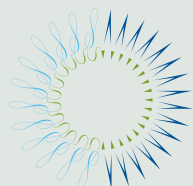


The background of the cover features a collage of US currency bills, including a \$100 bill at the top and a \$20 bill below it. The bills are slightly faded and overlapping. A dark blue horizontal band is superimposed over the middle of the image, containing the title text. Below the blue band is a green horizontal band containing the subtitle text. The bottom section of the cover is a light gray gradient.

No Silver Bullet

PATHS FOR REDUCING THE FEDERAL DEBT



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TEAM MEMBERS

Douglas Hamilton, Acting Managing Director, Pew Economic Policy Group

Ingrid Schroeder, Director, Pew Fiscal Analysis Initiative

Scott S. Greenberger, Senior Officer

Ernest V. Tedeschi, Senior Associate

Douglas Walton, Associate

Evgeni Dobrev, Administrative Associate

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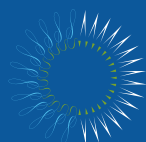
Ernest V. Tedeschi and Douglas Walton wrote this report. The report was reviewed by all team members, as well as Michael Crowley, Lisa Cutler, Pete Janhunnen, Samantha Lasky, Cynthia Magnuson, Gordon McDonald and Lucy Nombo. Design expertise was provided by Willie/Fetchko Graphic Design.

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For additional information on the Pew Economic Policy Group and the Fiscal Analysis Initiative, please visit www.pewtrusts.org or email us at pfai-info@pewtrusts.org.

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Executive Summary

America's federal debt is as old as the nation itself, and throughout the past two centuries the debt has fluctuated dramatically, spiking during wars and economic crises and declining during times of peace and prosperity. Once again, it is on an upward climb: As a share of annual gross domestic product (GDP), it is now about three-quarters higher than what it was a decade ago, and in the next 15 years Pew projects that it will reach 95 percent of annual GDP, the highest level since 1947.

Many economists caution that it would be unwise to attack the debt with tax increases or spending cuts while the economic downturn lingers. But nearly everybody agrees that once the economy has recovered, the nation will have to begin to control its debt or face serious economic consequences. The question is, how?

Some insist the problem can be solved simply by raising taxes, without cutting spending; others argue that it can be done by cutting spending, without raising taxes. But this study by the nonpartisan Pew Fiscal Analysis Initiative illustrates just how difficult it would be to tackle America's fiscal problem by relying exclusively on any single strategy.

If action is taken in 2015, when some project the U.S. economy will return to full employment, consider what it would take to reach a debt-to-GDP ratio of 60 percent by 2025 with just one of the following approaches:

- It would take a 43 percent reduction in discretionary spending, a cut of about \$590 billion, a figure roughly equivalent to eliminating the Department of Defense.
- Spending on entitlement programs such as Medicare, Social Security, Medicaid and certain veterans' benefits would have to be cut by 22 percent. That means that in 2015, the average Social Security beneficiary would receive \$985 per month, rather than \$1,255.
- It would take a 32 percent hike in individual income-tax revenues to achieve the 60 percent goal in 2025. That means that the average income-tax liability for every man, woman and child in the U.S. would be \$6,520 in 2015 instead of \$4,955.
- Relying just on economic growth, without tax increases or spending cuts, to solve the fiscal problem would require unprecedented productivity gains. In particular, inflation-adjusted GDP would have to grow by an average of 4.1 percent annually, instead of the 2.1 percent forecast by the Congressional Budget Office. Such a change would be tantamount to more than doubling America's productivity growth.

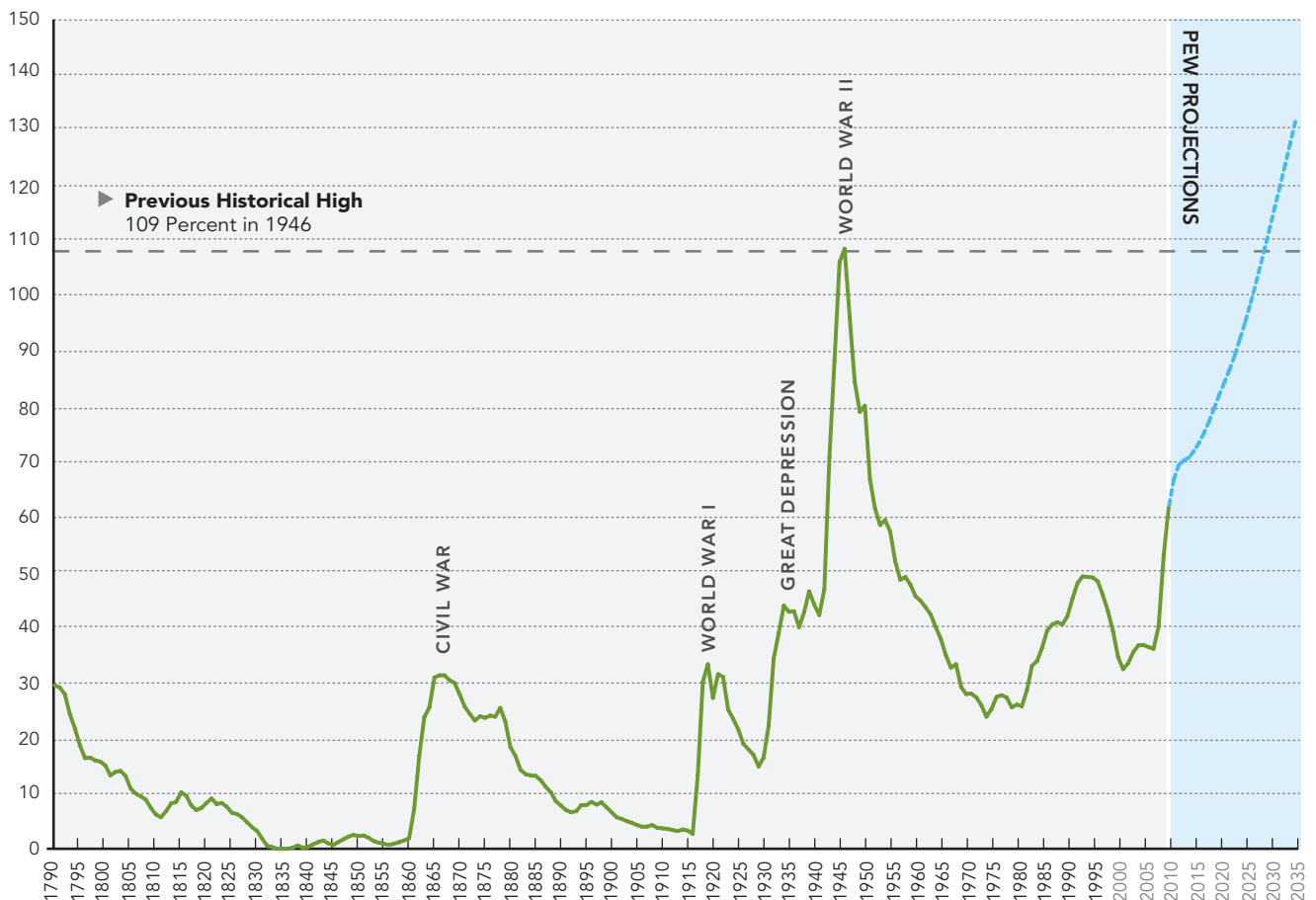
In contrast, an approach combining both spending and revenue policies would mean an across-the-board tax increase and spending cut of about 7.5 percent in 2015 to achieve the target debt-to-GDP ratio by 2025.

1

Introduction: the Past and the Present

The United States has carried debt since it agreed to pay back the money the colonies borrowed during the Revolutionary War.¹ In the years since, the debt has fluctuated dramatically, spiking during wars and economic crises and declining during times of peace and prosperity (see Figure 1). The dual shocks of the Great Depression and World War II catapulted the federal debt to 109 percent of annual gross domestic product (GDP) in 1946², the highest level in American history. In the years afterwards, however, a combination of economic growth, spending cuts and tax hikes reduced the debt. Federal debt stood at 35 percent of annual GDP in September 2000.

