The Economic Crisis and the Fiscal Crisis: 2009 and Beyond

An Update

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September 2009

ABSTRACT

This paper reviews recent economic events and their impact on U.S. fiscal performance and prospects. We highlight the historic nature of the 2009 budget outcomes, the unsustainability of plausible ten-year budget projections, and the increasingly dire long-term fiscal problem. These conditions leave federal policy makers with difficult choices. Over the next several years, as the recession ends and the economy recovers, policy makers will face a delicate balancing act between encouraging economic recovery and establishing fiscal sustainability. Even if a successful recovery ensues, however, medium-term and long-term fiscal problems have become increasingly urgent.

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"How did you go bankrupt?" Bill asked.

"Two ways," Mike said. "Gradually and then suddenly."

--Ernest Hemingway, *The Sun Also Rises*

I. Introduction

At the beginning of this decade, the U.S. fiscal picture was bright. After running deficits every year from 1970 to 1997, the federal budget was in surplus in fiscal year 2000 for the third year in a row, and the surplus was at an all-time high – $236 billion, or 2.4 percent of GDP. Future fiscal prospects looked strong as well. The Congressional Budget Office (CBO, 2001) projected rising surpluses over time, totaling $5.6 trillion over the succeeding 10 years. Despite the well-known shortfalls in Medicare and Social Security finances, estimates of the long-term fiscal outlook showed the government as a whole in manageable shape, at least for the following 70 years (Auerbach and Gale 2000). A key fiscal concern was the prospect of paying off all redeemable public debt, which was expected to occur by the middle of the decade.[1] In the absence of a market for Treasury debt, leading policy makers and academics were concerned with how monetary policy would be conducted and where investors would find safe assets.

Looking at the situation in 2009, fears that the United States would run out of Treasury obligations have vanished. Concerns about the conduct of monetary policy and the ability of investors to find safe assets now relate to both the conduct of economic policy since 2001 and the severe downturn in the economy since last fall. In many respects, the current fiscal situation couldn't be more different from that at the beginning of the decade. The budget outlook at every horizon is troubling: the fiscal-year 2009 budget is enormous; the ten-year projection is clearly unsustainable; and the long-term outlook is dire and increasingly urgent. These general trends are punctuated by a number of specific highlights that illustrate the U.S. fiscal problem. The Medicare Trust Fund is now projected to be exhausted by 2017. Credit default swap markets now imply a non-negligible probability of default on senior U.S. Treasury debt in the next five years. A top Chinese official has publicly questioned the security of U.S. Treasury obligations.

The federal government is not alone in its fiscal troubles. The individual U.S. states face daunting fiscal prospects. Most European countries will experience significant fiscal deterioration over the next few years. Standard and Poor's recently warned the United Kingdom that it could lose its AAA credit rating on account of its projected debt-to-GDP ratio. The United Kingdom's fiscal trajectory, however, is similar to that of several other countries, notably including the United States.

In light of these tumultuous and historic events, this paper describes the current U.S.

[1] The CBO (2001) baseline projected that all redeemable public debt would disappear by 2006 under then-current law. The need to avoid paying off all of the public debt was one of the key motivations cited by Greenspan (2001) in his pivotal support of tax cut legislation.

fiscal status, explains recent trends and examines future prospects and implications.[2] Because of the magnitude of recent changes, we report several major conclusions:

A. Recent Events

- CBO projects the 2009 deficit to be $1.6 trillion, about 11 percent of GDP. This represents the largest deficit share of the economy since World War II. In 2009, the U.S. federal *deficit* will be larger than the *GDP* of all but six other countries in the world. The deficit would be significantly larger but for record-low interest rates, which have substantially reduced federal net interest payments.

- The unprecedented scale and scope of recent financial interventions by the Treasury Department and the Federal Reserve Board raise issues concerning how well the deficit is measuring the government's increasing liabilities.

