011 to nearly 19 percent in 2013, about 21 percent in 2021, and about 23 percent in 2035, for a total increase of more than 8 percentage points over that period (see Figure 6-1). By 2035, the tax system would be quite different from what it is today. Households at all points on the income scale would pay a higher share of their income in taxes than similar households pay today, and a much larger share of households—nearly half—would be subject to the AMT.<sup>2</sup>

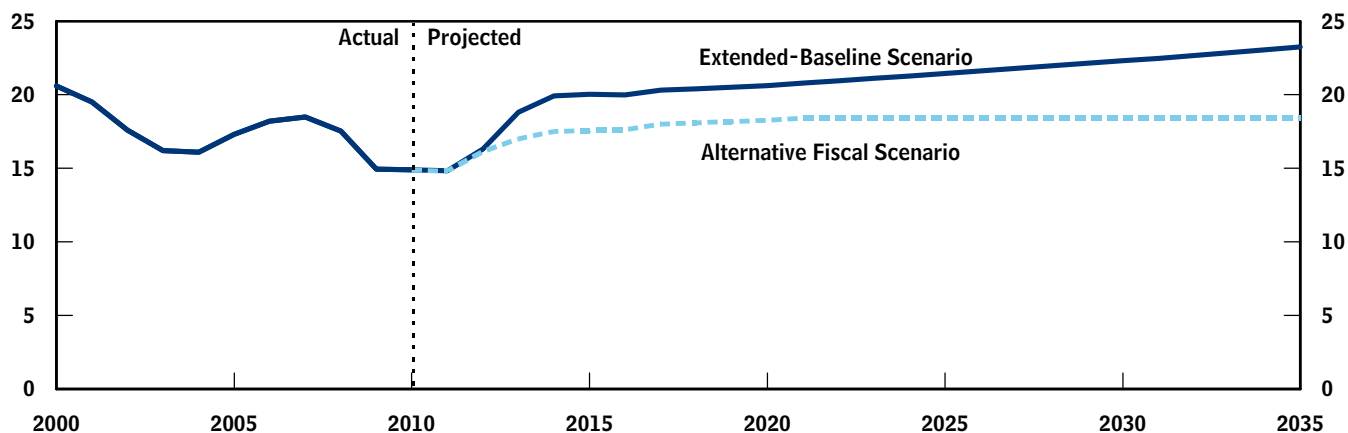
The alternative fiscal scenario, by contrast, incorporates several changes to current law that are widely expected to occur or that would modify some provisions of law that might be difficult to sustain for a long period. For revenues, the scenario embodies the continuation of certain tax policies that have now been in place for a number of years. Specifically, nearly all of the tax provisions scheduled to expire over the next 10 years—including the tax cuts enacted since 2001 and most recently extended by the 2010 tax act—are assumed to be extended through 2021; the sole exception is the temporary payroll tax cut enacted in the 2010 tax act, which is assumed to expire as scheduled after 2011. Therefore, under that scenario, individual income tax provisions and the tax rates and

1. In recent years, the Congress has enacted temporary increases in the AMT exemption amounts; the most recent increase is scheduled to expire at the end of 2011.

2. The long-term revenue projections reflect the benchmark assumption that economic conditions are stable after 2021; thus, they exclude the effects of rising marginal tax rates on people's behavior. (The marginal tax rate is the rate that would apply to an additional dollar of a taxpayer's income.) See Chapter 2 for an analysis of the economic impact of the fiscal policies and marginal tax rates under the extended-baseline and alternative fiscal scenarios.

**Figure 6-1.****Total Revenues Under CBO's Long-Term Budget Scenarios**

(Percentage of gross domestic product)



Source: Congressional Budget Office.

Note: The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period. (For details, see Table 6-1.)

effective exemption amounts for the estate and gift taxes scheduled to be in effect in 2012 would be extended, along with the relief from the AMT that is in effect in 2011 as well as all corporate and miscellaneous tax provisions scheduled to expire in the next decade (see Table 6-1).

After 2021, the alternative fiscal scenario is based on the assumption that tax policy evolves over time to maintain total revenues at the share of GDP reached in 2021, which CBO estimates to be 18.4 percent. In constructing this scenario, CBO did not make assumptions about the specific changes in tax provisions that would be made by policymakers, except to assume that payroll taxes will be the same as under the extended-baseline scenario and that the effective marginal tax rates on capital and labor will remain constant at the levels they reach in 2021.<sup>3</sup>

Revenues have averaged 18.0 percent of GDP during the past four decades. They have moved above and below

that average at different times but have typically returned to somewhere near the average, suggesting that changes in policy have offset the effects of other aspects of the tax system that otherwise would have increased revenues relative to GDP over time. In the alternative fiscal scenario, those sorts of policy changes are assumed to continue, although with revenues at a slightly higher share of GDP than their 40-year average. As a result, revenues would rise from about 15 percent of GDP in 2011 to 17 percent in 2013 and 18.4 percent in 2021 and beyond. Under that scenario, revenues would be considerably lower than those projected under the extended-baseline scenario—by more than 2 percent of GDP in 2021 and by about 5 percent of GDP in 2035.

**Revenues Over the Past 40 Years**

Over the past 40 years, total federal revenues have ranged from a high of 20.6 percent of GDP (in 2000) to a low of 14.9 percent (in 2009 and 2010), averaging 18.0 percent, with no evident trend over time (see Figure 6-2 on page 64). During that period, however, the various sources of revenue have changed in importance.

Individual income taxes, which account for about half of all revenues now, have varied from slightly more than 10 percent of GDP (in 2000) to slightly more than 6 percent (in 2010).

3. For this scenario, CBO also assumes that either the excise tax on certain health insurance plans with high premiums (enacted in the major 2010 health care legislation) remains in place or that other policies are adopted that cause taxable earnings to be the same share of total compensation as in the economic benchmark discussed in Chapter 2.

**Table 6-1.****Assumptions About Revenues Underlying CBO's Long-Term Budget Scenarios**

	<b>Extended-Baseline Scenario</b>	<b>Alternative Fiscal Scenario</b>
Individual Income Taxes	As scheduled under current law	All provisions scheduled to expire in the next 10 years are extended through 2021, including the income tax reductions and AMT relief temporarily extended in the 2010 tax act; revenues remain constant as a share of GDP thereafter <sup>a</sup>
Payroll Taxes	As scheduled under current law	As scheduled under current law
Corporate Income Taxes	As scheduled under current law through 2021; remaining constant as a share of GDP thereafter	All provisions scheduled to expire in the next 10 years are extended through 2021; revenues remain constant as a share of GDP thereafter
Excise Taxes	As scheduled under current law	All provisions scheduled to expire in the next 10 years are extended through 2021; revenues remain constant as a share of GDP thereafter
Estate and Gift Taxes	As scheduled under current law	The 2012 tax rates and exemption amount (adjusted for inflation) continue through 2021; revenues remain constant as a share of GDP thereafter
Other Sources of Revenue	As scheduled under current law through 2021; remaining constant as a share of GDP thereafter	All provisions scheduled to expire in the next 10 years are extended through 2021; revenues remain constant as a share of GDP thereafter

Source: Congressional Budget Office.

Notes: The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period.

AMT = alternative minimum tax; 2010 tax act = Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 (Public Law 111-312); GDP = gross domestic product.

a. These assumptions are identical to those in the seventh and eighth policy alternatives in Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2011 to 2021* (January 2011), Table 1-7.

Payroll taxes, which generate about one-third of total revenues now, have grown from 4 percent to 6 percent of GDP over the past 40 years. (Those taxes consist primarily of payroll taxes credited to the Social Security and Medicare Hospital Insurance Trust Funds.) Corporate income taxes have fluctuated between about 1 and 3 percent of GDP since the 1970s, as have combined revenues from other sources.

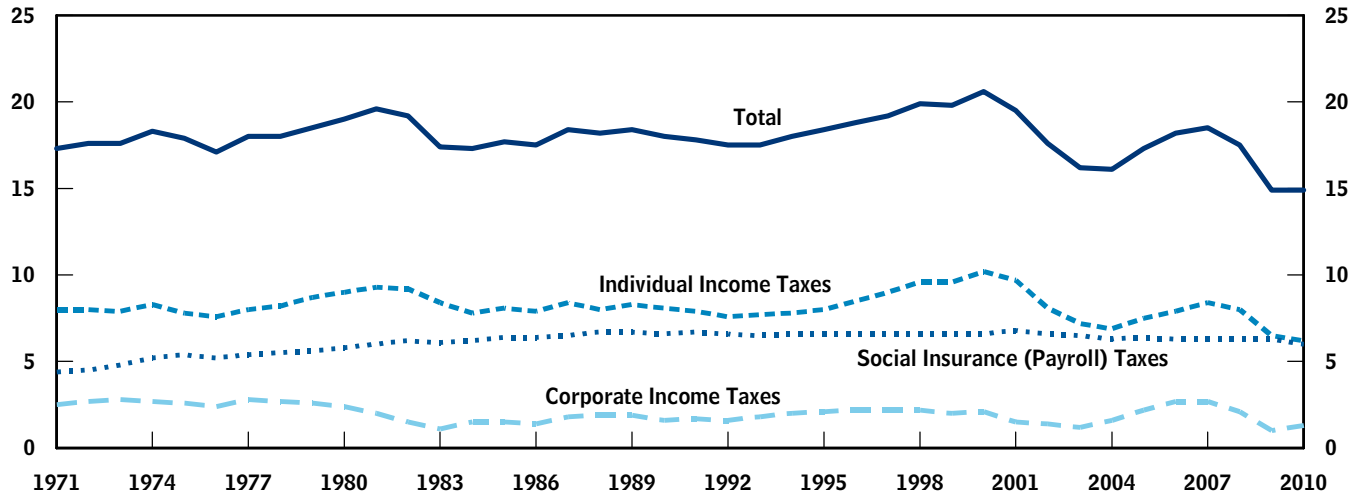
Some of the variation in the composition of total tax revenues has stemmed from interactions between the tax code and the economy. For example, many excise taxes are levied on the quantity of a good purchased (for instance, cents per gallon of gasoline) as opposed to a percentage of the price paid. Because those levies are not

indexed for inflation, revenues derived from excise taxes have declined relative to GDP as the general level of prices has risen. With individual income taxes, in contrast, receipts tend to grow relative to GDP in the absence of legislated tax reductions. That increase occurs because rising income tends to push a greater share of income into higher tax brackets (a phenomenon known as "real bracket creep"). Before 1984, when none of the parameters of the individual income tax were indexed for inflation, inflation by itself caused revenues to increase as a greater share of income was taxed at higher rates.<sup>4</sup> Even

4. The parameters of the tax system are the amounts that define the various tax brackets, the amounts of the personal exemption and standard deductions, and tax rates.

**Figure 6-2.****Revenues, by Source, 1971 to 2010**

(Percentage of gross domestic product)



Source: Congressional Budget Office.

since 1984, when many of the parameters of the tax system have been indexed for inflation, growth in real income has caused a greater share of income to be taxed at higher rates (and because not all of the parameters of the tax system are indexed for inflation, rising prices have continued to have some effect).

Tax revenues as a share of GDP have also varied over time as a result of legislative changes. In the past 40 years, lawmakers have enacted at least a dozen pieces of legislation that have raised or lowered revenues by at least 0.5 percent of GDP per year.

### Revenue Projections Under CBO's Long-Term Budget Scenarios

The extended-baseline scenario and the alternative fiscal scenario embody two possible paths for revenues over future decades. CBO's assumptions about particular revenue sources under the two scenarios are summarized in Table 6-1.

#### The Extended-Baseline Scenario

The extended-baseline scenario follows current law, beginning with CBO's 10-year baseline projections for revenues from March 2011.<sup>5</sup> As was the case with the March baseline, the scenario is based on the assumption that certain tax provisions will expire as scheduled and

that new provisions of law will go into effect as scheduled. The specific assumptions are the following:

- The provisions of the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA), the Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA), and the American Recovery and Reinvestment Act of 2009 (ARRA) that were extended by the 2010 tax act will expire as scheduled;<sup>6</sup>
- The AMT exemption amounts will return to their 2001 amounts in 2012, as scheduled, and the parameters of the AMT will not be indexed for inflation; and
- Tax increases scheduled to go into effect in future years as a result of the 2010 health care legislation will be implemented as specified in current law. Such increases include new taxes on earnings and investment income (beginning in 2013) and a new tax on certain employment-based health insurance plans with high premiums (beginning in 2018).

In the extended-baseline scenario, current law is assumed to remain in place indefinitely after 2021, extending

5. See Congressional Budget Office, *An Analysis of the President's Budgetary Proposals for Fiscal Year 2012* (April 2011).

6. Those three laws are Public Laws 107-16, 108-27, and 111-5.

**Table 6-2.**

## Sources of Growth in Total Revenues as a Share of GDP Between 2011 and 2035 Under CBO's Extended-Baseline Scenario

Source of Growth	Percentage of GDP
Impact of Economic Recovery on Individual Income Taxes	0.9
Expiring Individual Income Tax Provisions, Including the AMT	2.9
New Tax Provisions Enacted in the 2010 Health Care Legislation	1.2
Other Structural Features of the Income Tax System (Including real bracket creep)	1.8
Demographic Trends	0.5
Other Factors (Including corporate, payroll, excise, and estate and gift taxes) <sup>a</sup>	1.1
<b>Growth in Total Revenues over the 2011–2035 Period</b>	<b>8.4</b>

Source: Congressional Budget Office.