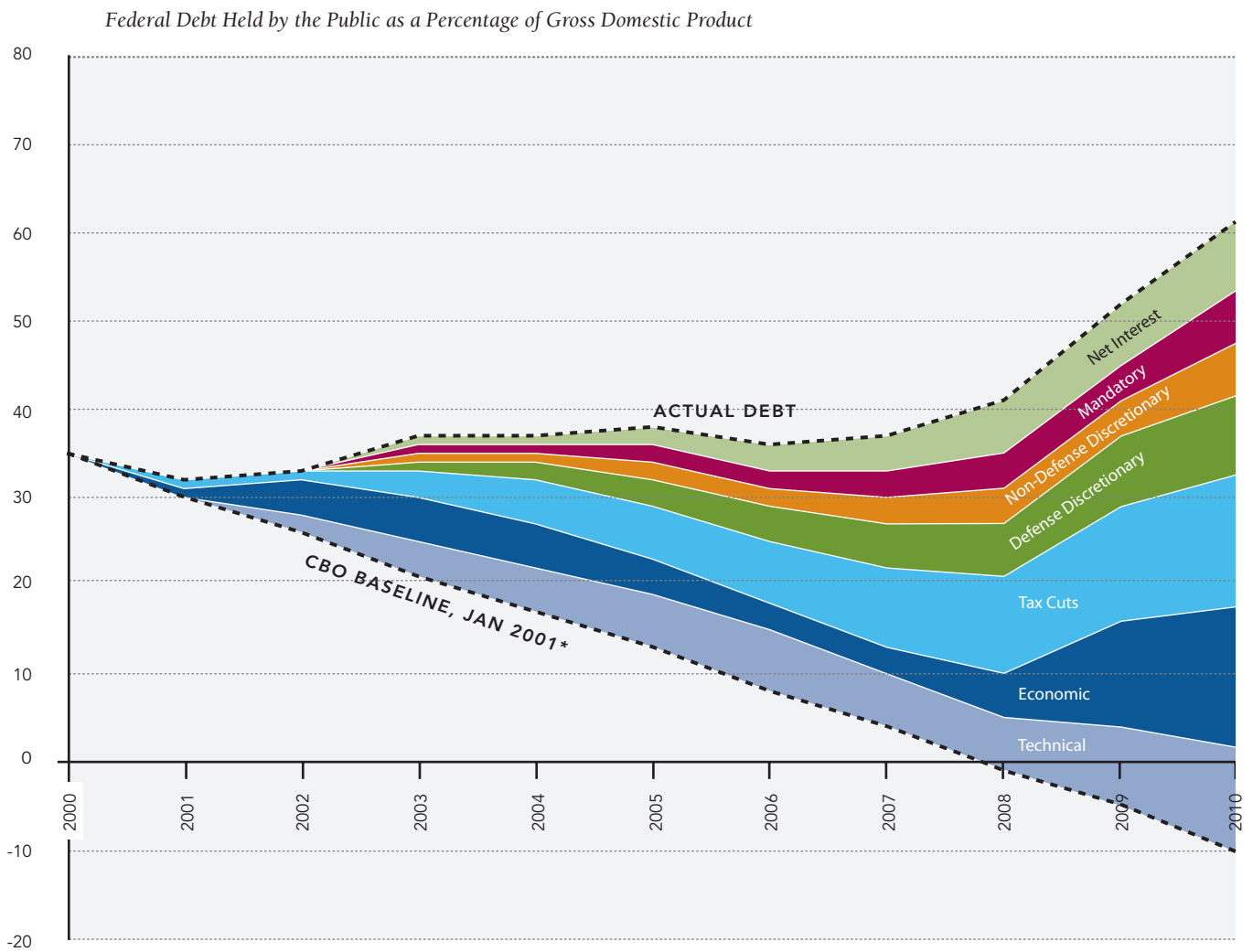
FIGURE 1 Federal Debt Held by the Public as a Percentage of Gross Domestic Product, 1790 to 2035



Source: Congressional Budget Office, U.S. Treasury and Pew projections
 Note: Numbers prior to 1939 are by calendar year. Numbers for 1939 and after, including Pew projections, are by fiscal year.

Pew projects that federal debt will reach 62 percent of annual GDP—\$9 trillion—by the end of September 2010, three-quarters larger than what it was 10 years ago relative to the economy (see Figure 2). The last time federal debt reached this level was 1952, when the country was still paying off its debt from World War II and embarking on a long post-war economic boom. Over the next 15 years, changes in spending and revenue levels as well as rising interest costs will further drive the debt up to 95 percent of annual GDP by 2025, a level not seen since 1947. Without significant increases in revenue or reductions in spending, Pew projects federal debt will rise to the unprecedented level of 132 percent of annual GDP by 2035.

Figure 2 Major Drivers of Federal Debt Held by the Public, Fiscal Years 2000 to 2010



Source: Pew analysis of Congressional Budget Office (CBO) data
 Note: * CBO projected in January 2001 that all redeemable U.S. publicly-held debt would be paid off by 2006 and that excess surpluses would exceed remaining debt beginning in fiscal year 2008.
 Technical drivers include deficit changes classified as technical by the CBO, including changes to model assumptions and other minor adjustments.
 Economic drivers include changes resulting from differences between actual and forecast Gross Domestic Product.
 Tax cuts includes all revenue changes classified as legislative by the CBO.
 Defense spending includes all changes in defense discretionary spending classified as legislative by the CBO.
 Non-defense spending includes all changes in non-defense discretionary spending classified as legislative by the CBO.
 Mandatory spending includes all changes in mandatory spending classified as legislative by the CBO.
 Increased net interest includes all changes in legislative, technical and economic net interest spending.

Debt of this magnitude would threaten the country's economic well-being. Government borrowing on that scale would siphon capital from private industry, reducing productivity and real wages. It would make the federal government more dependent on the wishes of foreign lenders. It would put pressure on the Federal Reserve to purchase publicly-held debt, which could increase inflation. Finally, the interest payments required to service such a large debt would make it difficult for the government to pay for other programs or respond vigorously to future economic crises.

Some insist that we should begin to control the debt simply by cutting spending; others argue that raising taxes, without cutting any spending, would allow us to achieve that goal. This study, by the nonpartisan Pew Fiscal Analysis Initiative, illustrates the difficulty of addressing America's fiscal imbalances through either of these single policy approaches.

2

The Fiscal and Economic Consequences of Higher Debt

There are times when the benefits of increasing federal debt may outweigh the economic costs. The need to finance wars, for example, has prompted the U.S. to increase its debt. Also, temporary short-term deficits may be deemed acceptable during recessions. However, if the debt is still large and on an upward trajectory after a war ends or the economy recovers, there may be adverse consequences.

Excessive debt can “crowd out” private capital. When the U.S. Treasury issues and sells debt, it is tapping into a vast but finite global pool of investment resources. If domestic investors buy U.S. debt, every dollar they spend on purchasing Treasury securities is a dollar that is not going towards a corporate bond, a stock offering or any other vehicle for businesses to receive the capital they need to grow. If foreign investors buy U.S. debt, the crowding out of foreign capital can still affect the U.S. economy indirectly if domestic capital is invested overseas. In addition, as the U.S. becomes more and more dependent on foreign investors to buy its debt, a greater share of the economy ends up flowing abroad instead of domestically in the form of debt service payments. Finally, if large sovereign wealth funds controlled by foreign governments are buying up U.S. debt, they can exert influence over U.S. fiscal policy and the value of the dollar.

Some evidence exists that high levels of publicly-held debt impede broader economic growth as well. In a December 2009 paper, Carmen Reinhart and Kenneth Rogoff find that levels of gross debt above 90 percent of annual GDP for advanced economies reduced average real economic growth.³ It should be noted that America’s only experience with debt levels this high was in the aftermath of World War II. Douglas Elmendorf and N. Gregory Mankiw estimate in a 1998 study that each dollar of extra federal debt reduces gross output by about 9.5 cents.⁴ Because of the crowding out risk, as well as the fact that governments running consistent deficits must eventually cut spending or raise taxes, a growing national debt can slow economic growth.

As debt grows, an increasing amount of the federal budget must be devoted to interest payments that squeeze or crowd out other programs once the federal government decides to limit growth in debt. Funds spent on interest payments are by definition unavailable for other purposes such as transportation, housing or responding to future economic crises. About 6 percent of the president’s proposed 2011 budget is devoted to net interest payments on the national debt. Pew projects that net interest payments will account for more than 20 percent of the federal budget by 2035, an unprecedented level.

Finally, debt can affect interest rates. Although studies suggest that modest increases in debt may have little impact on interest rates,⁵ large increases in debt over time could cause investors to lose confidence in the government’s ability to meet its interest payment obligations, and investors

could demand higher interest rates as a result of this perceived higher risk. This could be triggered, for instance, if ratings agencies downgraded the quality of U.S. debt, an event that would lead to a sudden and significant increase in interest rates on Treasuries. The managing director of Moody's in May 2010 predicted that the U.S. would lose its premium AAA debt rating if interest payments were to exceed 20 percent of tax revenues.⁶ Pew forecasts that this would occur in 2020, although this estimate is sensitive to model assumptions.

Policy makers are grappling with the best strategy for promoting economic recovery in the short-term. In the long-term, however, one of the necessary ingredients for continued prosperity must be debt reduction.

3

Pew's Model for Analyzing the Public Debt

Pew's analysis of the national debt focuses on publicly-held debt, defined as all outstanding federal debt held by non-federal sources. Pew uses the Congressional Budget Office's (CBO) June 2010 extended-baseline projection of federal spending and revenues and modifies it to reflect the costs of permanently adopting four policies that are either regularly enacted or widely expected to be enacted by Congress. These policies are also, to a certain extent, exempt from the latest statutory Pay-As-You-Go (PAYGO) legislation and, therefore, are not required to be paid for.⁷ These are:

1. Overriding the 23 percent cut in Medicare physician payments scheduled for December 2010, commonly known as the "doc fix," and linking future increases to the Medicare Economic Index;⁸
2. Indexing the Alternative Minimum Tax (AMT) for inflation;
3. Extending the 2001 and 2003 tax cuts (the Economic Growth Tax Relief Reconciliation Act of 2001 and the Jobs and Growth Tax Relief Reconciliation Act of 2003) only for those joint filers making less than \$250,000 annually (\$200,000 for individuals); and
4. Extending the 2009 parameters of the estate, gift, and generation-skipping transfer taxes.⁹