- The cyclically-adjusted deficit is about 8.6 percent of potential GDP (CBO 2009h). If the economy were at full employment and none of the financial interventions or stimulus measures of the last year had been enacted, the deficit would still be about 4.5 percent of potential GDP (or about 4.8 percent of actual GDP). These figures are far lower than the current deficit, but still represent significant ongoing imbalances inherited from the previous Administration.

- The collapse of the budget happened both gradually and suddenly. The gradual, but sizable, decline that occurred from fiscal year 2001 to fiscal year 2008 was primarily the result of policy – tax cuts and spending increases. The sudden, sharp decline that occurred from 2008 to 2009 was primarily the result of the financial crisis, the economic downturn and new policies that respond to those problems.

B. The Ten-Year Outlook

- The *CBO baseline* projects that, following record deficits in 2009, the cumulative deficit for 2010-2019 will be $7.1 trillion, with deficits declining sharply to 3.2 percent of GDP by 2013 and remaining flat through 2019.

- CBO's baseline, however, incorporates a number of rules and assumptions that make it a poor guide to the underlying fiscal policy trajectory. To generate a better measure of where fiscal policy was headed as of the early months of the Obama Administration, after the passage of the February stimulus package, we replace those assumptions with alternatives that we argue are more representative of the continuation of policies enacted under former President Bush. Under this *adjusted baseline* (which we will refer to as the Bush policy baseline), the ten-year deficit is $11.7 trillion, or 6.6 percent of GDP. As in CBO's baseline, deficits decline in the near term, but only to 5.5 percent of GDP by 2013, and unlike in CBO's baseline, deficits then rise, to 7.1 percent of GDP by 2019.

[2] This paper is a substantial update of Auerbach and Gale (2009a) and builds on analysis and conventions we have developed in numerous previous papers including Auerbach and Gale (1999, 2000, 2001), Auerbach et al. (2003), and Auerbach, Furman and Gale (2007, 2008).

- Under the *Administration's budget*, the figures are not quite as bad as under continuation of Bush Administration policies, but are troubling nonetheless. The ten-year deficit is projected to be $10.3 trillion. The deficit declines to 4.5 percent of GDP by 2013. By 2019, although the economy is projected to have been at full employment for several years, the deficit rises to 5.9 percent of GDP; spending rises to 24.5 percent of GDP (the highest since World War II, except for the current downturn), the debt-to-GDP ratio rises to 82.8 percent (the highest since 1948), and net interest payments rise to 4.1 percent of GDP (the highest share ever and larger than defense or non-defense discretionary spending). All of these figures are poised to rise further after 2019, implying that the situation is unsustainable.

- Even ignoring this year's massive deficits, deficits will average more than $1 trillion per year over the next 10 years – from 2010 to 2019 – and will rise even further after 2019 under either the adjusted baseline representing former President Bush's policies or the Administration's budget representing President Obama's policies.

- All of these estimates are based on assumptions that may prove optimistic. Recent evidence suggests that the revenue and growth implications of financial crises are significant and long-lasting, features that do not appear to be incorporated in the CBO or Administration economic projections. The estimates also make strong political assumptions: that major components of the stimulus package will be allowed to expire as scheduled and that Congress imposes and abides by PAYGO rules for the next 10 years.

- Reinstatement of PAYGO rules, as proposed by the Administration, would exempt most of the major causes of fiscal deterioration over the next decade. This approach buries important fiscal choices and will make constructive tax reform more difficult.

C. The Long-Term Outlook

- We estimate a long-term fiscal gap – the immediate and permanent increase in taxes or reduction in spending that would keep the long-term debt-to-GDP ratio at its current level – to be about 5-7 percent of GDP under the assumptions in the CBO baseline, about 7-9 percent of GDP under the assumptions in the Administration budget, and about 8-10 percent of GDP in the Bush policy baseline. The debt-to-GDP ratio would pass its 1946 high of 108.6 percent by 2033 under the CBO baseline, but much sooner – in 2023 and 2026, respectively – under the Bush policy baseline or the Administration budget. Under all three scenarios, however, the debt-to-GDP ratio would then continue to rise rapidly, contrary to its sharp decline in the years immediately after 1946.