Notes: The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period. (For details, see Table 6-1 on page 63.)

"Real bracket creep" refers to the phenomenon in which rising real (inflation-adjusted) income causes an ever-larger proportion of income to be subject to higher tax rates.

GDP = gross domestic product; AMT = alternative minimum tax.

a. Excludes the effects of provisions enacted in the 2010 health care legislation.

those baseline assumptions for the rest of the long-term projection period. Under those assumptions, tax revenues would sharply increase in the next few years and then continue to rise more slowly relative to GDP, by a total of 8.4 percentage points between 2011 and 2035. The individual income tax system would be responsible for much of the increase in the ratio of total revenues to GDP because of the various ways in which its structure interacts with the economy. Under the extended-baseline scenario, individual income tax receipts would rise as a share of GDP by 6.6 percentage points between 2011 and 2035. That projected increase reflects several factors, including the ongoing economic recovery; the assumed expiration of tax-relief provisions that were extended by the 2010 tax act; scheduled future tax increases enacted in the 2010 health care legislation; the growing impact of the AMT; various structural features of the income tax system; and demographic trends. Total revenues would also increase relative to GDP because of the assumption that the estate tax rates and exemption amounts in 2013 will be those scheduled to be in effect before the temporary changes enacted in 2001 and 2010 and because of certain other factors.

**Economic Recovery.** CBO anticipates that revenues will grow faster than GDP in 2012 and 2013 as the economy

continues to recover, with most of that growth coming from individual income taxes. Certain sources of income that had been unusually small during the downturn (for instance, capital gains realizations) are expected to recover and return to levels consistent with an economy slowly moving closer to its long-term path for growth. Under the extended-baseline scenario, the effects of the recovery would increase revenues from individual income taxes as a share of GDP by a total of 0.9 percentage points through 2035, CBO estimates; most of that would occur by 2015 (see Table 6-2).

**Expiring Individual Income Tax Provisions, Including the AMT.** If left unchanged, certain aspects of current tax law would also cause an increase in individual income tax revenues relative to GDP. Most of the provisions enacted since 2001 and extended by the 2010 tax act are scheduled to expire after December 31, 2012. If that happens as scheduled, certain features of the tax code would revert to prior law: Tax rates would rise, the value of some tax credits would decrease, other credits would expire, and thresholds for certain tax rates would change. Those changes would raise receipts as a share of GDP in 2013 and beyond.

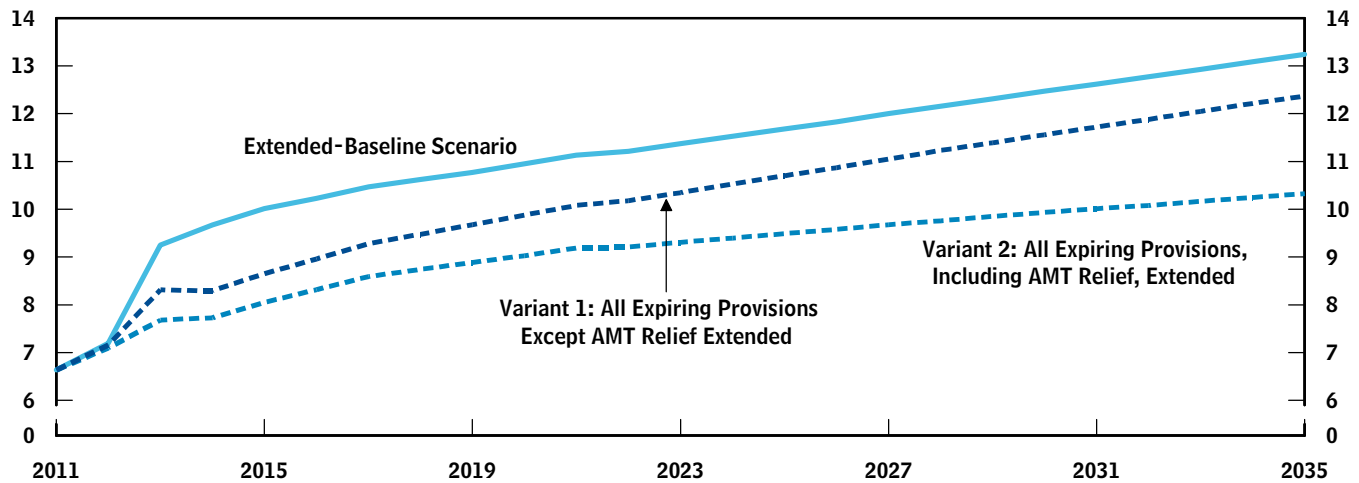
Another factor that would increase revenues relative to GDP under the extended-baseline scenario is the growing



**Figure 6-3.**

## Individual Income Tax Revenues Under CBO's Extended-Baseline Scenario and Two Variants

(Percentage of gross domestic product)



Source: Congressional Budget Office.

Notes: The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. (For details, see Table 6-1 on page 63.)

AMT = alternative minimum tax.

impact of the AMT. The alternative minimum tax is a parallel individual income tax system that provides fewer exemptions, deductions, and rates than the regular income tax. Households must calculate the amount they owe under both the AMT and the regular income tax and then pay the higher amount.<sup>7</sup> The parameters that determine the amount owed under the AMT are not indexed for inflation. Therefore, as inflation increases people's income over time, more taxpayers become subject to the AMT and that tax claims a larger share of GDP.

The effects of the expiration of tax provisions enacted since 2001 and extended by the 2010 tax act and of the growing reach of the AMT can be identified by comparing CBO's projection of individual income tax revenues under the extended-baseline scenario, which follows current law, with two variants. The first variant is based on the assumption that policymakers will deviate from current law by permanently extending all the regular income tax provisions scheduled to expire in the next

10 years but will not index the AMT for inflation; the second variant reflects the assumption that policymakers will extend those regular income tax provisions and also index the AMT.

Relative to the extended-baseline scenario, extending the regular tax provisions alone would lower individual income tax revenues by 1.4 percent of GDP in 2014 and 0.9 percent in 2035 (see Figure 6-3). The decline in revenues as a share of GDP would lessen over time for two reasons. First, the revenue reductions stemming from provisions allowing for accelerated depreciation of property would diminish over time as deferred revenues from prior years offset future-year deferrals. And second, the impact of the AMT would grow steadily: As a greater share of individual income taxes was paid through the AMT, the effect of extending the regular tax provisions would diminish because many of those provisions do not benefit taxpayers who are subject to the AMT.

Relative to the extended-baseline scenario, both extending the regular tax provisions of the 2010 tax act and permanently indexing the AMT for inflation would lower revenues from individual income taxes by 1.9 percent of GDP in 2014 and 2.9 percent in 2035. That

7. Technically, a taxpayer owes the regular income tax plus any amount that, under the AMT, exceeds the regular tax. For more information on the AMT, see Congressional Budget Office, *The Individual Alternative Minimum Tax*, Issue Brief (January 2010).



effect would increase over time as cumulative inflation caused more taxpayers to be subject to the AMT under current law.

### **New Tax Provisions Enacted in the 2010 Health Care**

**Legislation.** Under current law, the implementation of several provisions of the 2010 health care legislation will raise revenues as a share of GDP. One key provision of the legislation is an excise tax starting in 2018 on certain high-premium health insurance plans. Under that provision, employment-based plans with premiums exceeding a specified threshold will generally be subject to an excise tax of 40 percent. That tax, which will be levied on insurers but most likely passed on to their customers, will increase revenues in two ways. First, in those cases in which the tax applies, it will generate additional excise tax revenues. Second, many individuals and employers will probably respond to the presence of the excise tax by shifting to lower-cost insurance plans to reduce the excise tax paid or to avoid paying it altogether. As a result, total payments of health insurance premiums for those individuals will be less than they would have been in the absence of the tax. Because total compensation paid by employers would not be affected over the long term, lower expenditures for health insurance would mean higher taxable wages for employees and, as a result, higher payments of income and payroll taxes. In CBO's estimation, whether policyholders pay the excise tax through higher premiums or avoid it by switching to lower-cost plans, total tax revenues will ultimately rise compared with what they would have been in the absence of the new excise tax.

Although the threshold for the tax on high-premium health insurance plans is indexed for changes in overall consumer prices, health care costs will grow faster than prices over the long term, CBO projects; consequently, a greater share of premiums would be subject to the excise tax over time.<sup>8</sup> Accordingly, CBO projects that the excise tax would increase total revenues by more than 0.7 percent of GDP in 2035 and higher percentages thereafter.

Last year's health care legislation also imposed additional taxes on earnings and on investment income, which will be assessed on individuals with income in excess of

\$200,000 and on families with income in excess of \$250,000. Those thresholds are not indexed for inflation. Because those new surtaxes would affect an increasing share of earnings and investment income over time, they would boost revenues by a small but growing share of GDP over the years, CBO projects. Other provisions of the health care legislation would also raise revenues by a small amount as a share of GDP.

### **Other Structural Features of the Income Tax System.**

Even if the AMT was indexed for inflation and the tax provisions enacted since 2001 and temporarily extended by the 2010 tax act were made permanent, individual income tax revenues would continue to rise as a percentage of GDP. Most of the parameters of the individual income tax apart from the AMT are indexed for inflation, which prevents average tax rates from rising when incomes are increasing only with inflation. Rising real incomes, however, cause an ever-larger proportion of income to be subject to higher tax rates. Rising real incomes also increase taxes by reducing taxpayers' eligibility for various credits, such as the earned income tax credit and the child tax credit. In addition, some provisions of the tax code are not indexed for inflation, so cumulative inflation would generate some increase in receipts relative to GDP. All told, even if the AMT was indexed and the expiring tax provisions were extended, growth in people's incomes would increase income tax revenues relative to GDP by 1.8 percentage points between 2011 and 2035, CBO estimates.

**Demographic Trends.** Over the next few decades, the retirement of members of the baby-boom generation will also cause income tax revenues to increase as a share of GDP. Although certain contributions to retirement plans—such as 401(k) plans and individual retirement accounts—are tax-exempt when they are made and the income earned on assets in those accounts is also exempt from taxes, withdrawals from plans with deductible contributions are subject to taxation.<sup>9</sup> Likewise, compensation that is deferred under employer-sponsored defined-benefit plans is not taxed when it is earned but is taxed when the benefits are paid. As baby boomers withdraw money from retirement accounts and receive pension benefits, those sums will boost taxable income to an increasing extent. Thus, the Treasury will receive

8. The thresholds are initially set in statute for 2018 and are indexed to general inflation plus 1 percent for 2019 and to general inflation for 2020 and subsequent years.

9. Contributions to certain other 401(k) plans and individual retirement accounts are not tax-deductible, but withdrawals from those accounts are untaxed.

significant tax revenues that have essentially been deferred for years, which will tend to boost tax receipts relative to GDP. As a result, under the extended-baseline scenario, revenues as a share of GDP would climb by about 0.5 percentage points between 2011 and 2035. That upward trend will end in the mid-2030s, when essentially all of the baby boomers will have reached retirement, so beyond that point, revenues from taxable withdrawals would no longer grow faster than GDP.

**Other Factors Affecting Revenue Projections.** Factors besides those already discussed would also affect the growth of federal revenues as a share of GDP under the extended-baseline scenario. CBO projects that corporate income tax revenues will rise as a share of GDP over the next 10 years, reflecting an anticipated rebound during the continued economic recovery from their historically low share of GDP in 2011 and the expiration of provisions allowing for accelerated depreciation of property after 2012. Estate and gift taxes are projected to increase as a share of GDP after 2013. Starting in that year, the estate tax rate is scheduled to rise and the dollar amount of an estate that is exempt from taxation is set to fall to \$1 million and will not be indexed for inflation; as a result, a greater share of wealth will become subject to the tax over time. Excluding the excise tax on high-premium health insurance plans, excise taxes are projected to decline slightly as a share of GDP over time because many excise taxes are assessed as a fixed dollar amount per quantity of a good that is purchased and not as a percentage of the price paid for that good. Therefore, as the general price level rises over time, excise taxes tend to fall as a share of GDP. Finally, the expiration of the temporary payroll tax cut after 2011 will raise revenues as a share of GDP by about 0.5 percentage points. On balance, under current law, CBO projects that, apart from the effects of the 2010 health care legislation, revenue from corporate income taxes, estate and gift taxes, federal excise taxes, payroll taxes, and other miscellaneous sources would rise by a combined 1.1 percent of GDP between 2011 and 2035 and by a smaller amount thereafter.