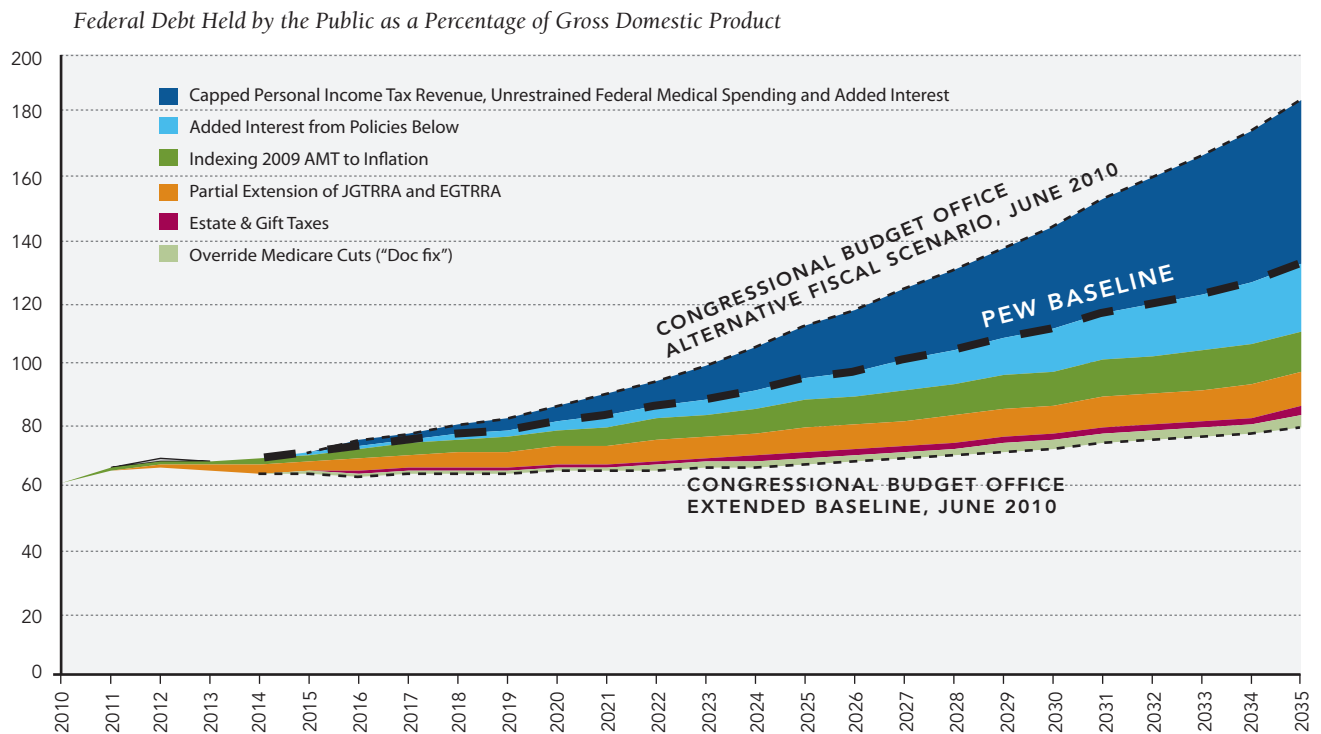
BOX 1: PAY-AS-YOU-GO (PAYGO) SPENDING

In early 2010, Congress passed and the President signed Public Law 111-139 reinstating the statutory PAYGO requirements that expired in 2002. PAYGO requires that most new mandatory spending and decreases in revenue be paid for or offset by commensurate cuts in mandatory spending or policies that raise revenue. The law provides for certain exemptions including four policies that are expected to be enacted this year: overriding a scheduled reduction in Medicare physician payment fees (five-year exemption under PAYGO); indexing the 2009 AMT threshold to inflation (two-year exemption under PAYGO); an extension of certain tax cuts that are set to expire at the end of 2010 (permanent exemption under PAYGO); and, an extension of the 2009 provisions of the estate and gift tax (two-year exemption under PAYGO). If enacted, these policies would not be required to be offset with other spending reductions or increases in revenue.

Because of the costs associated with these four policies, publicly-held federal debt under Pew's baseline is higher than under the CBO's extended-baseline scenario. However, the Pew baseline is lower than the CBO's June 2010 alternative fiscal scenario, which, in addition to Pew's changes, caps individual income tax revenues at 19.3 percent of annual GDP after 2020 and removes some of the cost-control mechanisms enacted as part of the Patient Protection and Affordable Care Act of 2010. See Figure 3 for an illustration of the differences between the CBO and Pew baselines. For a more detailed discussion of Pew's methodology, see Appendix D.

Pew’s projections of debt include the interest payments that would be necessary to service the higher debt that results from adopting these four policies permanently. As with a credit card balance, a mortgage or any other type of debt, the federal government must pay interest on its national debt. The interest rate that the federal government pays varies depending on a number of different factors, but it is much lower than what a typical consumer would pay on a credit card or a mortgage. Despite this, if the national debt grows over time, the government not only will have to pay interest on this larger debt, but the interest rate itself could rise if crowding out occurs or if investors become worried that the federal government’s debt load is too large to pay off.

Figure 3 Differences Between Congressional Budget Office and Pew Baselines, Fiscal Years 2010 to 2035



Source: Pew analysis of Congressional Budget Office and Joint Committee on Taxation data
 Note: Indexing 2009 Alternative Minimum Tax (AMT) includes interaction effect between indexing the AMT and extending the Economic Growth Tax Relief Reconciliation Act of 2001 (EGTRRA) and the Jobs Growth Tax Relief Reconciliation Act of 2003 (JGTRRA).

Pew’s estimates of different fiscal policies omit the potential effects these policies have on GDP, which may be positive or negative. Increases in tax revenues and decreases in government spending, as well as the consequences of these actions such as paying down the federal debt, may alter individual behavior in ways that would affect the debt.

Pew uses a debt target of 60 percent of annual GDP in its analysis. A joint report by the National Research Council and the National Academy of Public Administration “judged that a debt of 60 percent of GDP reflects an appropriate balance and is an achievable target within a decade.”¹⁰ The Peterson-Pew Commission on Budget Reform advocates for this goal among its many recommendations on improving the budget process.¹¹ This level of debt also is consistent with international norms. The European Union explicitly requires its member states to set the same

target for their national debts.¹² The International Monetary Fund also has endorsed a debt-to-GDP ratio of 60 percent as a worthwhile goal for advanced economies.¹³

There is no magic debt goal in economic theory or literature, but raising the debt target does not ease the burden appreciably. Other groups have recommended higher targets. The Center for Budget and Policy Priorities, for example, recommends stabilizing the debt-to-GDP ratio at 70 percent.¹⁴ Appendix A shows Pew's analysis under a 70 percent debt-to-GDP target rather than a 60 percent goal, demonstrating that although the necessary tax hikes and spending cuts would be more modest, they still would be significant.

All of the remedies Pew models to address the federal debt and achieve a debt-to-GDP ratio of 60 percent are permanent policy changes that would take place in 2015. Pew chose this year because it represents the first year of full employment (an unemployment rate of about 5 percent) under CBO projections. A "permanent" change is one that is not offset by new policies afterwards: a permanent hike in tax revenues of 10 percent in 2015, for example, would mean that tax revenues would be as projected in 2014, 10 percent higher than projected in 2015, and then would grow from this higher baseline at previously-projected rates thereafter. In contrast, a phased-in approach would require smaller cuts in any one year but would result in greater cuts overall. See Appendix B for further discussion on phasing in spending cuts.

Pew modeled two possible time horizons for bringing publicly-held debt down to 60 percent of annual GDP. The first is a medium-term horizon ending in 2025, 10 years after enacting remedies. The second is a long-term horizon extending another 10 years until 2035, just two years before the Social Security reserves will be exhausted according to the latest estimates by the program's trustees.¹⁵

4

The Debt Problem and Strategies for Addressing It

Under any scenario, cutting spending or raising revenue to achieve a 60 percent debt-to-GDP target would require difficult choices. This task is made even more politically difficult because of the gap between the public's expectations and fiscal reality. A poll jointly conducted by *The Economist* and *YouGov* in April 2010 asked Americans whether they would prefer spending cuts or tax hikes as the remedy for the federal budget deficit.¹⁶ Almost two-thirds chose spending cuts exclusively, while a quarter chose a combination of both spending cuts and tax hikes. When asked which areas of government spending they would like to see cut, the only area that a majority of respondents chose to cut was foreign aid, which makes up about 1 percent of the FY2011 budget. By contrast, only 7.5 percent of respondents wanted to cut Medicare, which is 13 percent of the current budget and by far the biggest driver of future debt growth.

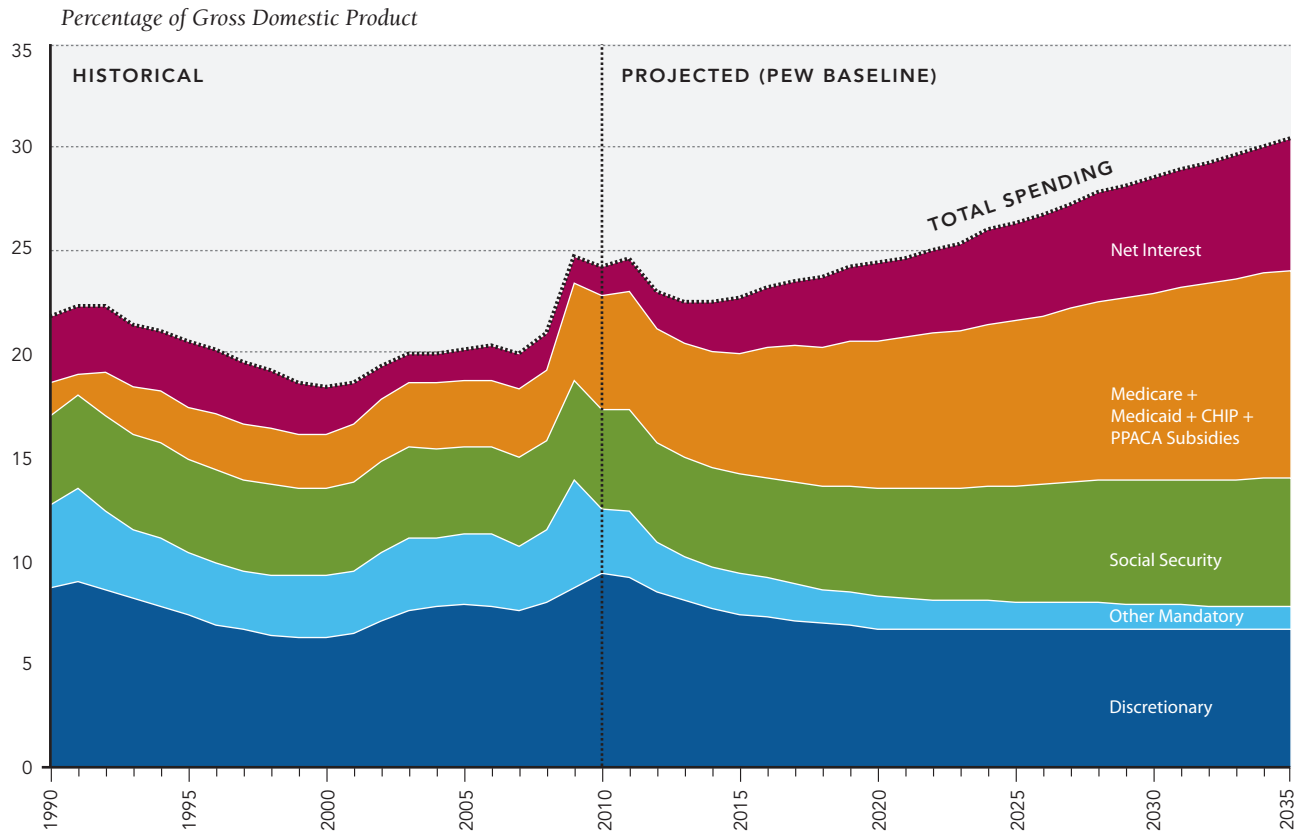
Over the next 15 years Pew projects that U.S. publicly-held debt as a percentage of the economy will grow by about half, reaching 95 percent of annual GDP at the end of 2025. This debt growth is in great part driven by popular policies. Between 2025 and 2035, federal medical programs such as Medicare and Medicaid will become major debt drivers (see Figure 4), as will higher interest payments, and, to a lesser extent, growth in Social Security. Revenues, meanwhile, will fail to keep pace with this ballooning medical and net interest spending (see Figure 5). By 2035, Pew projects the debt-to-GDP ratio will reach 132 percent. See Appendix C for a breakdown of annual spending and revenues as a percentage of GDP under Pew's baseline.