- It will prove difficult to close the gap entirely via modifications to existing taxes and spending programs. A new revenue source, such as a value added tax (VAT), may be needed. A VAT imposed at a rate between 15 and 20 percent would essentially close the fiscal gap under the Administration's budget.

- Low interest rates will slow the accumulation of national debt, but do not necessarily help

in addressing the fiscal gap. The fiscal gap arises from two sources: the debt already in place and to be accumulated in the near term, and the implicit liabilities that loom in the more distant future. Lower interest rates reduce the cost of servicing the debt, but raise the adjustment needed to offset large future imbalances. Calculated over the infinite horizon, the long-term gap is actually higher if one assumes that the government will face a zero interest rate for the next 20 years.

- The long-term fiscal problem is to some extent a medical care spending growth problem, in that the projected growth in Medicare and Medicaid is perhaps the single most important cause of the growing imbalance between projected revenues and expenditures. Under the projections that employ Administration policy, cutting the annual growth rate of health spending by 1.5 percentage points for 10 years would reduce the long-term fiscal gap by 1.5 percent of GDP; the same reduction for 30 years would reduce the gap by almost 4 percent of GDP, but would still leave a fiscal gap of almost 5 percent of GDP. To eliminate the long-term gap through reductions in health spending growth alone, the growth rate of spending on Medicare and Medicaid would have to fall by more than 3 percentage points annually over the next 75 years. That is, expenditures currently projected to grow at a rate nearly 2.5 percent *faster* than GDP during the next ten years would instead have to begin *falling* immediately as a share of GDP.

- Even if rising health care costs are an important component of the long-term problem, they are not necessarily "the" cause of the fiscal gap. The estimated gap is increased by more than 5 percentage points of GDP just by continuation of the policies that were enacted during the Bush Administration.

D. Fiscal Issues and Prospects

- Over the next several years, as the recession ends and the economy recovers, policy makers will face a delicate balancing act between encouraging economic recovery and establishing fiscal sustainability. Fiscal discipline imposed too soon could weaken the recovery or push the economy back into recession. Fiscal discipline delayed too long could also harm the economy, either gradually, as higher interest rates reduce economic activity and deficits sap national saving, or suddenly, if investor fears trigger a sharp and adverse market response.

- The balancing act will be made more difficult by a host of factors, including: the fiscal difficulties faced by the states and European countries; the fact that both political parties have announced opposition to broad-based tax increases; the reality that the vast bulk of spending occurs in programs that will be difficult to cut in the short term, including Social Security, Medicare, Medicaid, defense, and net interest; and the potential populist backlash that could inhibit effective policy making if financial markets, which tend to lead the economy, recover robustly but labor markets take a long time to regain full employment and wage growth.

- Nevertheless, the United States will soon be compelled to confront its fiscal future. Although huge deficits are not desirable in the short term, they are nonetheless

understandable. Once the economy recovers, though, the need to impose fiscal discipline – which used to be considered a "long-term" problem – will be a short-term and urgent problem that will require difficult choices that policy makers have so far refused to make. Worse still, if the economy recovers only very slowly or not at all, those decisions will still need to be faced, but in the context of a weaker economic situation.

The remainder of the paper provides the background for the preceding summary. Section II begins with a review of current and recent deficits. Section III discusses the alternative ten-year projections. Section IV considers the longer-term fiscal outlook. Section V concludes with a discussion of several key fiscal policy issues.

II. Recent Events

A. Where We Are: Projected Outcomes for 2009

Figures 1-4 provide historical comparisons and future projections for federal revenues, spending, deficits and debt held by the public. In each figure, the thick line represents actual figures through 2008 and CBO baseline figures through 2019. As described further in section III, the thin line is an estimate of the Administration's budget, and the dashed line is an estimate of our adjusted baseline.