### The Alternative Fiscal Scenario

The alternative fiscal scenario is based on the assumptions that certain tax policies that are scheduled to expire will be extended through 2021 and that tax policies will be adjusted so that revenues remain at a constant share of GDP thereafter. Specifically, the following policies are assumed to be extended:

- Certain provisions enacted in EGTRRA, JGTRRA, and ARRA and subsequently extended by the 2010 tax act, including the \$1,000 child tax credit, marriage-penalty relief, and lower tax rates for all taxpayers;
- AMT relief, which is scheduled to expire at the end of 2011 and which would be extended by indexing the 2011 exemption amount and tax brackets for inflation after 2011;
- Estate tax rates and exemption amounts scheduled to be in effect during 2012 and which would be extended by indexing the exemption amount for inflation after 2012 (rather than reverting to the rates and exemption amounts scheduled to apply in 2013 before the law was changed in 2001); and
- All other provisions scheduled to expire during the next decade, including a provision allowing for accelerated depreciation of property and the tax credit for research and experimentation.<sup>10</sup>

Under those assumptions, the growth in revenues between 2011 and 2021 would amount to less than 4 percentage points of GDP compared with the projected increase of 6 percentage points under the extended-baseline scenario. The projected growth in receipts is largely attributable to factors that also matter in the extended-baseline scenario: the anticipated economic recovery over the next few years and the rise in estate, gift, and corporate tax receipts.

For the alternative fiscal scenario, CBO assumes that after 2021, a series of changes in the tax code will be enacted to offset certain factors that under the extended-baseline scenario would increase revenues over time relative to GDP; as a result, revenues remain constant as a share of GDP. The chief features of the current tax system that would cause revenues to rise are real bracket creep, tax parameters that are not indexed to inflation, an increase in taxable withdrawals from retirement accounts, and the long-term growth of the excise tax on certain high-premium health insurance plans. Under this scenario, revenues would reach 18.4 percent of GDP in 2021 and remain at that level through 2035, about 5 percentage points less in that year than under the extended-baseline scenario.

10. The sole exception is the temporary payroll tax cut enacted in the 2010 tax act, which is assumed to expire as scheduled after 2011.

## Long-Term Implications for Tax Rates and the Tax Burden

The tax system that would be in place under either the extended-baseline scenario or the alternative fiscal scenario would differ, in a variety of ways, from the current system. Under the extended-baseline scenario, inflation and income growth over many years would force many more taxpayers to pay the AMT, push up marginal and average tax rates, and cause the dollar value of some tax parameters to fall sharply in real terms and even more sharply relative to incomes. Changes to the tax system stemming from the expiration of provisions enacted since 2001 and extended by the 2010 tax act would also boost marginal and average tax rates. As a result of all of those changes, people at various points on the income scale would pay a larger percentage of their income in taxes than people at the same points pay today, and many taxpayers would have diminished incentives to work and save.

In the alternative fiscal scenario, CBO assumes that unspecified policy adjustments will be made after 2021 to keep revenues constant as a share of GDP. A wide range of policy alternatives could produce that outcome, and the specific choices that might be made would have significant effects on the economy and on the share of income paid in taxes by people at various income levels.<sup>11</sup> As a result, CBO assessed the long-term implications of the extended-baseline scenario for tax rates and the tax burden but could not assess the corresponding implications for the alternative fiscal scenario.

### Impact of the AMT

If current law regarding the AMT remained unchanged, as assumed in the extended-baseline scenario, the alternative minimum tax would ultimately affect a significant share of taxpayers. Just 3 percent of households will pay the AMT in 2011—the last year in which temporarily higher exemption amounts are in effect under current law. However, in 2012—following the expiration of AMT relief at the end of 2011 but before the expiration

at the end of 2012 of the income tax cuts extended by the 2010 tax act—the AMT would affect 18 percent of households, CBO projects. In 2013, the share of households affected by the AMT is estimated to fall to 11 percent because of the expiration of the income tax cuts extended by the 2010 tax act. In subsequent years, the share of households who owed more under the AMT than under the regular tax would gradually rise. By 2035, nearly half of the nation's households would be subject to the alternative tax.

The AMT would also account for an increasing share of individual income tax liability over time. By 2035, roughly 12 percent of individual income tax liability would be attributable to the AMT, compared with less than 4 percent in both 2011 and 2013 (see Figure 6-4). Because taxpayers' liability under the AMT is calculated as the excess amount over the regular tax owed, the AMT's contribution to income tax receipts is much smaller than the share of people affected by the tax.

Under the extended-baseline scenario, both the share of households subject to the AMT and the share of income tax revenues attributable to that tax would continue to rise after 2035. Sometime around 2060, revenues generated by the AMT are projected to level off as a share of GDP as real bracket creep caused a greater share of income to be subject to the top marginal rate under the regular income tax. (Less bracket creep would occur under the AMT because most of the income subject to the AMT would be taxed at the top AMT rate by then.) Therefore, the amount of additional tax liability under the AMT would decline as the amount of tax calculated under the regular tax rose. The AMT would continue to apply to many taxpayers, but the additional revenues attributable to it would diminish relative to GDP.

### Marginal Tax Rates on Income from Labor and Capital

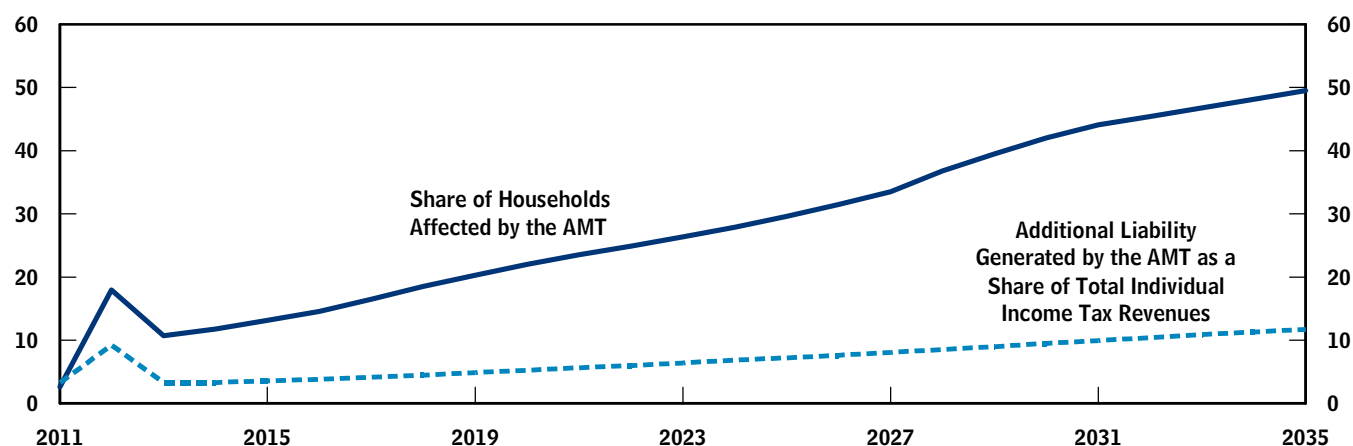
With the expiration of AMT relief and the temporary payroll tax reduction after 2011, marginal tax rates on income from labor would rise considerably under the extended-baseline scenario. CBO estimates that under that scenario, the marginal tax rate on labor income would increase by about 3 percentage points between 2011 and 2012 with the expiration of AMT relief and the temporary payroll tax reduction after 2011 (see Table 6-3). In 2013, the marginal tax rate on labor income would rise by another percentage point because of the expiration of tax provisions extended by the 2010

11. As noted earlier in the chapter, the only specific assumptions that CBO made about tax provisions in the alternative fiscal scenario in the long run were payroll taxes would be the same as under the extended-baseline scenario, effective marginal tax rates on capital and labor would remain constant at the levels they reach in 2021, and either the excise tax on certain health insurance plans with high premiums (enacted in the March 2010 health care legislation) would remain in place or other policies would be adopted to keep taxable earnings at the same share of total compensation as in the economic benchmark discussed in Chapter 2.

**Figure 6-4.**

## The Impact of the Alternative Minimum Tax on Individual Income Tax Liability Under CBO's Extended-Baseline Scenario

(By calendar year, in percent)



Source: Congressional Budget Office.

Notes: The shares of households and revenues rise in 2012 after the temporary increase in the AMT exemption expires. After 2012, the shares initially fall because the amount of regular income tax owed rises with the expiration of certain provisions of the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 (Public Law 111-312).

The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. (For details, see Table 6-1 on page 63.)

AMT = alternative minimum tax.

tax act and the introduction of the additional tax on earnings over \$250,000. Between 2013 and 2035, the marginal tax rate on labor income would increase by an additional 6 percentage points. That increase includes the impact of real bracket creep under the regular income tax, the effects of the AMT reaching a rising number of taxpayers, and the growing impact of both the additional tax on earnings and the excise tax on certain high-premium health insurance plans that is due to take effect in 2018.<sup>12</sup>

The marginal tax rate on capital income under the extended-baseline scenario would rise by about 8 percentage points between 2011 and 2013 following the expiration of certain provisions enacted since 2001 (most notably those allowing for more rapid depreciation of property) and the introduction of the additional tax on investment income over \$250,000. Marginal rates on capital income would remain roughly the same between

2013 and 2035 because the impact of real bracket creep and the expanding reach of the AMT would have little effect on the tax rate on capital income. (After 2013, a large share of capital income would already be taxed at the top rate.)

The increase in the marginal tax rate on labor would reduce people's incentive to work, and the increase in the marginal tax rate on capital would reduce their incentive to save. However, the reduction in earnings and savings from higher taxes would create an incentive to work and save more, if people wished to maintain the same amount of after-tax income and savings. On net, evidence suggests that the former effects typically prevail and thus that higher marginal tax rates tend to discourage some economic activity. The overall effect of taxes on economic activity would depend not only on those marginal tax rates but also on future budget deficits and therefore the amount of debt the government held relative to the size of the economy—as analyzed in Chapter 2 of this report.

### Average Tax Rates on Typical Households

Over the coming decades, average tax rates will increase because the cumulative effect of rising prices will sharply

12. The additional tax on earnings will apply to a greater share of labor income over time because the \$250,000 threshold will not be indexed for inflation. Likewise, the excise tax on certain high-premium plans will affect a larger share of compensation over time because health costs are projected to rise faster than the threshold for the tax, which will increase with general prices.

**Table 6-3.**

### Estimates of Effective Marginal Tax Rates Under CBO's Extended-Baseline Scenario

(Percent)

	2011	2012	2013	2035
Marginal Tax Rate on Labor Income	25	28	29	35
Marginal Tax Rate on Capital Income	12	14	20	20

Source: Congressional Budget Office.

Notes: The effective federal marginal tax rate on income from labor is the share of the last dollar of earnings in the economy that is taken by federal individual income and payroll taxes. The effective federal marginal tax rate on income from capital is the share of the last dollar of such income that is taken by federal individual and corporate income taxes. The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. (For details, see Table 6-1 on page 63.)

reduce the value of some parameters of the tax system that are not indexed for inflation. Under the extended-baseline scenario, CBO estimates that the estate tax exemption, which will be \$1 million in 2013 under current law, would be worth about \$600,000 (in 2011 dollars) by 2035; the same is true for the amount of mortgage debt eligible for the mortgage interest deduction, which is also limited to \$1 million under current law. The portion of Social Security benefits subject to taxation would increase from about 30 percent now to about 50 percent by 2035, CBO estimates, because the thresholds for taxing benefits are fixed in nominal terms.

Even tax parameters that are indexed for inflation would lose value relative to income over the long term. The current \$3,700 personal exemption is projected to rise by almost 70 percent by 2035 because it is indexed for inflation, but income per household is projected to more than double during that period, so the value of the exemption relative to income would decline by about 30 percent. Without legislative changes, the proportion of taxpayers claiming the earned income tax credit would fall from 16 percent this year to 11 percent in 2035 as growth in real income moved more taxpayers out of the eligibility range for the credit.

The fact that most tax parameters are not indexed for real income growth and that some are not even indexed for inflation has significant implications over the long term. Parameters such as the personal exemption, standard deduction, and the amount of the child tax credit decline relative to income over time, causing tax rates as a share of income to rise. Because the relative decline in the value of those parameters is larger relative to income for lower-income taxpayers, they see a greater increase in their income taxes as a share of income as this occurs.

Under current rules for indexing tax parameters, individual income taxes as a share of income would grow by varying amounts for households at different points in the income scale. For example, a typical couple with two children, earning the median income of \$95,700 (including both cash income and other compensation) in 2011 and filing a joint tax return, will pay about 4 percent of their income in individual income taxes this year (see Table 6-4).<sup>13</sup> By 2035, under existing tax law, a similar couple earning the median income would pay 12 percent of their income in individual income taxes, an increase of 8 percentage points. By comparison, if the same couple earned four times the median income, the share of income that they would pay in individual income taxes would rise from 18 percent in 2011 to 22 percent by 2035, an increase of 4 percentage points. After 2035, income taxes as a share of income would continue rising at both income levels—but again, by a greater proportion for the couple earning the median income. Taxes as a share of income for households at various other points in the income distribution would also be very different than they are today.

Despite rising average tax rates, households in the future would have higher after-tax income than similar households at the same point on the income distribution have today because of growth in real income. For example, from 2011 to 2035, real after-tax income for a typical couple earning the median income is projected to grow by 37 percent under the extended-baseline scenario, despite the increase in taxes as a share of income. The growth in pretax income would more than offset the increase in taxes.

13. In the examples, all income received by taxpayers is assumed to be from compensation. For details about the calculations, see Table 6-4.