Pew performed an analysis of the different permanent actions that could be taken in 2015 to bring the debt-to-GDP ratio down to 60 percent in 2025 and 2035. For a summary and illustration of Pew's results, see Figure 7.

Only cutting discretionary spending

The first component of the federal budget that Pew analyzed was discretionary spending, which Congress controls most directly through annual appropriations. Lawmakers vote on this spending every year in areas such as defense, education and transportation. By contrast, Congress does not decide annually how much to spend on entitlements such as Social Security.

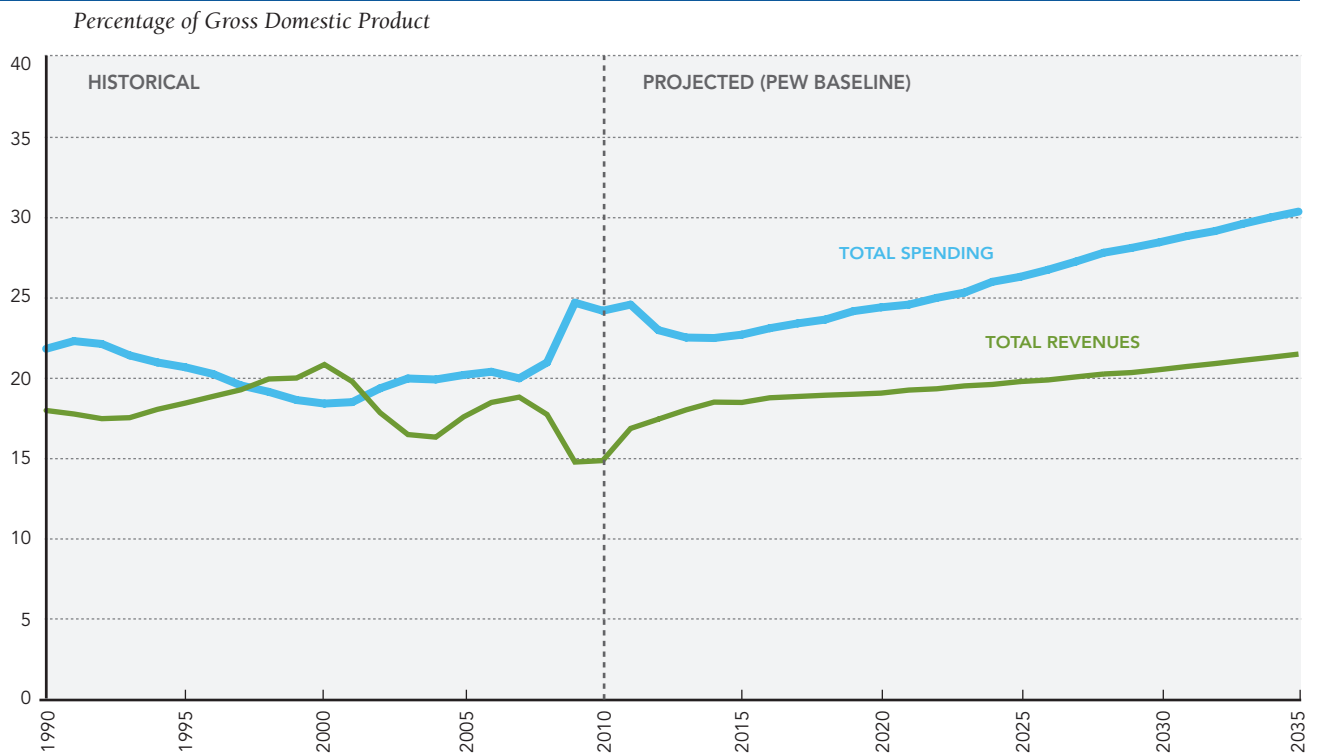
Figure 4 Federal Spending, Fiscal Years 1990 to 2035



Source: Pew analysis of Congressional Budget Office data

Note: "CHIP" refers to the Children's Health Insurance Program. "PPACA Subsidies" refers to the health insurance subsidies included in the Patient Protection and Affordable Care Act.

Figure 5 Federal Spending and Revenues, Fiscal Years 1990 to 2035

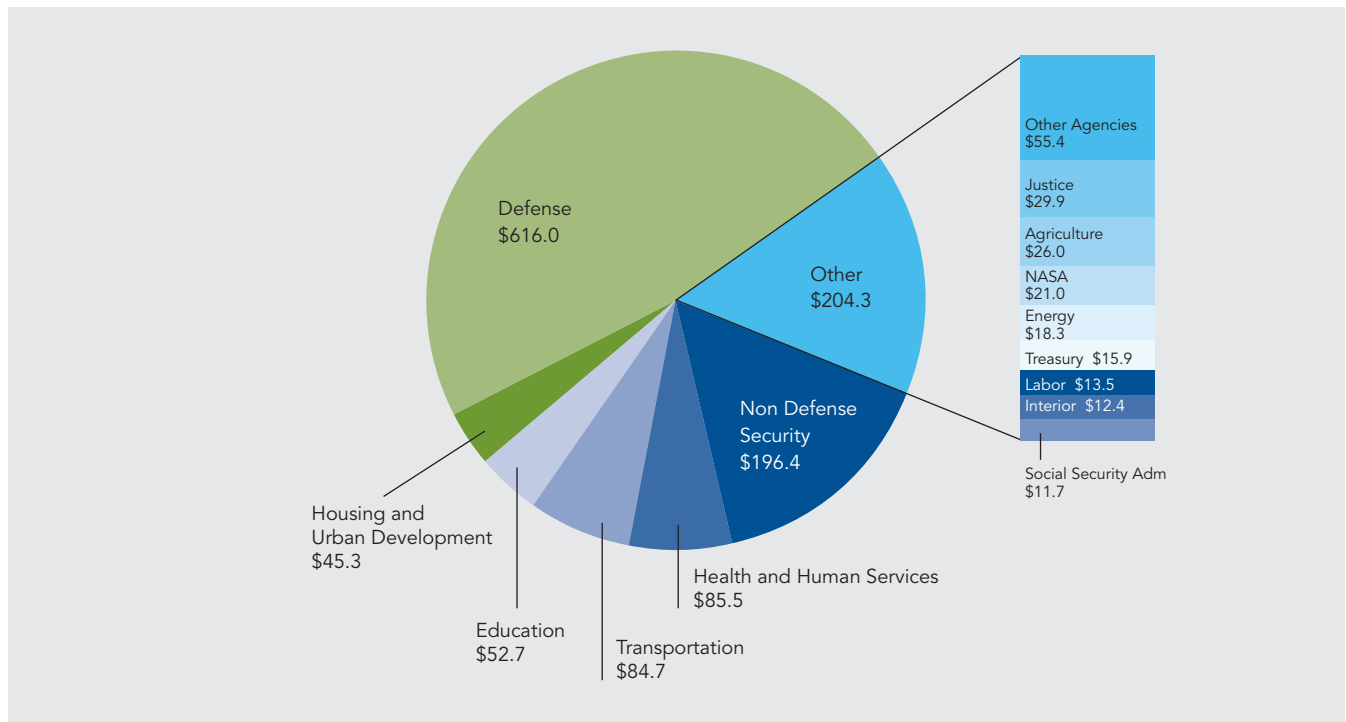


Source: Pew analysis of Congressional Budget Office data

That spending is called “mandatory” because it is based on the number of people who qualify for benefits in a given year and on certain growth rates, and does not need to be approved on an annual basis. For more detail on discretionary budget resources, see Figure 6.

Figure 6 Components of Discretionary Budget Resources, Fiscal Year 2015

In Billions of Dollars



Source: Pew analysis of Office of Management and Budget data, FY2011 Mid-Session Review
 Note: Discretionary breakdown shows budget resources and comes from the President's requested FY2011 budget.

Reducing the debt to 60 percent of annual GDP by 2025 only by cutting discretionary spending would require an across-the-board cut of at least 43 percent in 2015, or about \$590 billion out of the \$1.37 trillion in discretionary spending. This result is roughly equivalent to eliminating the entire Department of Defense.