The 2009 budget figures are the most extreme in more than 50 years. CBO's baseline projects fiscal year 2009 revenues of 14.9 percent of GDP – the lowest share since 1950 – and expenditures of 26.1 percent of GDP – the highest share since 1945. At 11.2 percent of GDP, the deficit share is at its highest since the end of World War II, and debt held by the public will rise to 53.8 percent of GDP, the highest share since 1955. From 2008 to 2009, outlays experienced their greatest annual increase – 24 percent – since 1952, while revenues suffered their greatest decline – 17 percent – since the depths of the Depression.

It is worth noting that the 2009 deficit and debt would be even higher were it not for the extremely low interest rates on government debt that have recently prevailed. Whereas debt service accounted for $253 billion – 1.8 percent of GDP – in fiscal year 2008, it is projected to drop to $177 billion – about 1.2 percent – in 2009, despite the increase in debt relative to GDP. Some see low interest rates as a silver lining that will reduce the crowding out effects of deficits and make it easier to meet long-term fiscal obligations. We discuss the limitations of this perspective in sections IV and V.

The huge 2009 deficit reflects the combined effects of underlying policy, the economic downturn, and policies designed to combat the downturn – chiefly the recent financial interventions and the stimulus package. For many purposes, it is useful to separate these effects. CBO (2009h) notes that the current deficit represents 10.5 percent of potential GDP, and automatic stabilizers account for about 2.0 percent of GDP, leaving the cyclically adjusted deficit at 8.6 percent of GDP. The recent financial interventions and stimulus measures account for about 4.1 percent of potential GDP. Thus, the actual deficit would have been about 4.5 percent of potential GDP (4.8 percent of actual GDP) even with full employment and no counter-cyclical

measures.[3] This implies a significant imbalance in the budget passed along by the previous Administration.

B. The Special Role of Financial Interventions

Given the prominence of recent financial interventions in affecting the current-year deficit, we explore further the treatment of such interventions in the budget. The key conclusions are that the budgetary conventions used to account for these interventions are inconsistent, have a considerable impact on the figures reported above, muddy the relationship between the federal government's true fiscal position and its officially recorded deficits and debt, and may distort policy choices. These interventions center on the Troubled Asset Relief Program (TARP) and related Treasury interventions in financial markets, the government's takeover of Fannie Mae and Freddie Mac, and the non-standard actions of the Federal Reserve Board.

CBO evaluates TARP on a net present value basis, in accordance with its treatment of federal credit programs under the Federal Credit Reform Act. Thus, the $700 billion appropriation for TARP is considered to increase the deficit by $133 billion in 2009 but to increase the public debt by more than that amount. Similar treatment of the Treasury's purchases of mortgage-backed securities contributes $248 billion in debt accumulation in fiscal year 2009 but very little to the deficit.[4] These interventions have larger impacts on the accumulation of federal debt than on the current deficit because of the estimated increase in offsetting financial assets.

In contrast, the budgetary treatment of Fannie Mae and Freddie Mac adds more to the deficit than to debt. As in the cases just considered, CBO treats these government-sponsored enterprise (GSE) bailouts on a present value basis when computing the current-year deficit, estimating that guaranteeing the GSEs' liabilities will add $291 billion to the 2009 deficit.[5] But unlike in the cases of TARP and related Treasury asset purchases, CBO adds nothing to its calculation of the public debt in connection with the GSE guarantees. This approach can be justified by the argument that the federal bailout did not create any new public borrowing, and that legal considerations constrain what can be included as "debt held by the public." On the other hand, if these agencies are really now part of the federal government, it would make sense

[3] CBO (2009e) reports that the financial interventions and stimulus measures accounted for 5.4 percent of potential GDP. Since that estimate was provided, CBO (2009g) reduced its estimate of the budgetary cost of TARP in the current year by $203 billion, or by 1.4 percent of potential GDP. Thus, we estimate that the financial interventions and stimulus measures now account for 4.1 percent of potential GDP. Similarly, CBO (2009h) estimates the full-employment deficit to be $1.3 trillion in 2009; subtracting the $609 billion combined cost of the recovery packages yields a 2009 deficit of $683 billion, equal to 4.8 percent of GDP.