**Table 6-4.**

## Individual Income and Payroll Taxes as a Share of Income Under CBO's Extended-Baseline Scenario

	Cash Income (2011 dollars)	Total Income (2011 dollars)	Taxes as a Share of Income Under the Extended-Baseline Scenario (Percent)	
			Income Taxes	Income and Payroll Taxes
Taxpayer Filing a Single Return				
Half the Median Income				
2011	11,600	17,300	*	10
2035	15,400	26,300	3	12
Median Income				
2011	27,700	34,700	6	19
2035	39,100	51,800	8	19
Twice the Median Income				
2011	59,900	69,400	10	23
2035	86,400	102,800	14	27
Four Times the Median Income				
2011	125,400	138,700	14	26
2035	183,300	205,000	20	32
Married Couple with Two Children Filing a Joint Return <sup>a</sup>				
Half the Median Income				
2011	31,600	47,800	-9	1
2035	43,100	73,800	4	13
Median Income				
2011	76,000	95,700	4	16
2035	108,500	144,200	12	24
Twice the Median Income				
2011	164,900	191,300	11	24
2035	239,300	285,400	19	32
Four Times the Median Income				
2011	350,500	382,600	18	28
2035	513,500	568,200	22	32

Source: Congressional Budget Office based on data from the March 2010 Current Population Survey.

Notes: All income is assumed to be from compensation, which includes employment-based health insurance and the employer's share of payroll taxes. For 2035, the premium on employment-based health insurance is assumed not to exceed the excise tax threshold set forth in the Patient Protection and Affordable Care Act of 2010 (Public Law 111-148), as amended by the Health Care and Education Reconciliation Act of 2010 (PL. 111-152).

Taxpayers are assumed to itemize if implied itemized deductions are greater than the standard deduction. State and local taxes are assumed to be 8 percent of wages; other deductions are assumed to be 15 percent of wages.

Taxes in 2011 exclude the effect of the temporary payroll tax cut in effect for that year, enacted in the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 (PL. 111-312).

The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. (For details, see Table 6-1 on page 63.)

\* = between zero and 0.5 percent.

a. The examples for the married couple assume that each spouse earns equal income.

## Changes in CBO's Long-Term Projections Since June 2010

**D**espite some changes in estimating assumptions and new data, the long-term projections of federal revenues, outlays, and debt presented in this report are generally similar to the ones that the Congressional Budget Office (CBO) published in 2010.<sup>1</sup> As in last year's report, the analysis focuses on two scenarios. Under the extended-baseline scenario, which adheres closely to current law, revenues and outlays would both grow steadily as a share of gross domestic product (GDP) in coming decades. As a result, debt would increase slowly as a percentage of GDP, although at higher levels than seen throughout most of U.S. history. The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period. Under that scenario, revenues as a share of GDP would remain close to their historical average, but outlays would grow steadily. Consequently, as in last year's report, debt would increase sharply from its already high level in coming years, reaching percentages of GDP unprecedented in the United States.

### New Assumptions About Spending and Revenues

Although the conclusions of the long-term analysis are similar, CBO has updated several of its assumptions about spending and revenues since the 2010 report:

- **In the alternative fiscal scenario, other noninterest spending is a lower percentage of GDP.** In last year's report, most spending other than for Social Security, major mandatory health care programs, and interest—that is, other mandatory spending and all

discretionary spending—was assumed to remain at its 2010 share of GDP (minus stimulus and related spending) under the alternative fiscal scenario. In this year's analysis, discretionary spending is assumed to grow at the same rate as GDP through 2021 (but is adjusted for an assumed decrease in the number of U.S. military personnel deployed overseas), and mandatory spending is assumed to follow CBO's baseline projections (declining as a share of GDP through 2021). After 2021, as in last year's report, other non-interest spending is assumed to remain constant relative to GDP (except for Medicare's offsetting receipts, which are projected to increase over time).

- **In the alternative fiscal scenario, Medicare's payment rates to doctors remain constant through 2021.** In the 2010 report, the rates that Medicare uses to pay physicians were assumed to grow with the Medicare economic index under the alternative fiscal scenario. In this year's report, CBO assumes that those payment rates will remain fixed at their 2011 levels through 2021.
- **In the extended-baseline scenario, outlays for exchange subsidies are lower.** The Patient Protection and Affordable Care Act of 2010 (Public Law 111-148) creates insurance exchanges, starting in 2014, through which consumers can compare health plans and, if eligible, receive federal subsidies to help cover the cost of health insurance premiums. Last year, CBO assumed for both of its long-term scenarios that the percentage of people eligible for exchange subsidies would be relatively stable over time and that the average subsidy would remain a constant share of plan premiums in the long run. This year, CBO uses the same assumptions for the alternative fiscal scenario. For the extended-baseline scenario, however, CBO

1. See Congressional Budget Office, *The Long-Term Budget Outlook* (June 2010, revised August 2010).

assumes that the percentage of people eligible for subsidies will decline, because incomes are projected to increase more quickly than the eligibility thresholds. CBO also assumes that the subsidies will cover a decreasing share of plan premiums over the years. (For more information, see Chapter 3.)

- **In the alternative fiscal scenario, a broader range of tax provisions is assumed to be extended.** Both this year and last year, the alternative fiscal scenario incorporated the assumption that tax provisions due to expire in the next few years would instead be extended through the 10-year period covered by CBO's most recent baseline. In last year's report, only tax provisions that formed the basis for "current-policy" adjustments specified in the Statutory Pay-As-You-Go Act of 2010 were assumed to be extended through that period.<sup>2</sup> The extended provisions consisted of tax changes enacted since 2001 (for all but the highest-income taxpayers), relief from the alternative minimum tax (AMT), and the rates and exemption amounts for the estate tax in effect during 2009 (indexed for inflation in later years).<sup>3</sup> For this report, by comparison, CBO assumes that in the alternative fiscal scenario, all tax provisions scheduled to expire in the next 10 years (except the temporary payroll tax reduction in effect for 2011) will be extended through 2021.

## New Projections of Economic Variables

The economic projections that underpin the current long-term budget outlook are largely similar to those used last year, but CBO has updated its projections for the growth of output and the composition of employees' compensation. (The new projections are explained in more detail in Chapter 2.)

- **Projections of GDP growth are slightly higher.** In this year's analysis, real (inflation-adjusted) GDP is projected to grow at an average rate of 2.2 percent a year over the long term, compared with the 2.0 percent rate projected last year. That increase has two main

causes. First, CBO has raised its long-term projection of immigration, which implies faster growth in the labor force. Second, CBO has increased its projection of how fast the capital stock will grow over the long run, because it now assumes that the prices of capital goods will grow more slowly than assumed in the 2010 report.

- **Projections of the share of compensation that workers receive as wages are higher.** The Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act of 2010 (Public Law 111-152) establish an excise tax on certain employment-based health insurance plans with premiums above a specified threshold, beginning in 2018. Some individuals and employers are likely to respond to that tax by shifting to less expensive plans, thereby reducing the share of total compensation that takes the form of health insurance premiums and boosting the share paid as cash wages. This year, CBO has raised its estimate of how many people will shift to cheaper health insurance plans in response to the tax. That change in turn increases the amount of earnings subject to payroll taxes and—because Social Security benefits are based on taxable earnings—the amount of outlays for Social Security. A further implication is that real wage growth is now projected to average 1.4 percent over the long run, up from 1.3 percent in the 2010 report.

## Changes in Projections Under the Extended-Baseline Scenario

Compared with the previous long-term outlook, CBO's current projections of primary (noninterest) spending under the extended-baseline scenario are slightly higher over the next few years and similar thereafter (see the top panel of Figure A-1).<sup>4</sup> The near-term difference stems mainly from higher projections of discretionary spending and of mandatory spending for programs other than major health care programs and Social Security. Projected spending for Medicaid is slightly lower because of revisions to CBO's 10-year baseline, and projected spending for exchange subsidies grows more slowly because of the change in assumptions discussed above. As a result, the current projection of mandatory federal spending on

2. Information about the current-policy adjustments appears in section 7 of title I of Public Law 111-139.

3. Although the Statutory Pay-As-You-Go Act provided for the extension of the 2009 estate tax parameters and AMT relief only through 2011, CBO assumed that both of those policies would continue through 2020 under last year's alternative fiscal scenario.

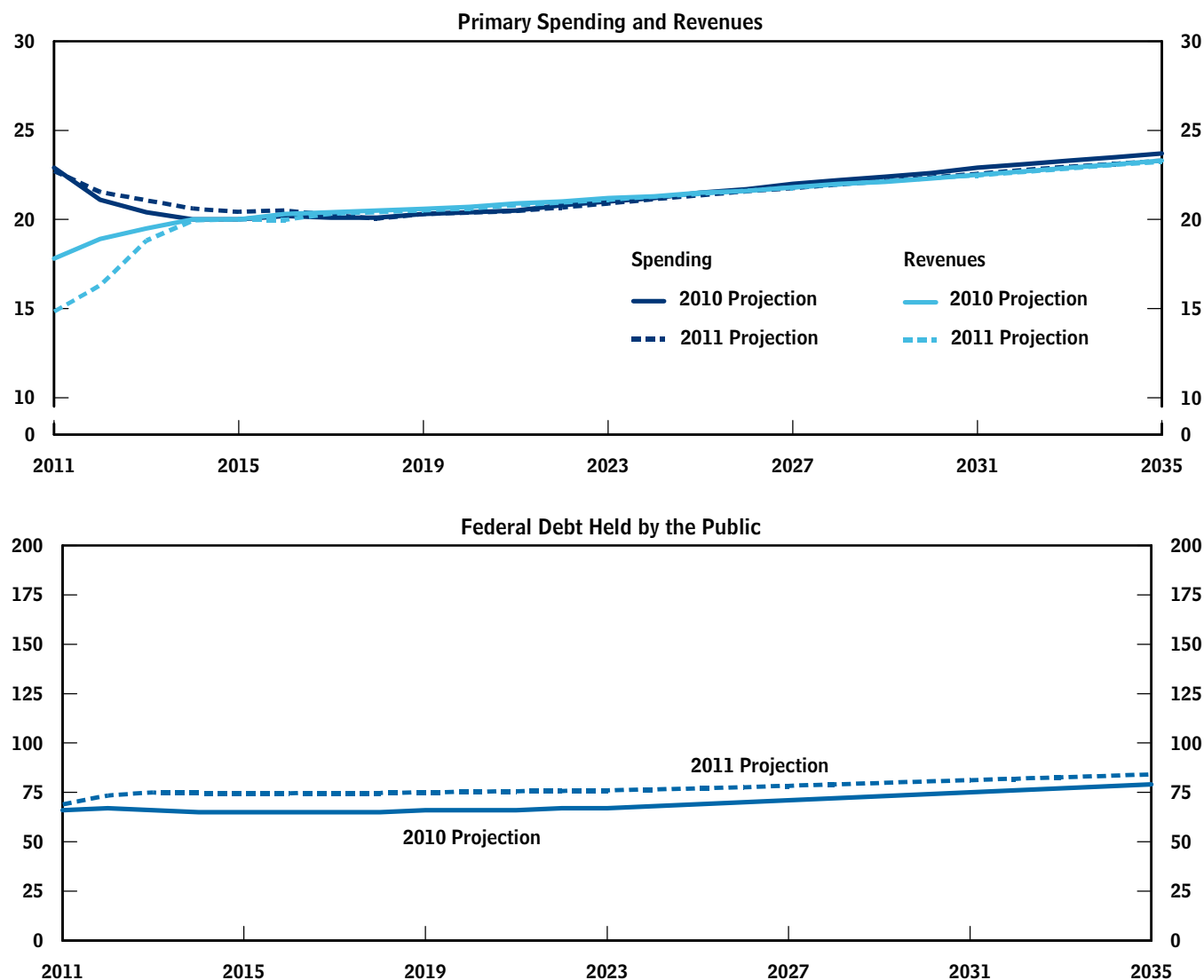
4. Longer-term versions of some of the figures in this chapter are presented in Appendix B.



**Figure A-1.**

## Comparison of CBO's 2010 and 2011 Budget Projections Under the Extended-Baseline Scenario

(Percentage of gross domestic product)



Source: Congressional Budget Office.

Notes: Primary spending refers to all spending other than interest payments on federal debt.

The extended-baseline scenario adheres closely to current law, following CBO's baseline budget projections for the first 10 years and then extending the baseline concept for the rest of the long-term projection period. (For details, see Table 1-1 on page 4.)

health care is lower than last year's projection after 2017 (see Figure A-2).