Achieving the long-term 2035 target through discretionary cuts alone would be slightly more difficult because the CBO projects discretionary spending to grow more slowly than the economy. The federal government would have to slash all discretionary spending in 2015 by 44 percent (\$600 billion) to reach the 60 percent debt-to-GDP target by 2035.

Only cutting mandatory spending

Compared with discretionary spending, mandatory spending makes up a larger share of the current federal budget—57 percent mandatory versus 37 percent discretionary—and is projected to grow at a faster rate mainly due to demographics and health care cost trends. Solving the debt crisis exclusively with mandatory spending cuts thus requires a proportionally lower reduction.

Reaching a debt-to-GDP ratio of 60 percent in 2025 would require a 22 percent cut in all mandatory programs including Medicare, Social Security, Medicaid and certain veterans' benefits in 2015.

As an illustration, a 22 percent cut would reduce the average 2015 monthly Social Security benefit from \$1,255 per beneficiary to about \$985. Interestingly, hitting the 2035 target would require a smaller cut in mandatory spending than the 2025 target—20 percent—punctuating the fact that mandatory spending is projected to grow more quickly than the economy and, as a result, is a large driver of long-term debt.

Cutting both discretionary and mandatory spending across the board

Pew also analyzed the effects of cutting all mandatory and discretionary spending in equal proportions, including programs like Medicare and defense and spreading the cuts across a broad base. Using this approach, reaching the 60 percent debt goal by 2025 would require an across-the-board spending reduction of about 14 percent in 2015. Average Social Security benefits would drop from \$1,255 to \$1,075 per month, while the government would have to eliminate the equivalent of the Departments of Transportation, Housing and Urban Development, Justice and Treasury as well as NASA. Hitting the target in 2035, meanwhile, would require a cut slightly less than 14 percent in 2015.

BOX 2: CAN THE PROBLEM BE SOLVED BY ONLY SLOWING THE GROWTH OF FEDERAL MEDICAL SPENDING?

The largest driver of growth in federal spending over the next 25 years is medical entitlement programs. Some suggest the government will have to curb future growth in these programs. In the medium-term, average annual growth between 2015 and 2025 in federal health entitlement spending—including Medicare, Medicaid, the Children's Health Insurance Program (CHIP) and the subsidies enacted as part of the recent health reform legislation—would have to fall from 7.4 percent to -2.4 percent (that is, nominal spending would have to decline every year) for debt to reach 60 percent of annual GDP in 2025. This would severely curtail federal health programs. Pew's long-term findings are not significantly more optimistic. Average annual growth in federal medical spending between 2015 and 2035 would have to fall from 6.9 percent to 2.3 percent for debt to reach 60 percent of annual GDP in 2035. Neither of these scenarios would be achievable without draconian cuts in Medicare and Medicaid services.

Since fundamental changes to health care spending likely will be among the menu of options being considered to solve the debt crisis, Pew modeled a more achievable cut: a decrease in the average annual federal health entitlement spending growth rate of 1 percentage point. By 2025, such a slowdown would have saved \$1.3 trillion in cumulative direct and net interest costs, or the equivalent of about 5 percent of GDP in 2025. These savings grow to about 19 percent of GDP or \$7.9 trillion by 2035. However, it is not yet clear what policy changes could limit the growth in Medicare and Medicaid by this amount.

If federal medical spending carried the entire burden of closing America's fiscal gap, then Medicare and Medicaid could not exist in their current forms, if at all. However, incremental changes to projected growth in Medicare and Medicaid spending, if possible, would still have significant long-term effects.

Only raising taxes

Pew found that relying solely on taxes to bring the debt-to-GDP ratio to 60 percent by 2025 would require steep tax hikes. If Congress acted in 2015, it would take a 32 percent permanent increase in individual income tax revenues to achieve the 60 percent goal by 2025. Pew projects that the average income tax liability per man, woman and child in America in 2015 will be \$4,955; a hike of 32 percent would raise this amount to about \$6,520.

Over the longer-term, achieving a debt-to-GDP ratio of 60 percent by 2035 would require a 30 percent permanent increase in individual income taxes beginning in 2015, raising the average per person tax liability to \$6,425.

Broadening the remedy to include all tax revenues—corporate income taxes, payroll taxes, excise taxes and others—would lower the required hike to 16 percent for the 2025 goal and 15 percent for 2035.

Several approaches exist for raising tax revenue. The first would be to raise the rates of existing taxes. The CBO found, however, that due to changes in behavior and impacts on economic activity, large income tax rate increases would be necessary to close the current law gap between spending and revenues; financing the entire increase in spending between 2007 and 2082 with individual and corporate income taxes alone would have meant a hike in the 10 percent individual income tax bracket to 25 percent, while the top rate on individual and corporate income would have to increase from 35 percent to 88 percent. The CBO found that this level of taxation “would significantly reduce economic activity and would create serious problems with tax avoidance and tax evasion... therefore, tax rates at such levels would probably not be economically feasible.”¹⁷ Alternatively, the federal government could raise other taxes such as payroll or excise taxes. Hiking payroll taxes by one percentage point, for example, would raise revenues of about 0.4 percent of annual GDP or \$60 billion in 2012 according to the CBO.¹⁸

A second option would be to broaden the tax base. One way to do this would be to eliminate or reduce tax expenditures, such as the mortgage interest deduction or the child tax credit. The Treasury counts 173 such expenditures and if added up would total \$1.6 trillion in 2015, without taking into consideration interaction effects.¹⁹ Eliminating or reducing expenditures is the equivalent of raising taxes on those who otherwise would have claimed them on their tax returns.

The third option would be to introduce an entirely new tax, such as a value-added tax (VAT, similar to a sales tax) or a carbon tax. There have been several revenue estimates of both ideas. For example, the Urban-Brookings Tax Policy Center estimates that a 5 percent VAT would raise between \$160 billion and \$260 billion in net revenues in 2012 depending on the breadth of the tax base.²⁰ Meanwhile, the CBO estimates that an upstream carbon tax initially set at \$23 per ton of CO₂e (carbon dioxide equivalent emissions) in 2012 would raise about \$84 billion in net revenues that year.²¹

Can the problem be solved by only lowering taxes?

Some argue that cutting taxes can raise more revenue by boosting economic activity. According to this school of thought, at some point tax rates become so onerous that raising them further would reduce revenue by dampening economic activity. If this were true, then taking the opposite action and lowering taxes would raise revenue. This perspective is illustrated by the so-called Laffer Curve, a framework authored by economist Arthur Laffer.

On the one hand, Arthur Laffer’s description of the trade-offs between taxes and revenue is broadly true: At some point, taxes become so confiscatory that they may actually weaken the tax

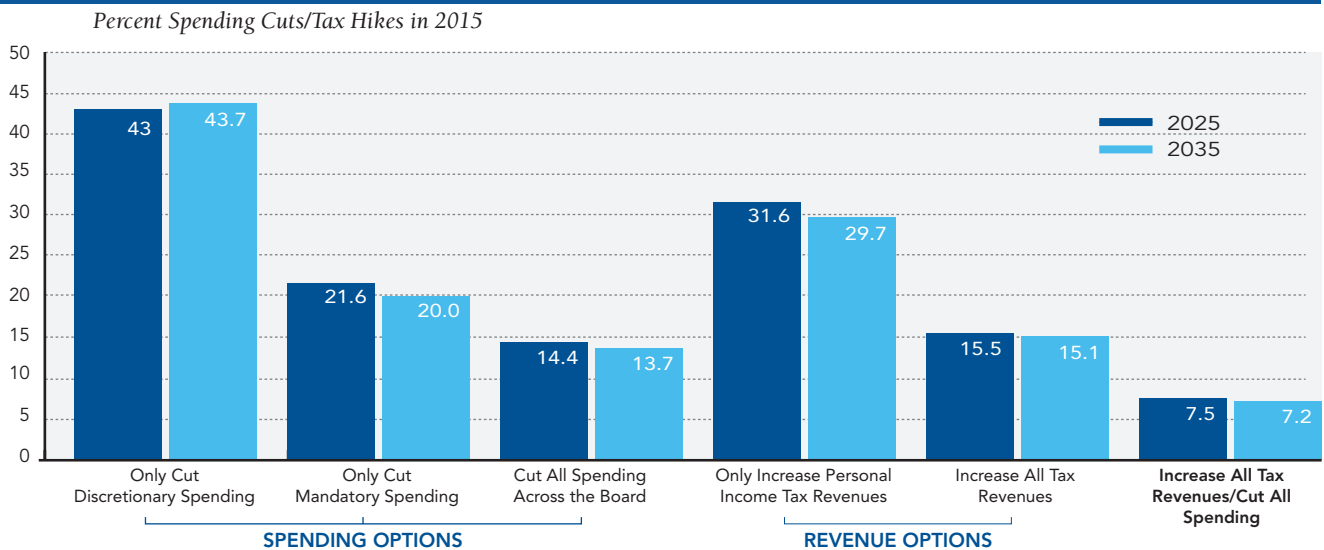
base as people resort to the underground economy (thereby avoiding taxes altogether) or decline to engage in the taxed activity. However, most empirical evidence to date has shown that in general, the United States is not past the peak of the Laffer Curve.^{22, 23} Therefore, cutting taxes would likely worsen, not improve, the fiscal outlook.

A related but separate issue is whether cutting taxes would partially pay for themselves from increased economic growth. The results of past dynamic analyses undertaken by the CBO and the Treasury are ambiguous as to the size of these feedback effects. The CBO found, for example, that the feedback effects of a 10 percent cut in all federal income taxes would offset between 1 and 22 percent of the cost of the tax cut over the first five years, and between -5 and 32 percent over the second five years (a tax cut would have negative feedback revenues if the crowding-out effects of higher deficits overwhelmed the economic benefits of lower taxes). Even effects on the upper-end of the ranges found by the CBO and the Treasury, however, would offset only a portion of the increased deficits arising from cutting taxes.^{24, 25, 26} Since federal income tax rates rise with income, the size of the offsetting revenues may also depend on which tax brackets are cut.