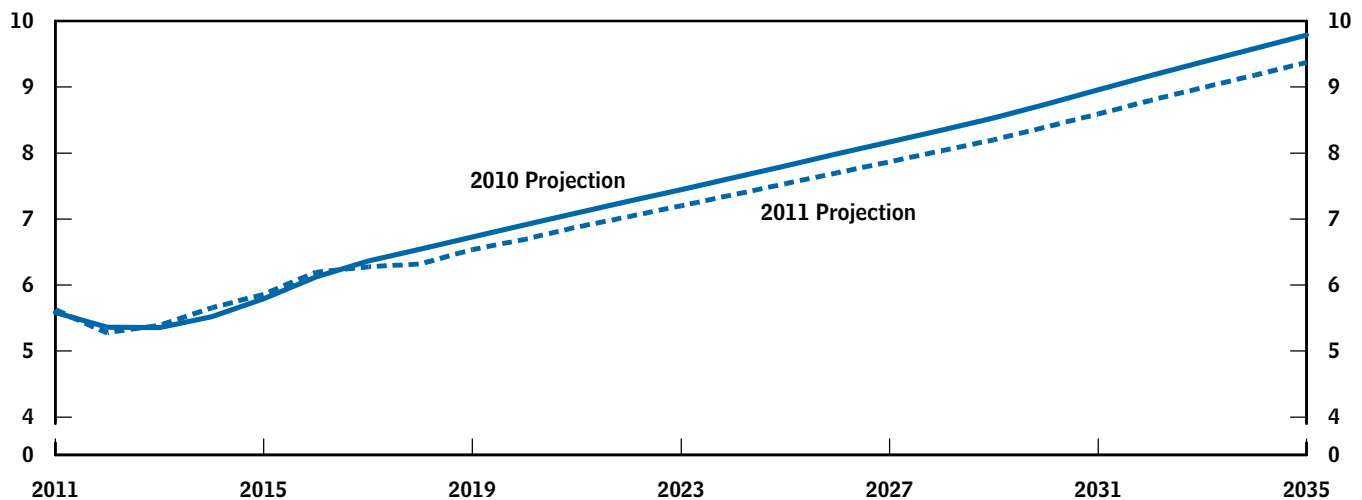
Total revenues are expected to be much lower over the next few years than CBO projected in 2010, largely because of the temporary extension of tax cuts enacted since 2001. After 2013, this year's and last year's

projections of total revenues are nearly identical. Within that total, however, the outlook for various revenue sources has changed: As noted above, CBO assumes that a larger share of policyholders will choose lower-cost health insurance plans in response to the excise tax on certain employment-based plans, which will increase the share of compensation paid in wages. As a result, CBO

**Figure A-2.**

## Comparison of CBO's 2010 and 2011 Projections of Mandatory Federal Spending on Health Care Under the Extended-Baseline Scenario

(Percentage of gross domestic product)



Source: Congressional Budget Office.

Note: The extended-baseline scenario adheres closely to current law, following CBO's baseline budget projections for the first 10 years and then extending the baseline concept for the rest of the long-term projection period. (For details, see Table 1-1 on page 4.)

has raised its projections of revenues from income and payroll taxes and reduced its projection of revenues from excise taxes since last year's report.

Because of the larger deficits projected for the next several years under the extended-baseline scenario, debt held by the public would grow to 75 percent of GDP by 2013, compared with the 66 percent previously projected for that year (see the bottom panel of Figure A-1). As in last year's report, debt would grow very gradually as a share of GDP in the following decades.

### Changes in Projections Under the Alternative Fiscal Scenario

Except for the next few years, primary spending as projected under the alternative fiscal scenario is lower in this year's report than projected last year; by 2035, it is 1.5 percent of GDP lower (see the top panel of Figure A-3). Most of that decrease results from the differing assumptions about other noninterest spending discussed above. In addition, projected spending for Medicaid, the Children's Health Insurance Program, and exchange subsidies is lower this year primarily because of lower projected Medicaid spending at the end of the current 10-year baseline. Projected outlays for Medicare are

also lower than last year's projection, because payment rates for physicians are assumed to remain flat through 2021 instead of growing in line with the Medicare economic index.

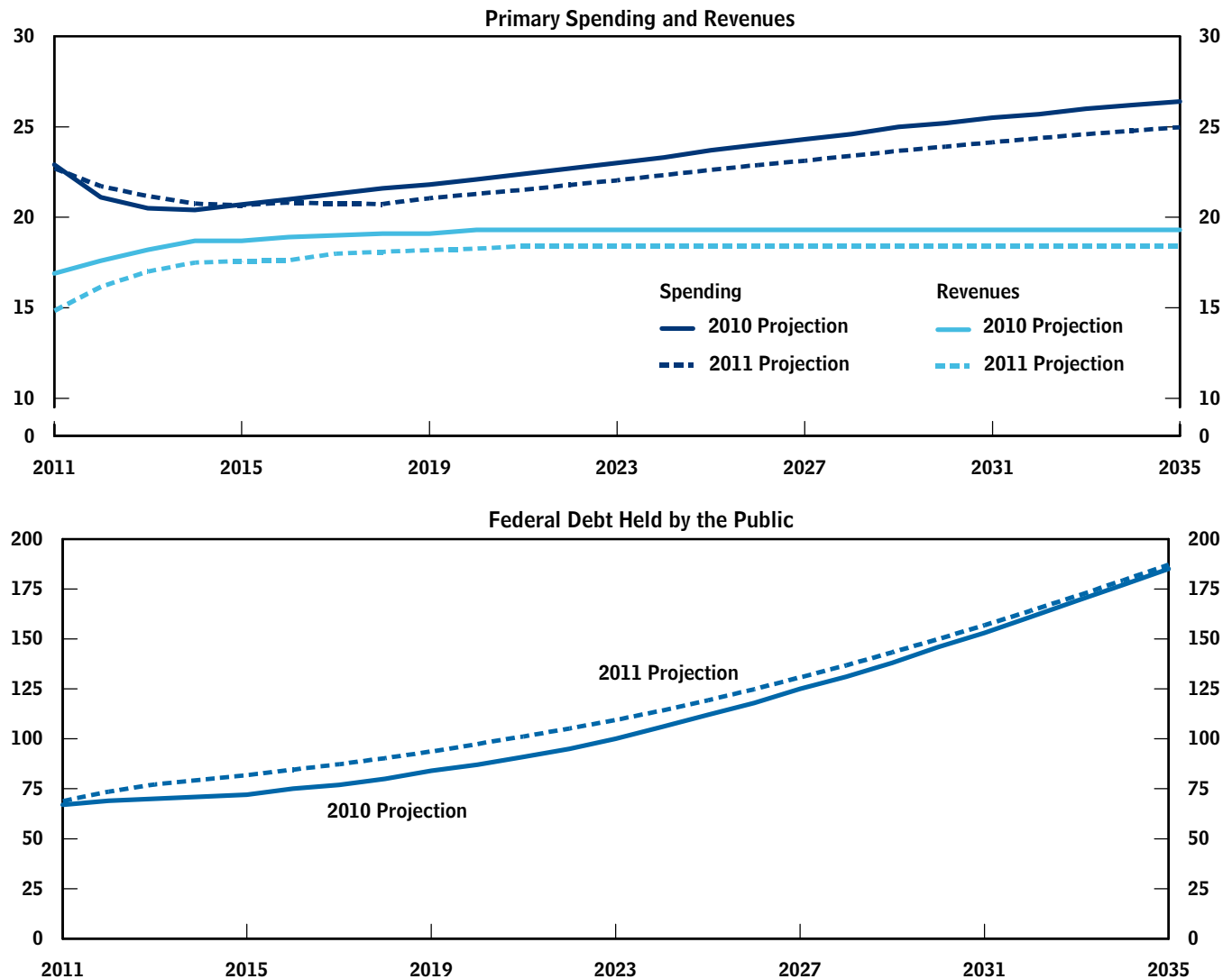
Revenues under the alternative fiscal scenario are now projected to be lower throughout the long-term period than CBO projected in 2010. In the short term, the difference occurs because revenues are estimated to be 2.1 percent of GDP lower in 2011 than projected last year, for a variety of legislative and other reasons. In later years, the difference stems from the assumption that a broader range of temporary tax provisions will be extended through 2021. Starting in that year, projected revenues are 0.9 percent of GDP lower than in last year's report.

Debt held by the public is now projected to grow even faster in the next decade under the alternative fiscal scenario than CBO projected last year (see the bottom panel of Figure A-3). By 2021, it would exceed 100 percent of GDP, 10 percentage points higher than projected in 2010. In later years, debt would follow a path similar to what CBO projected last year, reaching almost 190 percent of GDP in 2035, effectively the same level as projected previously.

**Figure A-3.**

## Comparison of CBO's 2010 and 2011 Budget Projections Under the Alternative Fiscal Scenario

(Percentage of gross domestic product)



Source: Congressional Budget Office.

Notes: Primary spending refers to all spending other than interest payments on federal debt.

The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period. (For details, see Table 1-1 on page 4.)





## Long-Term Projections Through 2085

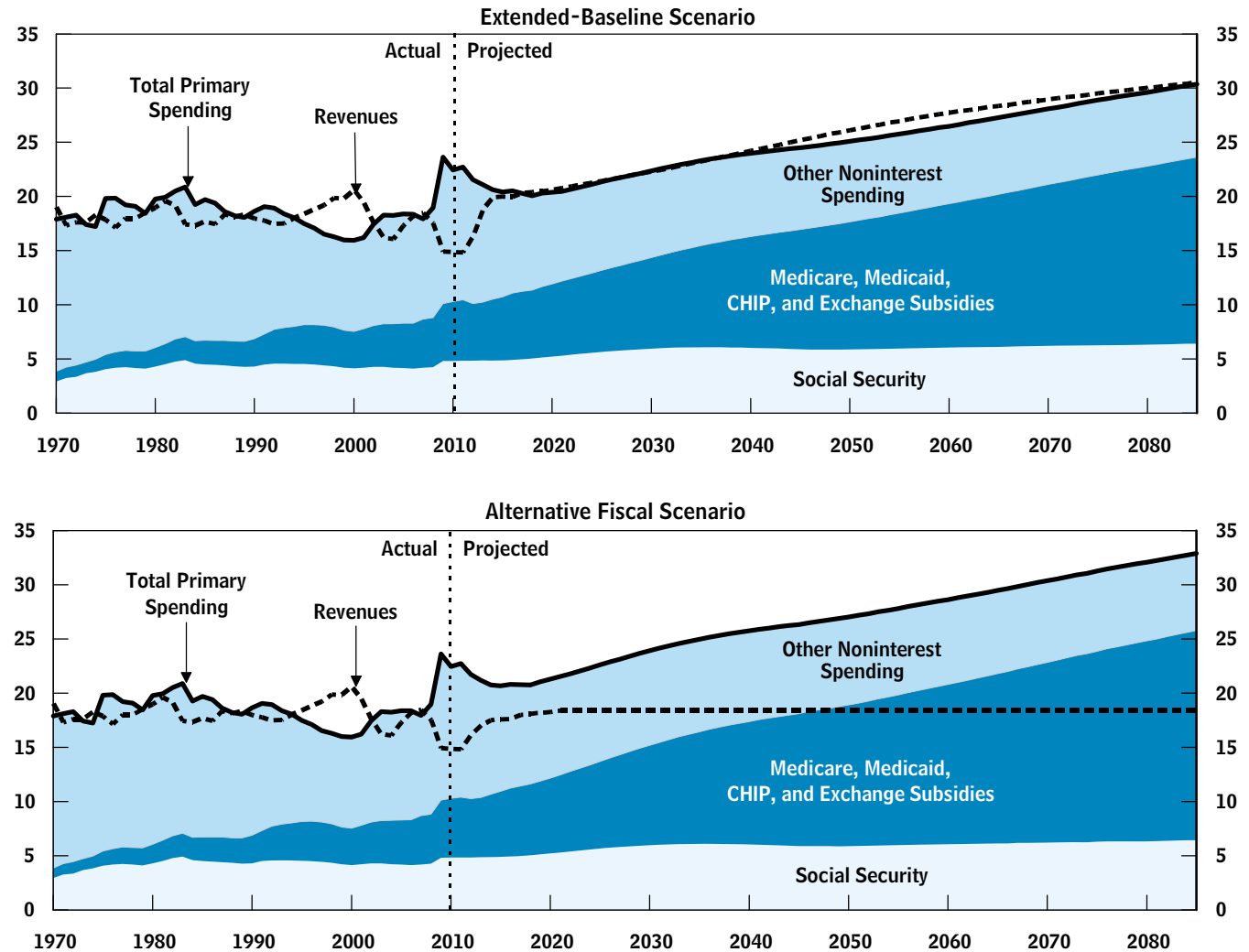
**T**his appendix presents longer-term versions of several figures that appear in Chapter 1 and Appendix A of this report. The longer-term figures show the Congressional Budget Office's projections of categories of primary (noninterest) spending, total revenues, and debt held by

the public through 2085 under the extended-baseline scenario and the alternative fiscal scenario. The data underlying the figures are included in the supplementary data posted along with this report on CBO's Web site ([www.cbo.gov](http://www.cbo.gov)).

**Figure B-1.**

## Primary Spending and Revenues, by Category, Under CBO's Long-Term Budget Scenarios Through 2085

(Percentage of gross domestic product)



Source: Congressional Budget Office.

Notes: Primary spending refers to all spending other than interest payments on federal debt.

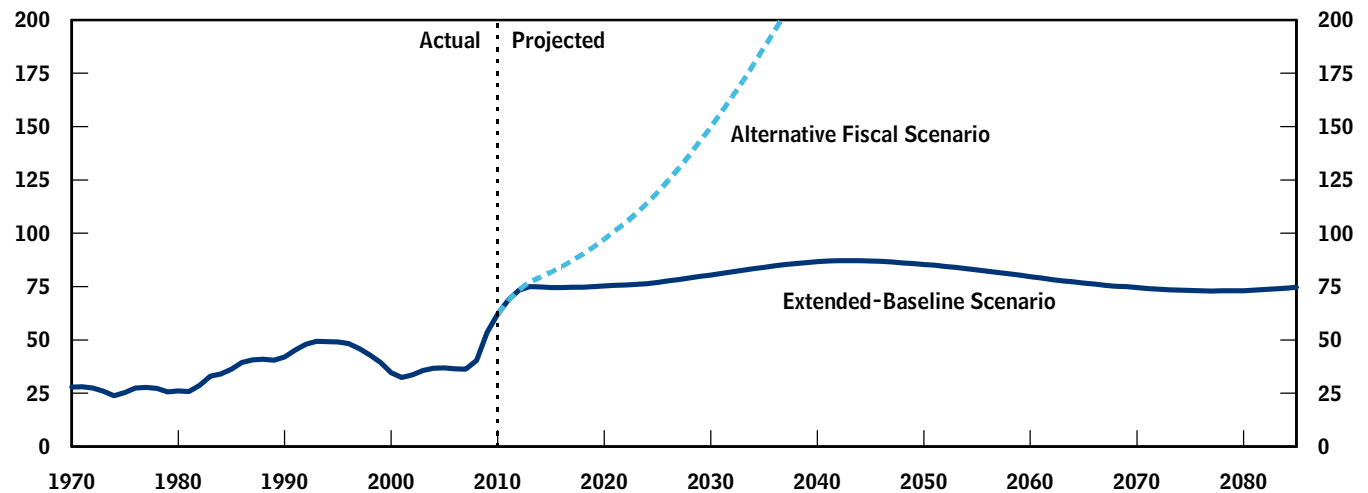
The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period. (For details, see Table 1-1 on page 4.)

CHIP = Children's Health Insurance Program.

**Figure B-2.**

## Federal Debt Held by the Public Under CBO's Long-Term Budget Scenarios Through 2085

(Percentage of gross domestic product)



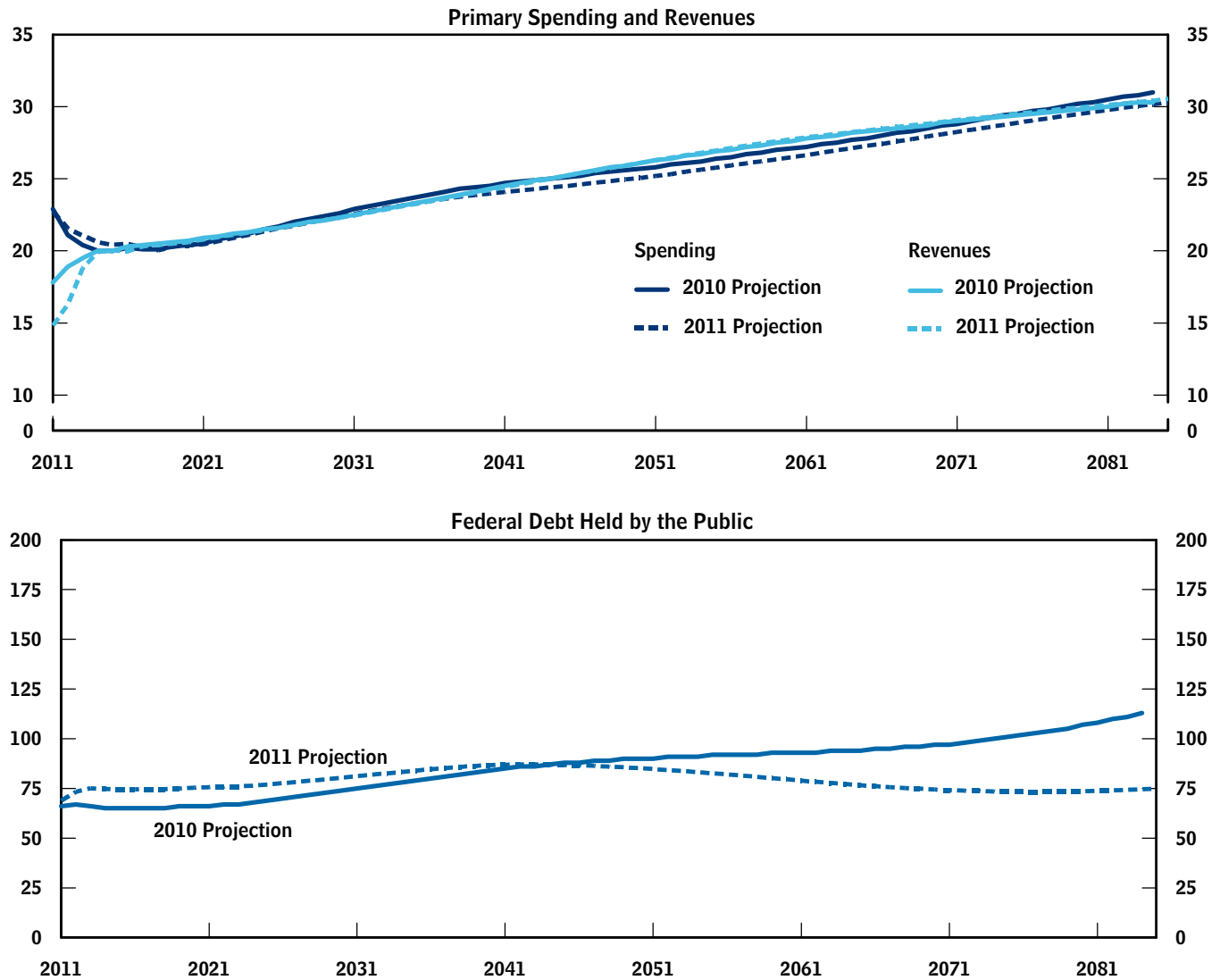
Source: Congressional Budget Office.

Note: The extended-baseline scenario adheres closely to current law, following CBO's 10-year baseline budget projections through 2021 and then extending the baseline concept for the rest of the long-term projection period. The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period. (For details, see Table 1-1 on page 4.)

**Figure B-3.**

## Comparison of CBO's 2010 and 2011 Budget Projections Under the Extended-Baseline Scenario Through 2085

(Percentage of gross domestic product)



Source: Congressional Budget Office.

Notes: Primary spending refers to all spending other than interest payments on federal debt.

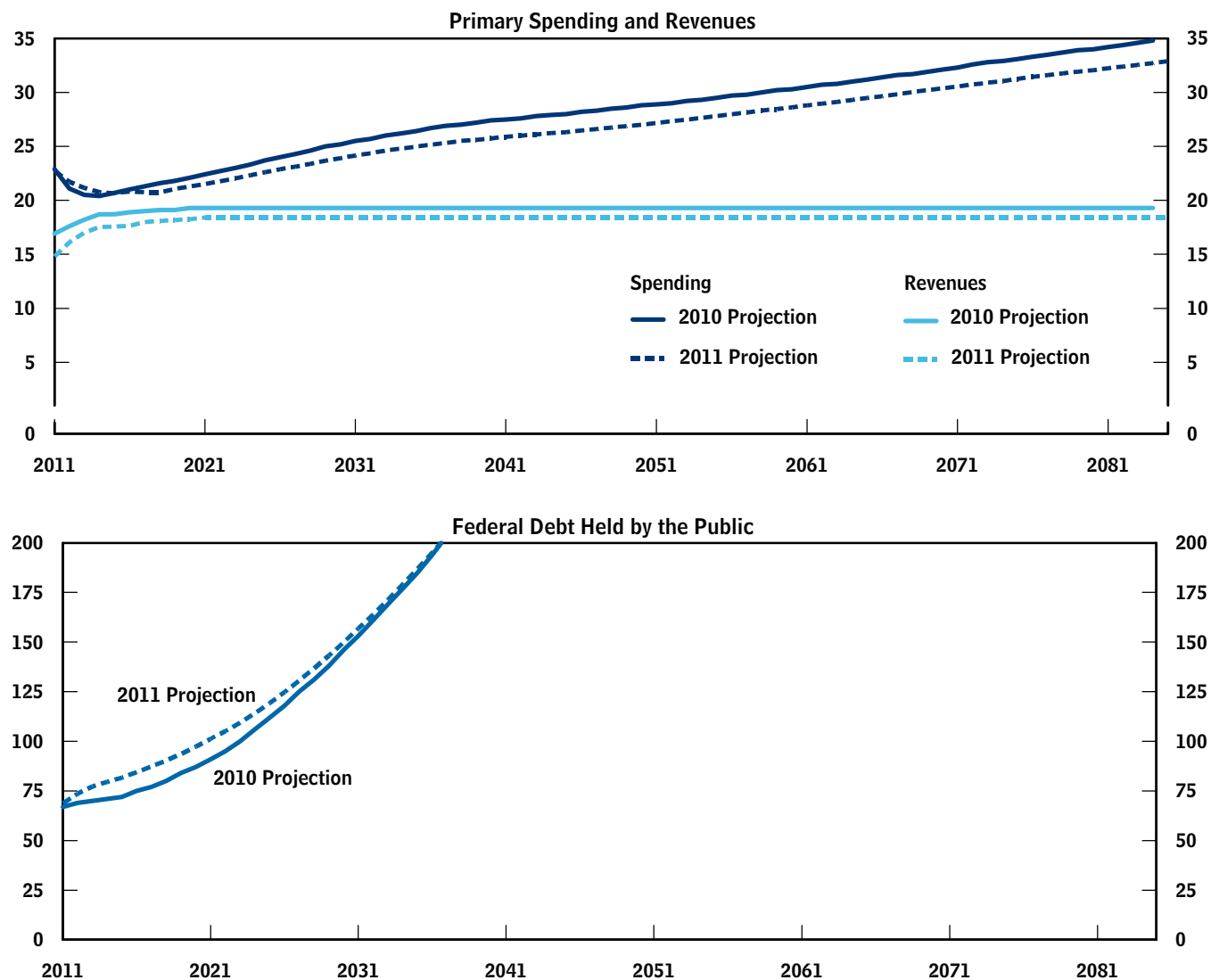
The extended-baseline scenario adheres closely to current law, following CBO's baseline budget projections for the first 10 years and then extending the baseline concept for the rest of the long-term projection period. In the 2011 projection under this scenario, federal debt held by the public is lower as a percentage of GDP in the later decades of the projection period mainly because of lower projected spending on Medicaid and on insurance subsidies that will be provided through the exchanges created by the March 2010 health care legislation. As discussed in Appendix A, projected spending for Medicaid is lower because of revisions to CBO's 10-year baseline, and projected spending for exchange subsidies grows more slowly because of changes in assumptions about the long-term evolution of eligibility for exchange subsidies and the size of the average subsidy.



**Figure B-4.**

## Comparison of CBO's 2010 and 2011 Budget Projections Under the Alternative Fiscal Scenario Through 2085

(Percentage of gross domestic product)



Source: Congressional Budget Office.

Notes: Primary spending refers to all spending other than interest payments on federal debt.

The alternative fiscal scenario incorporates several changes to current law that are widely expected to occur or that would modify some provisions that might be difficult to sustain for a long period. Reasons that CBO's projections under that scenario changed between 2010 and 2011 are discussed in Appendix A.





# Glossary

**T**his glossary defines economic and budgetary terms as they apply to *CBO's 2011 Long-Term Budget Outlook*; it also acts as a general reference for readers. In some cases, the entries sacrifice technical precision for the sake of brevity and clarity. Where appropriate, entries note the sources of data for economic variables as follows:

- BEA refers to the Bureau of Economic Analysis in the Department of Commerce,
- BLS refers to the Bureau of Labor Statistics in the Department of Labor,
- CBO refers to the Congressional Budget Office, and
- NBER refers to the National Bureau of Economic Research (a private entity).

**A****ggregate demand:** Total purchases by consumers, businesses, governments, and foreigners of a country's output of final goods and services during a given period. (BEA)

**alternative minimum tax (AMT):** A tax intended to limit the extent to which higher-income people can reduce their tax liability (the amount they owe) through the use of preferences in the tax code. Taxpayers subject to the AMT must recalculate their tax liability on the basis of a more limited set of exemptions, deductions, and tax credits than would normally apply. The amount by which a taxpayer's AMT calculation exceeds his or her regular tax calculation is that person's AMT liability.

**American Recovery and Reinvestment Act of 2009 (ARRA, Public Law 111-5):** This law was intended to

boost aggregate demand in response to the recession that began at the end of calendar year 2007. It provided appropriations for a variety of federal programs and increased or extended some benefits from Medicaid, unemployment compensation, and nutrition assistance programs, among others. ARRA also reduced individual and corporate income taxes and made other changes to tax law.

**appropriation act:** A law or legislation under the jurisdiction of the House and Senate Committees on Appropriations that provides authority for federal programs or agencies to incur obligations and make payments from the Treasury. Each year, the Congress considers regular appropriation acts, which fund the operations of the federal government for the upcoming fiscal year. The Congress may also consider supplemental, deficiency, or continuing appropriation acts (joint resolutions that provide budget authority for a fiscal year until the regular appropriation for that year is enacted).