A mix of tax hikes and spending cuts

Putting all spending and revenue on the table would reduce the pain borne by any one policy or program area. If spending and taxes were cut equally, an across-the-board spending cut/tax hike of about 7.5 percent would be needed in 2015 to achieve a debt-to-GDP ratio of 60 percent by 2025. Among other changes average monthly Social Security benefits would decrease from \$1,255 to \$1,160 in 2015, and average income taxes per person would rise from \$4,955 to \$5,325. A spending cut/tax hike of slightly above 7 percent would be necessary to reach the goal by 2035.

Figure 7 Spending Cuts/Tax Hikes in 2015 Necessary to Reach Debt-to-Gross Domestic Product Ratio of 60 Percent in Fiscal Years 2025 or 2035



Source: Pew analysis of Congressional Budget Office data

Can the U.S. just grow its way out of debt?

If the U.S. economy grew fast enough, the debt-to-GDP ratio would fall and Congress could avoid making difficult choices about taxes and spending.

The CBO's rule-of-thumb on the effects of economic growth on deficits is that a 0.1 percentage point increase in annual real GDP growth reduces the nominal 10-year cumulative deficit by about \$300 billion.²⁷ Given this assumption, Pew's model calculates that real annual GDP growth would have to be an average of 2.0 percentage points higher than currently projected beginning in 2015 to bring the U.S. federal debt-to-GDP ratio down to 60 percent in 2025. The CBO already forecasts inflation-adjusted GDP growth averaging 2.1 percent a year between 2015 and 2025, so this projection would need to rise to 4.1 percent annually.²⁸

Is this plausible? Since 1948, the output of the nonfarm business sector has grown by an average annual rate of 3.6 percent after adjusting for inflation.²⁹ About two-thirds of this long-term growth has been due to more inputs into the economy, mainly more people in the labor force (due to population growth, immigration, and higher levels of female participation) and more business capital.³⁰ The remaining one-third has been due to productivity gains: the new technologies and more efficient work practices that boost how much the average worker produces every hour.³¹ Public policy may affect productivity in the long-term; however, CBO's long-term projections already forecast multifactor productivity growth of 1.3 percent annually, slightly above the 60-year historical average.³² To add another 2.0 percentage points to real annual GDP growth between 2015 and 2025, the United States would need to either boost productivity growth by 150 percent above CBO's forecasts, or almost double growth in the labor force and capital purchases above their historical average. Achieving such massive input or productivity gains in such a short time is implausible. While faster economic growth would be welcome, the levels of growth necessary are too high to rely upon to solve the debt problem alone.

Can the U.S. inflate its way out of debt?

The United States has a major advantage relative to many other countries in its fiscal policy: American publicly-held debt is denominated in U.S. dollars, a currency whose supply is controlled by the American government. Therefore, there is no currency risk to United States debt from devaluing the dollar (smaller countries, at the demand of investors, must often issue debt priced in U.S. dollars or other stable currencies, and therefore lack control over foreign money supply, and do not have the option of inflating away their debt problem). One possibility then is that the Federal Reserve sets a higher inflation target. Nominal GDP would grow faster as a consequence of inflation, while the federal debt—less than 7 percent of which is in securities that are adjusted for inflation—would fail to keep pace. A more extreme option would be for the Treasury to simply print money sufficient to pay off all or a portion of the debt.

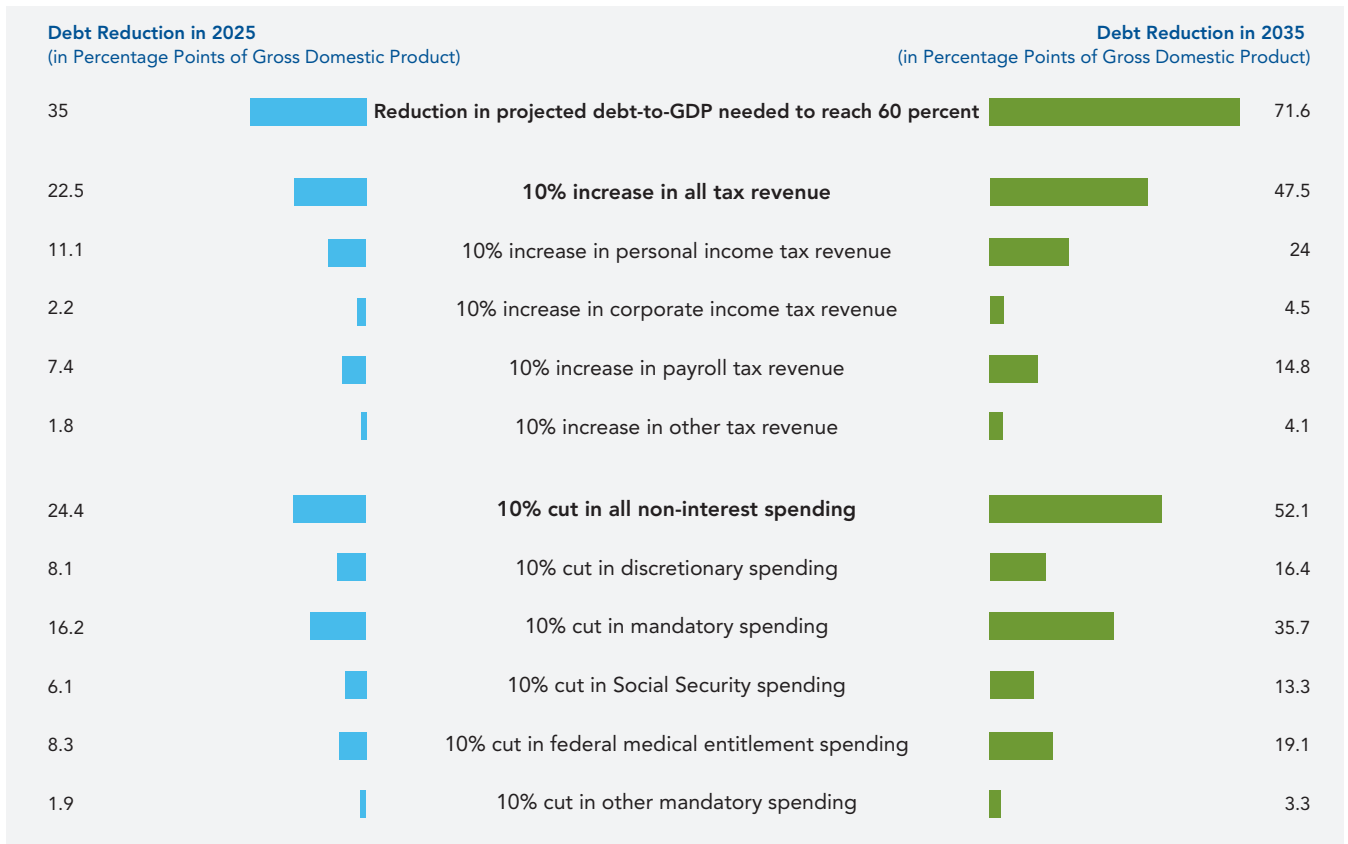
An inflation solution would be untenable. First, much of the federal budget is automatically indexed to inflation. The federal government would be devaluing the debt with one hand while increasing spending linked to inflation with the other. Second, higher inflationary expectations would be reflected in the interest rate the government pays on new debt. If investors believe that the federal government is embracing an inflationary policy, they will likely demand higher rates of return from all future Treasury securities to compensate. Third, inflation only reduces the value of existing debt. It does not provide a sustainable source of finance for an ongoing gap between spending and revenues. Fourth, the average length of maturity for publicly-held securities has been steadily dropping since 2001.³³ Shorter maturities mean that the beneficial effects of inflation have less time to compound before interest rates reset to compensate for inflation.

The CBO projects that if short-term inflation was one percentage point higher annually than projections, 10-year revenues would increase by 6.7 percent, but outlays would increase by 7.4 percent. As a result, the budget deficit would increase by \$715 billion over their baseline between 2011 and 2020.³⁴

A “tool kit”: The fiscal effects of each option

When simulating mixes of spending cuts and tax increases, Pew assumed that the proportional change in each policy was the same. However, there are an infinite number of ways that spending and tax policies can be combined to reduce the debt. Figure 8 shows the individual effects of different policy changes on the national debt by 2025 and 2035. For example, Pew projects U.S. publicly-held debt to reach 95 percent of annual GDP in 2025, requiring a reduction of 35 percentage points of GDP by that year to reach the 60 percent goal. A 10 percent increase in payroll tax revenue would reduce the 2025 debt by 7.4 percentage points of GDP, about a fifth of the required reduction. Similarly, a 10 percent cut in all federal medical entitlement spending in 2015 would reduce the 2025 debt by 8.3 percentage points of GDP.

Figure 8 Effects of Spending and Revenue Options on U.S. Federal Debt Held by the Public, Fiscal Years 2025 and 2035



Source: Pew analysis of Congressional Budget Office data

5

Conclusion

Federal debt is on an unsustainable trajectory as a result of past policy choices and future cost increases. Pew projects that federal debt will reach 95 percent of GDP in 2025, the highest level since the aftermath of World War II. Without major changes in policy, the federal debt burden will over time hurt the nation's competitiveness and prosperity.

Achieving a debt-to-GDP ratio of 60 percent in 2025 will not be easy under any circumstances, but the hardest solutions are the ones that rely on just one policy remedy. Only cutting discretionary spending, for example, would require cuts in 2015 equivalent to the elimination of the Department of Defense. Only hiking individual income taxes would involve raising revenues by 32 percent, increasing the average per person income tax burden by over \$1,500 in 2015.