**authorization act:** A law or legislation under the jurisdiction of a committee other than the House and Senate Committees on Appropriations that establishes or continues the operation of a federal program or agency, either indefinitely or for a specified period. An authorization act may suggest the budget authority needed to fund the program or agency, which is then provided in a future appropriation act. However, for some programs, the authorization itself may provide the budget authority.

**automatic stabilizers:** Provisions in law that decrease revenues and increase expenditures when the economy goes into a recession (and vice versa when the economy expands) without requiring any new action on the part of the government. Stabilizers tend to reduce the depth of recessions and dampen expansions.

## **B**alanced Budget and Emergency Deficit

**Control Act of 1985 (Public Law 99-177):** Referred to in CBO's reports as the Deficit Control Act, it also has been known as Gramm-Rudman-Hollings. Among other changes to the budget process, the law established rules that governed the calculation of CBO's baseline. In addition, it set specific deficit targets as well as procedures to reduce spending if those targets were exceeded. The law expired on September 30, 2006. However, CBO continues to follow the methodology prescribed in the law for establishing baselines.

**budget authority:** Authority provided by law to incur financial obligations that will result in immediate or future outlays of federal government funds. Budget authority may be provided in an appropriation act or authorization act and may take the form of a direct appropriation of funds from the Treasury, borrowing authority, contract authority, entitlement authority, or authority to obligate and expend offsetting collections or receipts. Offsetting collections and receipts are classified as negative budget authority.

**budget function:** One of 20 general-subject categories into which budgetary resources are grouped so that all budget authority and outlays can be presented according to the national interests being addressed. There are 17 broad budget functions, including national defense, international affairs, energy, agriculture, health, income security, and general government. Three other functions—net interest, allowances, and undistributed offsetting receipts—are included to complete the budget.

**budget year:** See **fiscal year**.

**budgetary resources:** All sources of authority provided to federal agencies that permit them to incur financial obligations, including new budget authority, unobligated balances, direct spending authority, and obligation limitations.

**business cycle:** Fluctuations in overall business activity accompanied by swings in the unemployment rate, interest rates, and corporate profits. Over a business cycle, real activity rises to a peak (its highest level during the cycle) and then falls until it reaches a trough (its lowest level

following the peak), whereupon it starts to rise again, defining a new cycle. Business cycles are irregular, varying in frequency, magnitude, and duration. (NBER)

**C****apital:** Tangible and intangible resources that can be used or invested to produce a stream of benefits over time. *Physical capital*—also known as *fixed capital* or the *capital stock*—consists of land and the stock of products set aside to support future production and consumption, including business inventories and *capital goods* (residential and nonresidential structures and producers' durable equipment). *Human capital* is the education, training, work experience, and other attributes that enhance the ability of the labor force to produce goods and services. The *capital* of a business is the sum advanced and put at risk by the business's owners: For example, *bank capital* is the sum put at risk by the owners of a bank. In an accounting sense, capital is a business's net worth or equity—the difference between its assets and liabilities. *Financial capital* is wealth held in the form of financial instruments (such as stocks, bonds, and mortgages) rather than held directly in the form of physical capital.

**capital gains and losses:** The increase or decrease in the value of an asset that comes from the increase or decrease in the asset's market price after its purchase. A capital gain or loss is "realized" when the asset is sold.

**capital income:** Income that is derived from capital, such as stock dividends, realized capital gains, an owner's profits from a business, or the interest paid to holders of debt. Compare with **labor income**.

**capital services:** A measure of how much the stock of physical capital contributes to the flow of production.

**compensation:** All of the income due to an employee for his or her work during a given period. In addition to wages, salaries, bonuses, and stock options, compensation includes fringe benefits and the employer's share of payroll taxes for social insurance programs, such as Social Security. (BEA)

**conservatorship:** The legal process by which an external entity (in the case of Fannie Mae and Freddie Mac, the

federal government) establishes control and oversight of a company to put it in a sound and solvent condition.

**constant dollar:** A measure of spending or revenues in a given year that has been adjusted for differences in prices (such as inflation) between that year and a base year. Compare with **current dollar** and **nominal**.

**consumer price index (CPI):** An index of the cost of living commonly used to measure inflation. The Bureau of Labor Statistics publishes the CPI-U, an index of consumer prices based on the typical market basket of goods and services consumed by all urban consumers, and the CPI-W, an index of consumer prices based on the typical market basket of goods and services consumed by urban wage earners and clerical workers. (BLS)

**consumption:** In principle, the value of goods and services purchased and used up during a given period by households and governments. In practice, the Bureau of Economic Analysis counts purchases of many long-lasting goods (such as cars and clothes) as consumption even though the goods are not used up. Consumption by households alone is also called *personal consumption expenditures* or *consumer spending*.

**cost-of-living adjustment:** An annual increase in payments to reflect inflation.

**current dollar:** A measure of spending or revenues in a given year that has not been adjusted for differences in prices (such as inflation) between that year and a base year. Compare with **constant dollar** and **real**.

**current year:** The fiscal year in progress.

**Debt:** In the case of the federal government, the total value of outstanding bills, notes, bonds, and other debt instruments issued by the Treasury and other federal agencies. *Debt held by the public* consists primarily of securities that the Treasury issues to raise cash to fund the operations and pay off the maturing liabilities of the federal government that tax revenues are insufficient to

cover. Such debt is held by outside investors, including the Federal Reserve System. Other measures include *debt held by government accounts* (debt issued for internal government transactions, to trust funds and other federal accounts, and not traded in capital markets), *gross federal debt* (the sum of debt held by the public and debt held by government accounts), and *debt subject to limit* (which is subject to a statutory ceiling that applies to gross federal debt, with the exception of a small portion of the debt issued by the Treasury and the small amount of debt issued by other federal agencies, such as the Tennessee Valley Authority and the Postal Service). Securities issued by Fannie Mae and Freddie Mac are not included in any of those measures of debt.

**debt service:** Payment of scheduled interest obligations on outstanding debt.

**deficit:** The amount by which the federal government's total outlays exceed its total revenues in a given period, typically a fiscal year. Compare with **surplus**.

**Deficit Control Act:** See **Balanced Budget and Emergency Deficit Control Act of 1985**.

**direct spending:** Synonymous with *mandatory spending*, direct spending is the budget authority provided by laws other than appropriation acts and the outlays that result from that budget authority. (As used in *CBO's 2011 Long-Term Budget Outlook*, direct spending refers only to the outlays that result from budget authority provided in laws other than appropriation acts.) Compare with **entitlement**.

**discount rate:** The interest rate used to compute the present value of future payments (such as for pension plans). Alternatively, the discount rate is the interest rate that the Federal Reserve System charges on a loan it makes to a bank through its so-called discount window. Such loans, when allowed, enable a bank to meet its reserve requirements without reducing its lending.

**discretionary spending:** The budget authority that is provided and controlled by appropriation acts and the outlays that result from that budget authority.

**E**conomic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA, Public Law 107-16): Legislation that significantly reduced tax liabilities (the amount of tax owed) between 2001 and 2010 by cutting individual income tax rates, increasing the child tax credit, repealing estate taxes, raising deductions for married couples who file joint returns, increasing tax benefits for pensions and individual retirement accounts, and creating additional tax benefits for education. EGTRRA phased in many of those changes, including some that just became fully effective in 2010. Although initially slated to expire on or before December 31, 2010, many of the law's provisions have been extended temporarily or made permanent. For legislation that modified provisions of EGTRRA, see **Jobs and Growth Tax Relief Reconciliation Act of 2003** and **Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010**.

**economic stimulus:** Federal fiscal or monetary policies aimed at promoting economic activity, used primarily during recessions. Such policies include reductions in taxes, increases in federal spending, reductions in interest rates, and other support for financial markets and institutions.

**effective tax rate:** The ratio of taxes paid to a given tax base. For individual income taxes, the effective tax rate is typically expressed as the ratio of taxes paid to adjusted gross income. For corporate income taxes, it is the ratio of taxes paid to domestic economic profits. For some purposes—such as calculating an overall tax rate on all income—an effective tax rate is computed on a base that includes the untaxed portion of Social Security benefits, interest on tax-exempt bonds, and similar items. It can also be computed on a base of personal income as measured by the national income and product accounts. The effective tax rate is a useful measure because the tax code's various exemptions, credits, deductions, and tax rates make actual ratios of taxes paid to income different from statutory tax rates. Compare with **marginal tax rate** and **statutory tax rate**.

**employment:** Work performed or services rendered in exchange for compensation. Two estimates of employment are commonly used. One comes from the so-called establishment survey of employers (the Department of

Labor's Current Employment Statistics Survey), which measures employment as the estimated number of nonfarm wage and salary jobs. (Thus, a person with more than one job may be counted more than once.) The other estimate comes from the so-called household survey (the Census Bureau's Current Population Survey), which measures employment as the estimated number of people employed. (Thus, someone with more than one job is counted only once.) The establishment survey covers only people on the payrolls of nonagricultural establishments, whereas the broader household survey includes self-employed workers, agricultural workers, unpaid workers in family-owned businesses, and employees of private households. However, the household survey is based on a smaller sample than the establishment survey is and therefore yields a more volatile estimate of employment.

**entitlement:** A legal obligation of the federal government to make payments to a person, group of people, business, unit of government, or similar entity that meets the eligibility criteria set in law and for which the budget authority is not provided in advance in an appropriation act. Spending for entitlement programs is controlled through those programs' eligibility criteria and benefit or payment rules. The best-known entitlements are the government's major benefit programs, such as Social Security and Medicare. Compare with **direct spending**.

**estate and gift taxes:** A linked set of federal taxes on estates, gifts, and generation-skipping transfers to tax the transfer of wealth from one generation to the next and to limit the extent to which wealth can be given away during life to avoid taxation at death.

**excise tax:** A tax levied on the purchase of a specific type of good or service, such as tobacco products or air transportation services.

**expansion:** A phase of the business cycle that begins when gross domestic product exceeds its previous peak and extends until gross domestic product reaches its next peak. (NBER)

**F**annie Mae (**Federal National Mortgage Association**): A government-sponsored enterprise

founded during the Great Depression and federally chartered in 1968 as a shareholder-owned corporation that operates exclusively in the secondary market for residential mortgages (the market in which such mortgages are bought and sold). Fannie Mae provides liquidity to the mortgage market by purchasing qualifying mortgages from private lenders, pooling and securitizing them, and then selling them as mortgage-backed securities in the secondary market. The company also holds mortgage-backed securities and whole mortgages in its portfolio. Since September 2008, Fannie Mae has been in federal conservatorship.

**Federal Reserve System:** The central bank of the United States. The Federal Reserve is responsible for setting the nation's monetary policy and overseeing credit conditions.

**financing account:** A nonbudgetary account required for a credit program (by the Federal Credit Reform Act of 1990) that reconciles subsidies calculated on an accrual basis with the cash flows associated with credit activities. The account tracks flows between the Treasury, the program account, and the public. The net cash flow in each financing account for a fiscal year is shown in the federal budget as an "other means of financing."

**fiscal policy:** The government's tax and spending policies, which influence the amount and maturity of government debt as well as the level, composition, and distribution of national output and income.

**fiscal stimulus:** Changes in tax rates or government spending intended to encourage economic activity. Fiscal stimulus typically takes the form of temporary or permanent reductions in tax rates, or debt-financed increases in the government's transfer payments or purchases of goods and services.

**fiscal year:** A yearly accounting period. The federal government's fiscal year begins October 1 and ends September 30. Fiscal years are designated by the calendar years in which they end—for example, fiscal year 2011 began on October 1, 2010, and will end on September 30, 2011. The *budget year* is the fiscal year for which the budget is being considered; in relation to a session of Congress, it is the fiscal year that starts on October 1 of the calendar year in which that session of Congress began.

### **Freddie Mac (Federal Home Loan Mortgage Corporation):**

A government-sponsored enterprise founded in 1970 and federally chartered in 1989 as a shareholder-owned corporation that operates exclusively in the secondary market for residential mortgages (the market in which such mortgages are bought and sold). Freddie Mac provides liquidity to the mortgage market by purchasing qualifying mortgages from private lenders, pooling and securitizing them, and then selling them as mortgage-backed securities in the secondary market. The company also holds mortgage-backed securities and whole mortgages in its portfolio. Since September 2008, Freddie Mac has been in federal conservatorship.

**General fund:** One category of federal funds in the government's accounting structure. The general fund records all revenues and offsetting receipts not earmarked by law for a specific purpose and all spending financed by those revenues and receipts.

**government-sponsored enterprise:** A financial institution created by federal law, generally through a federal charter, to carry out activities such as increasing credit availability for borrowers, reducing borrowing costs, or enhancing liquidity in particular sectors of the economy, notably agriculture and housing.

**grants:** Transfer payments from the federal government to state and local governments or other recipients to help fund projects or activities that do not involve substantial federal participation.

**gross debt:** See **debt**.

**gross domestic product (GDP):** The total market value of goods and services produced domestically during a given period. That value is conceptually equal to gross domestic income, but measurement difficulties result in a statistical discrepancy between the two. The components of GDP are consumption (household and government), gross investment (private and government), and net exports. (BEA)

**gross national product (GNP):** The total market value of goods and services produced during a given period by labor and capital supplied by residents of a country,

regardless of where the labor and capital are located. That value is conceptually equal to the total income accruing to residents of the country during that period (national income). GNP differs from gross domestic product primarily by including the capital income that residents earn from investments abroad and excluding the capital income that nonresidents earn from domestic investment.