By contrast, using multiple policy remedies to reach the 2025 debt goal would require smaller spending cuts and milder tax hikes. Putting all revenues and spending on the table would mean a reduction in spending and rise in tax revenue of about 7.5 percent in 2015.

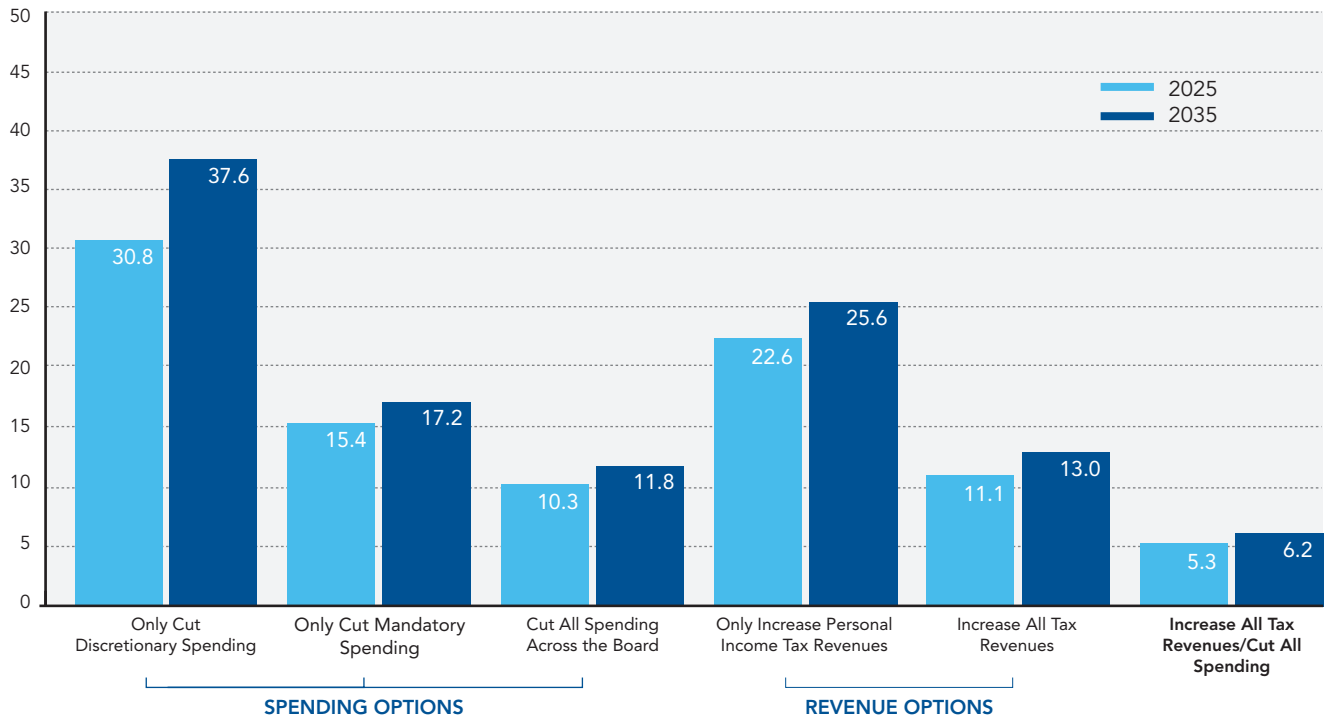
Congress and the president have a heroic challenge in balancing short-term economic recovery with long-term fiscal discipline. In this report, Pew has shown that the challenge becomes more surmountable if more policies are included in the long-term solution.

Policy Remedies to Get to 70 Percent Debt-to-Gross Domestic Product Ratio

Pew duplicated its fiscal analysis with a 70 percent debt-to-GDP goal rather than a 60 percent goal to show the sensitivity of the results to the level of the debt goal (see Figure 9). While the remedies to get to the 70 percent debt goal are somewhat less painful than those necessary to achieve 60 percent debt-to-GDP, they still require substantial adjustments. Reaching the 70 percent goal by 2025, for example, would entail cutting discretionary spending by almost a third in 2015, or raising personal income tax revenues by about a quarter.

Figure 9 Spending Cuts/Tax Hikes in 2015 Necessary to Reach Debt-to-Gross Domestic Product Ratio of 70 Percent in Fiscal Years 2025 or 2035

Percent Spending Cuts/Tax Hikes in 2015

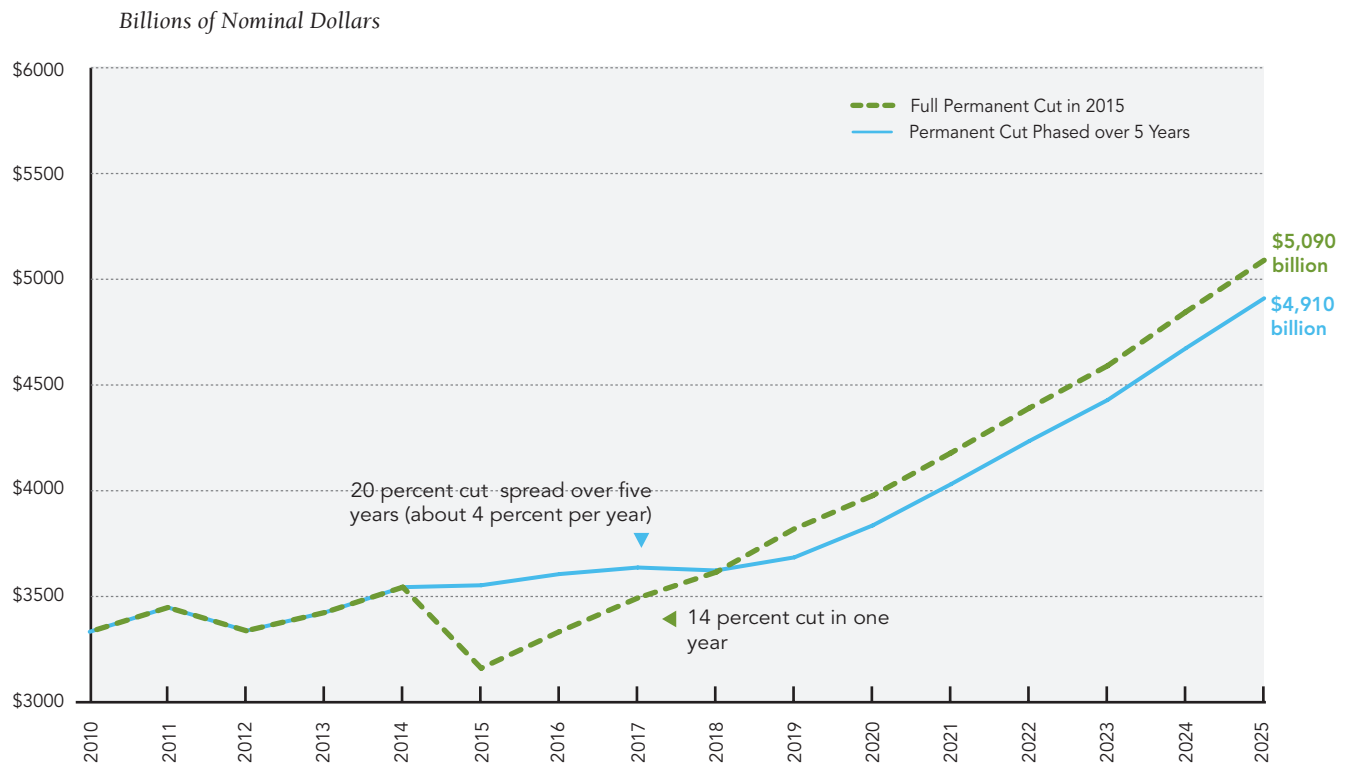


Source: Pew analysis of Congressional Budget Office data

Phased-in Policy Change

Figure 10 illustrates how the one-year-change approach used in Pew’s estimates differs from a phased-in policy change. If, hypothetically, the U.S. were to reach a debt-to-GDP ratio of 60 percent in 2025 by only cutting all spending (not including interest) across the board, then non-interest spending would have to be cut by 14 percent permanently if the entire cut were applied in 2015. Spending would then resume growing in 2016 from this lower level, reaching \$5,090 billion in 2025. If, alternatively, the necessary cut were phased-in equally over five years, then non-interest spending would need to be cut by a total of 20 percent, about 4 percent each year between 2015 and 2019. It would then resume growing in 2020 under its normal growth path, reaching \$4,910 billion in 2025. Under a phase-in, the required cut in any one year would be significantly less than the cut required under the one-year-change; however, the delay in applying the full remedy results in a greater cumulative cut in non-interest spending. By 2025 total federal non-interest spending would be \$180 billion less under the phase-in than under the one-year-change, even though U.S. publicly-held debt that year is the same (60 percent of annual GDP) under both scenarios.

Figure 10 Cuts in Non-Interest Spending Necessary to Reach Debt-to-Gross Domestic Product of 60 Percent in Fiscal Year 2025



Source: Pew analysis of Congressional Budget Office data.

Annual Spending and Revenues in Fiscal Years 2010 to 2035

As the American population ages and medical costs grow faster than inflation, the size and emphasis of the federal budget will change significantly (see Figure 11). As a share of GDP, federal health entitlement spending would grow by 70 percent between 2015 and 2035; interest payments would more than double, and Social Security spending would rise by about 30 percent. By contrast, discretionary spending as a share of GDP would fall by about 10 percent between 2015 and 2035.

Figure 11 Annual Spending and Revenues as a Percentage of Gross Domestic Product, Pew Baseline, Fiscal Years 2010 to 2035

	2010	2015	2025	2035	Change 2015-2035
Medicare/Medicaid/CHIP/PPACA Subsidies	5.5	5.8	8.0	10.0	4.1
Interest Payments	1.4	2.7	4.7	6.4	3.7
Social Security	4.8	4.8	5.6	6.2	1.4
Discretionary Spending	9.4	7.4	6.7	6.7	(0.7)
Other Mandatory Spending	3.1	2.0	1.3	1.1	(0.9)
Primary (Non-Interest) Spending	22.8	20.0	21.6	24.0	3.9
Total Spending	24.2	22.7	26.3	30.4	7.7
Total Revenues	14.9	18.5	19.8	21.5	3.0
Total Deficit	9.3	4.2	6.5	8.9	4.7
U.S. Federal Debt Held by the Public	61.8	72.0	95.0	131.6	59.6

Source: Pew analysis of Congressional Budget Office data

Note: "CHIP" refers to the Children's Health Insurance Program. "PPACA Subsidies" refers to the health insurance subsidies included in the Patient Protection and Affordable Care Act. Numbers may not sum to totals due to rounding.

Technical Specifications of Pew's Budget Model

Introduction

For all budget projections and simulations, Pew's analysis uses a budget model that projects the accumulation of federal debt over time. The model uses data from the Congressional Budget Office (CBO) and the Joint Committee on Taxation (JCT) to forecast spending, outlays, deficit and debt at the end of each federal fiscal year.

Model Framework

Major components that are needed to calculate deficits and debt are spending, revenue, interest rate, net interest and Other Means of Financing (OMF). These component parts are described below.

Non-Interest Spending and Revenue

Non-interest spending categories used in this model include Social Security, Medicare net of offsetting premiums, other federal medical spending (which includes Medicaid, the Children's Health Insurance Program and health exchange subsidies), other mandatory spending and total discretionary spending. The revenue categories include individual income tax, corporate income tax, social insurance taxes on wages and other revenue. Data for primary spending and revenue are drawn from three sources: the CBO June 2010 *Long-Term Budget Outlook*, the March 2010 *Analysis of the President's Budgetary Proposals for Fiscal Year 2011*, and the JCT's July 2010 *Present Law and the President's Fiscal Year 2011 Budget Proposals*.

For projections through 2020, the model creates a baseline that reflects the CBO extended-baseline projection from the office's June 2010 long-term outlook, with four policy adjustments that have been historically enacted and are, to a certain extent, exempt from recent pay-as-you-go legislation:

- Overriding the 23 percent cut in Medicare physician payments scheduled for December 2010, commonly known as the "doc fix," and linking future increases to the Medicare Economic Index;
- Indexing the Alternative Minimum Tax (AMT) for inflation;
- Extending the 2001 and 2003 tax cuts (the Economic Growth Tax Relief Reconciliation Act of 2001 and the Jobs and Growth Tax Relief Reconciliation Act of 2003) only for those joint filers making less than \$250,000 annually (\$200,000 for individuals); and
- Extending the 2009 parameters of the estate, gift, and generation-skipping transfer taxes.⁸

For projections beyond 2020, the model projects each spending and revenue category based on the growth rates used by the CBO in their extended baseline scenario, with the exception of income tax. For income tax revenue, the model uses growth rates from CBO's projection of income tax revenue under a scenario where the AMT is indexed to inflation and all of the 2001 and 2003 tax cuts are extended.

Interest

This model uses the interest rates implied by the CBO extended-baseline, which is found by dividing net interest by the average debt held by the public throughout the year. Net interest is calculated under different policy scenarios by multiplying the interest rates described above by the average level of debt held by the public each year.

Other Means of Financing

OMF includes various factors that reduce or increase the government's need to borrow. A sale of assets, for example, provides the government with additional funds and reduces its need to borrow to finance its deficit; this is recorded as a negative OMF value. Certain credit financing, however, increases the government's need to borrow, and is recorded as a positive OMF value. For projections through 2020, OMF is equal to the level specified in the CBO March 2010 baseline, and is assumed to be zero after 2020.

Deficit and Debt Calculations

Future levels of deficit and debt can be derived from the model. The deficit is equal to total outlays less total revenues. Debt held by the public is equal to debt at the beginning of the year, plus the deficit and OMF. This framework enables the model to calculate debt and deficit at the end of each fiscal year.

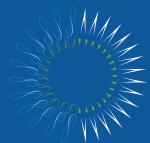
Policy Simulations

All of the policy simulations in this paper calculate the constant percentage change required, relative to the Pew baseline, to reach targets in both 2025 and 2035. For example, to reach a target debt-to-GDP level of 60 percent in 2025, a permanent increase in personal income taxes of 32 percent would be required starting in 2015. All other non-interest spending and revenue remain the same as the Pew baseline, while interest costs are endogenously determined using the implied interest rate. As in all the simulations, the interest rate and GDP are the same as in the Pew baseline.

Notes

- ¹ Unless explicitly mentioned otherwise, all variants of “debt” used in this paper refer to outstanding federal debt held by the public, commonly referred to as the national debt. Pew does not include intragovernmental holdings in its calculations.
- ² All years in this report refer to federal fiscal years, which after 1976 run from October 1 through September 30. Prior to 1976, the federal fiscal year ran from July 1 through June 30.
- ³ Carmen M. Reinhart and Kenneth S. Rogoff, “Growth in a Time of Debt,” *American Economic Review Papers and Proceedings*, January 2010. “Gross debt” is defined as the sum of publicly-held debt and intragovernmental debt, which is the outstanding Treasury securities held by the federal government, primarily in the Social Security and Medicare trust funds. Pew solely uses publicly-held debt for its analysis.
- ⁴ Douglas W. Elmendorf and N. Gregory Mankiw, “Government Debt,” *The Handbook of Macroeconomics*, January 1998. Elmendorf and Mankiw estimate that the marginal effect of debt on output net of depreciation is about 6 percent.
- ⁵ Studies have found that growth in debt equal to 1 percent of annual GDP leads to an average three-and-a-half basis point (0.035 percentage point) increase in interest rates. See for example Eric Engen and R. Glenn Hubbard, “Federal Government Debts and Interest Rates,” NBER Working Paper No. 10681, August 2004.
- ⁶ Jed Graham, “U.S. Debt Shock May Occur in 2018,” *Investor’s Business Daily*, 5 May 2010.
- ⁷ Public Law 111-139.
- ⁸ David Rodgers, “House passes reimbursements reprieve,” *POLITICO*, 25 June 2010.
- ⁹ The president’s fiscal year 2011 budget proposal includes all four of the above policies, as well as other proposals not explicitly exempt by PAYGO.
- ¹⁰ National Research Council and National Academy of Public Administration, *Choosing Our Nation’s Fiscal Future*, The National Academies Press, 2010.
- ¹¹ The Peterson-Pew Commission on Budget Reform, *Red Ink Rising: A Call to Action to Stem the Mounting Federal Debt*, December 2009.
- ¹² European Commission, *Public Finances in EMU—2009*, May 2009.
- ¹³ International Monetary Fund, *The State of Public Finances: Outlook and Medium-Term Policies After the 2008 Crisis*, 6 March 2009.
- ¹⁴ Kathy Ruffing et al, *The Right Target: Stabilize the Federal Debt*, Center for Budget and Policy Priorities, 12 January 2010.
- ¹⁵ Annual Social Security and Medicare Trust Fund Report, 2010, p. 9.
- ¹⁶ *The Economist/YouGov* Polimetrix, 7 April 2010.
- ¹⁷ Congressional Budget Office, *The Long-Term Economic Effects of Some Alternative Budget Policies*, Letter to the Hon. Paul Ryan, 19 May 2008.
- ¹⁸ Congressional Budget Office, *Social Security Policy Options*, July 2010.

- ¹⁹ Office of Management and Budget, *Budget of the U.S. Government FY2011: Analytical Perspectives*, p. 209. The cost estimate includes both revenue effects and outlay effects, but does not include interactions between expenditures.
- ²⁰ Eric Toder and Joseph Rosenberg, *Effects of Imposing a Value-Added Tax to Replace Payroll Taxes or Corporate Taxes*, Urban-Brookings Tax Policy Center/New America Foundation, 18 March 2010.
- ²¹ Congressional Budget Office, *Budget Options: Volume 2*, August 2009, pp. 254-255.
- ²² Paul Pecorino, "Tax Rates and Tax Revenues in a Model of Growth Through Human Capital Accumulation," *Journal of Monetary Economics*, Vol 36(3); December 2005, pp. 527-539.
- ²³ Mathias Trabandt and Harald Uhlig, "How Far Are We From the Slippery Slope? The Laffer Curve Revisited," *ECB Working Paper Series*, No. 1174, April 2010.
- ²⁴ Congressional Budget Office, *Analyzing the Economic and Budgetary Effects of a 10 Percent Cut in Income Tax Rates*, 1 December 2005.
- ²⁵ Department of the Treasury: Office of Tax Analysis, *A Dynamic Analysis of Permanent Extension of the President's Tax Relief*. 25 July 2006.
- ²⁶ Gregory Mankiw and Matthew Weinzierl, "Dynamic Scoring: A Back-of-the-Envelope Guide," 12 December 2005.
- ²⁷ Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2010 to 2020*, January 2010, p. 111.
- ²⁸ Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2010 to 2020*, January 2010, p123.
- ²⁹ Bureau of Labor Statistics: Real Private Nonfarm Business Output, 1948-2009.
- ³⁰ Bureau of Labor Statistics: Private Nonfarm Business Sector, Combined Units of Labor and Capital Inputs, 1948-2009.
- ³¹ Bureau of Labor Statistics: Nonfarm Business Sector, Multifactor Productivity, 1948-2009.
- ³² Congressional Budget Office, *The Long-Term Budget Outlook*, June 2010, p. 74.
- ³³ According to U.S. Treasury data, the average length of maturity of all outstanding marketable debt has dropped from 71 months in Q2 2001 to 55 months in Q4 2009.
- ³⁴ Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2010 to 2020*, January 2010, p111.



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