**H****Health Care and Education Reconciliation Act of 2010 (HCERA, Public Law 111-152):** One of two laws enacted in March 2010 that made major changes to the U.S. health care and health insurance systems. HCERA amended many provisions that were created or amended by the Patient Protection and Affordable Care Act, and it amended the Higher Education Act of 1965, replacing the federal program that provides guarantees for student loans with direct loans and increasing spending for the Pell Grant program.

**I****nflation:** Growth in a general measure of prices, usually expressed as an annual rate of change.

**insurance exchange:** Established in March 2010 by the Patient Protection and Affordable Care Act and scheduled to begin operating in 2014. Each insurance exchange will serve as a marketplace in which consumers can compare premiums and benefits of health insurance plans available where they live. Each state's exchange will verify eligibility for the program and help administer federal tax credits and subsidies that will reduce premiums and cost-sharing requirements for certain individuals and families.

**investment:** *Physical investment* is the current product set aside during a given period to be used for future production; an addition to the capital stock. As measured by the national income and product accounts, *private domestic investment* consists of investment in residential and non-residential structures, producers' durable equipment and software, and the change in business inventories. *Financial investment* is the purchase of a financial security, such as a stock, bond, or mortgage. *Investment in human*

*capital* is spending on education, training, health services, and other activities that increase the productivity of the workforce. Investment in human capital is not treated as investment by the national income and product accounts.

**J****obs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA, Public Law 108-27):** A law that reduced taxes by advancing to 2003 the effective date of several tax reductions previously enacted in the Economic Growth and Tax Relief Reconciliation Act of 2001. JGTRRA also increased the exemption amount for the individual alternative minimum tax, reduced the tax rates for income from dividends and capital gains, and expanded the portion of capital purchases that businesses could immediately deduct through 2004. The tax provisions were set to expire on various dates, and some of those provisions have been extended temporarily. (The law also provided roughly \$20 billion for fiscal relief to states.)

**L****abor force:** The number of people age 16 or older in the civilian noninstitutionalized population who have jobs or who are available for work and are actively seeking jobs. (The civilian noninstitutionalized population excludes members of the armed forces on active duty and people in penal or mental institutions or in homes for the elderly or infirm.) The *labor force participation rate* is the labor force as a percentage of the civilian noninstitutionalized population age 16 or older. (BLS)

**labor income:** Income that is derived from employment, such as wages and salaries. Compare with **capital income**.

**labor productivity:** See **productivity**.

**long-term interest rate:** An interest rate associated with a security that matures in 10 or more years.

**M****andatory spending:** See **direct spending**.



**marginal tax rate:** The tax rate that would apply to an additional dollar of a taxpayer's income. Compare with **effective tax rate** and **statutory tax rate**.

**means of financing:** Means by which a budget deficit is financed or a surplus is used. Means of financing are not included in the budget totals. The primary means of financing is borrowing from the public. In general, the cumulative amount borrowed from the public (debt held by the public) will increase if there is a deficit and decrease if there is a surplus, although other factors can affect the amount that the government must borrow. Those factors, known as *other means of financing*, include reductions (or increases) in the government's cash balances, seigniorage, changes in outstanding checks, changes in accrued interest costs included in the budget but not yet paid, and cash flows reflected in credit financing accounts.

**monetary policy:** The strategy of influencing the availability and cost of money and credit to affect output and inflation. An "easy" monetary policy attempts to reduce interest rates to increase aggregate demand, but it may lead to higher inflation. A "tight" monetary policy attempts to raise interest rates in the near term in order to reduce inflationary pressure by lowering aggregate demand. The Federal Reserve System sets monetary policy in the United States.

**monetary stimulus:** An increase in the availability of (and hence a lower cost for) money and credit that is intended to encourage economic activity. The Federal Reserve can lower short-term interest rates (and, to a more limited extent, long-term rates) by purchasing Treasury or other securities through its open-market operations. To a more limited extent, it can provide stimulus by reducing the reserve ratio (the percentage of assets that member banks are required to keep on deposit at the Federal Reserve) or by lowering discount rates (the rates at which it lends money to member banks).

**National saving:** Total saving by all sectors of the economy: personal saving, business saving (corporate after-tax profits not paid as dividends), and government saving (budget surpluses). National saving represents all

income not consumed, publicly or privately, during a given period. As measured by the Bureau of Economic Analysis, national saving does not include unrealized capital gains or losses.

**natural rate of unemployment:** The rate of unemployment arising from all sources except fluctuations in aggregate demand. Those sources include *frictional unemployment*, which is associated with normal turnover of jobs, and *structural unemployment*, which includes unemployment caused by mismatches between the skills of available workers and the skills necessary to fill vacant positions and unemployment caused when wages exceed their market-clearing levels because of institutional factors, such as legal minimum wages, the presence of unions, social conventions, or employers' wage-setting practices intended to increase workers' morale and effort.

**net interest:** In the federal budget, net interest comprises the government's interest payments on debt held by the public (as recorded in budget function 900), offset by interest income that the government receives on loans and cash balances and by earnings of the National Railroad Retirement Investment Trust.

**nominal:** A measure based on current-dollar value. *Nominal income* and *spending* are measured in current dollars. The *nominal interest rate* on debt is the promised dollar return, without an adjustment for inflation. The *nominal exchange rate* is the rate at which a unit of one currency trades for a unit of another currency. Compare with **constant dollar** and **real**.

**Off-budget:** Spending or revenues sometimes excluded from the budget totals by law. The revenues and outlays of the two Social Security trust funds (the Old-Age and Survivors Insurance Trust Fund and the Disability Insurance Trust Fund) and the transactions of the Postal Service are off-budget (but are included in the total budget).

**offsetting collections and offsetting receipts:** Funds collected by government agencies from other government accounts or from the public in businesslike or market-oriented transactions that are credited to an expenditure account (in the case of offsetting collections) or to a

receipt account (in the case of offsetting receipts). Both types of collections are treated for budgetary purposes as negative budget authority and outlays. Collections that result from the government's exercise of its sovereign or governmental powers are ordinarily classified as revenues, although they are classified as offsetting collections or offsetting receipts when a law requires it.

**other means of financing:** See **means of financing**.

**outlays:** Spending to pay a federal obligation. Outlays may pay for obligations incurred in a prior fiscal year or in the current year; hence, they flow partly from unexpended balances of prior-year budget authority and partly from budget authority provided for the current year. For most categories of spending, outlays are recorded on a cash accounting basis. However, outlays for interest on debt held by the public are recorded on an accrual accounting basis, and outlays for direct loans and loan guarantees reflect estimated subsidy costs instead of cash transactions.

**out-year:** A fiscal year following the budget year.

**Patient Protection and Affordable Care Act (PPACA, Public Law 111-148):** One of two laws enacted in March 2010 that made major changes to the U.S. health care and health insurance systems. Among its provisions, PPACA establishes a mandate for most legal residents to obtain health insurance, provides subsidies for health insurance, and expands Medicaid. It offset those costs with increased taxes and other revenues and reduced Medicare spending. The law also included several private health insurance market reforms and measures designed to enhance delivery and quality of care.

**potential gross domestic product:** The level of real gross domestic product that corresponds to a high level of resource (labor and capital) use. (Procedures for calculating potential GDP are described in *CBO's Method for Estimating Potential Output: An Update*, August 2001.)

**premium assistance credit:** Beginning in 2014, a refundable tax credit for the purchase of health insurance through an insurance exchange. The credit will be avail-

able to some nonelderly people with modified adjusted gross income between 138 percent and 400 percent of the federal poverty level. People who have offers of coverage from their employer generally will not be eligible.

**present value:** A single number that expresses a flow of current and future income (or payments) in terms of an equivalent lump sum received (or paid) today. The present value depends on the rate of interest (known as the discount rate) that is used to translate future cash flows into current dollars. For example, if \$100 is invested on January 1 at an annual interest rate of 5 percent, it will grow to \$105 by January 1 of the next year. Hence, at an annual 5 percent interest rate, the present value of \$105 payable a year from today is \$100.

**primary deficit or surplus:** The total budget deficit or surplus excluding net interest.

**productivity:** Average real output per unit of input. *Labor productivity* is average real output per hour of labor. The growth of labor productivity is defined as the growth of real output that is not explained by the growth of labor input alone. *Total factor productivity* is average real output per unit of combined labor and capital services. The growth of total factor productivity is defined as the growth of real output that is not explained by the growth of labor and capital. Labor productivity and total factor productivity differ in that increases in capital per worker raise labor productivity but not total factor productivity. (BLS)

**Real:** Adjusted to remove the effects of inflation. *Real output* represents the quantity, rather than the dollar value, of goods and services produced. *Real income* represents the power to purchase real output. A *real interest rate* is a nominal interest rate adjusted for expected inflation; it is often approximated by subtracting an estimate of the expected inflation rate from the nominal interest rate. Compare with **current dollar** and **nominal**.

**recession:** A significant decline in economic activity spread across the economy, lasting more than a few months, and normally visible in production, employment, real income, and other indicators. A recession

begins just after the economy reaches a peak of activity and ends when the economy reaches its trough. (NBER)

**recovery:** A significant, broad-based increase in economic activity that begins just after the economy reaches a trough of activity and ends when the economy reaches the level of its previous peak.

**revenues:** Funds collected from the public that arise from the government's exercise of its sovereign or governmental powers. Federal revenues come from a variety of sources, including individual and corporate income taxes, excise taxes, customs duties, estate and gift taxes, fees and fines, payroll taxes for social insurance programs, and miscellaneous receipts (such as earnings of the Federal Reserve System, donations, and bequests). Federal revenues are also known as *federal governmental receipts*.

**risk premium:** The additional return (over the risk-free rate) that investors require to hold assets whose returns are risky. The risk premium is often associated with market or aggregate risk—risks that cannot be eliminated by diversifying a portfolio.

**Short-term interest rate:** The interest rate earned by a debt instrument (such as a Treasury bill) that will mature within one year.

**statutory tax rate:** A tax rate specified by law. In some cases, such as with individual and corporate income taxes, the statutory tax rate varies with the amount of taxable income. (For example, under the federal corporate income tax, the statutory tax rate for companies with taxable income below \$50,000 is 15 percent, whereas the rate for corporations with taxable income greater than \$18.3 million is 35 percent.) In other cases, the statutory tax rate is uniform. (For instance, the statutory federal tax rate on gasoline is 18.4 cents per gallon for all taxpayers.) Compare with **effective tax rate** and **marginal tax rate**.

**surplus:** The amount by which the federal government's total revenues exceed its total outlays in a given period, typically a fiscal year. Compare with **deficit**.

**sustainable growth rate (SGR):** The formula that determines updates to payment rates for physicians under the Medicare program. The SGR sets annual and cumulative spending targets for those payments. If total spending exceeds the targets, an across-the-board reduction is supposed to be made in future fees to bring spending back into line (both annually and cumulatively). Since 2003, however, the Congress and the President have overridden such reductions.

**Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 (2010 tax act, Public Law 111-312):** This law temporarily extended through 2012 provisions set to expire in 2010 that were initially enacted in the Economic Growth and Tax Relief Reconciliation Act of 2001, the Jobs and Growth Tax Relief Reconciliation Act of 2003, and the American Recovery and Reinvestment Act of 2009. Those extensions affected individual income tax rates, credits, and deductions. The law also increased the exemption amount for the alternative minimum tax, reduced the employee's contribution for the Social Security payroll tax, modified other tax provisions, and extended benefits for long-term unemployed workers.

**total factor productivity:** See **productivity**.

**transfer payments:** Payments made to a person or organization for which no current or future goods or services are required in return. Federal transfer payments include Social Security and unemployment benefits. (BEA)

**Treasury bill:** A security issued by the Treasury with an original maturity of no more than one year. Interest on a Treasury bill is the difference between the purchase price and the value paid at redemption.

**Treasury bond:** A fixed-rate, interest-bearing security issued by the Treasury with an original maturity of more than 10 years.

**Treasury note:** A fixed-rate, interest-bearing security issued by the Treasury with an original maturity of more than a year but not more than 10 years.

**Troubled Asset Relief Program (TARP):** A program that permits the Secretary of the Treasury to purchase or insure troubled financial assets. Authority for the program was initially set by the Emergency Economic Stabilization Act of 2008 at \$700 billion in assets outstanding at any one time; the authority to make new investments has expired. The TARP's activities have included the purchase of preferred stock from financial institutions, support to automakers and related businesses, a program to avert housing foreclosures, and partnerships with the private sector.

**trust fund:** In the federal accounting structure, an account designated by law as a trust fund (regardless of any other meaning of that term). A trust fund records the revenues, offsetting receipts, or offsetting collections

earmarked for the purpose of the fund, as well as budget authority and outlays of the fund that are financed by those revenues or receipts. The federal government has more than 200 trust funds. The largest and best known finance major benefit programs (including Social Security and Medicare) and infrastructure spending (such as the Highway Trust Fund and the Airport and Airway Trust Fund).

**Unemployment rate:** A measure of the number of jobless people who are available for work and are actively seeking jobs, expressed as a percentage of the labor force. (BLS)