[4] This figure was provided in CBO (2009a) in January and has not been updated in subsequent budget projection documents.

[5] CBO **(**2009g**)** estimates that the GSE's liabilities exceed their assets by $248 billion, in net-present value terms, in 2009, and includes this amount in the 2009 deficit. The remaining portion of the deficit attributed to the GSEs in 2009—$43 billion—is attributed to the 2009 costs associated with subsidizing new activity. CBO assumes costs associated with GSE activity declines precipitously throughout the budget window, averaging about $10 billion annually between 2010 and 2019.

to add all of their very considerable liabilities – at the end of 2007 the GSEs had combined outstanding debt of $1.5 trillion and had provided mortgage-backed securities totaling $3.5 trillion – to the national debt.

Taking these and other adjustments into account, CBO projects that the increase in federal debt will exceed the deficit in fiscal year 2009 and fall short of the deficit in each remaining year of the budget period. Which set of numbers is more relevant is difficult to say, given the somewhat arbitrary nature of the conventions.

The activities of the Federal Reserve Board directly enter the federal budget only via its payment of net earnings to the Treasury every year.[6] Over the past year or so, the Fed has engaged in a whole raft of new lending activities, substantially broader than the traditional policy levers it has used in the past. Besides lowering the target for the federal funds rate by more than 500 basis points since August 2007, the Fed provided about $1.4 trillion in credit provision, purchase of debt securities and other financial support to banks, corporations, money market funds, and other institutions during 2008. In addition, the Fed has the authority to provide trillions more (CBO 2009a, Appendix A). These recent actions as well as others, such as the initiation of the payment of interest on reserves, may have a significant effect on the Fed's earnings and hence show up directly in the federal budget in future years. But they may also be exposing the US government to significant risk that is not recorded in the current year's budget.[7]

A related issue is that the differing accounting conventions imply that alternative interventions that are economically equivalent have different current-year budget costs, depending on whether the Fed or Treasury or a different agency undertakes the action. This creates poor incentives for policy-making and plausibly has driven the structure of recent interventions in financial markets.

C. How Did We Get Here?

The stunning shift from the budget surpluses of a decade ago to the massive deficits of today can be thought of as occurring in two steps. The gradual, but sizable, decline that occurred from 2001 to 2008 was primarily the result of policy changes – tax cuts and spending increases. The sudden, sharp decline that occurred from 2008 to 2009 was primarily the result of the economic downturn and resulting emergency policies.

Figure 5 and Table 1 display these results (with annual details in Appendix Table 1). The top line in Figure 5 shows the CBO baseline projections made in January 2001; the bottom line

[6] The Fed generates net earnings through interest payments on its holding of securities, foreign currency holdings, fees for services provided to financial institutions and other activities. Over the past several years, these net earnings have usually been between $20 billion and $30 billion per year (CBO 2009a).

[7] Bernanke (2009) asserts that "for the great bulk of Fed lending, the credit risks are extremely low" and that, "from the point of view of the federal government, the Federal Reserve's activities do not imply greater expenditures or indebtedness." Still, with $1.4 trillion of credit originated from newly designed lending facilities and undertaken during the worst economic downturn since the Depression, it does not seem inappropriate to question whether there may be credit risk in the portfolio.

shows the deficits the nation has actually experienced since then, along with the projected value for 2009. The January 2001 baseline projection for 2008 was for a surplus of $635 billion, while the actual outcome was a deficit of $459 billion. Of that 7.7 percent of GDP difference between what was projected and what actually occurred, more than 90 percent – 7.1 percent of GDP – was due to policy changes – tax cuts, spending increases, and the associated interest payments. Less than 10 percent was due to forecasting errors (economic and technical changes).[8]

In contrast, the rise in the *actual* deficit from 2008 to 2009 is projected to be even larger than the gradual increase from 2001 to 2008 – 8.0 percentage points of GDP. About 75 percent of that increase – 5.7 percent of GDP – is due to economic and technical factors and most of the rest is due to policies designed to respond to the economic and financial crisis.

III. The Ten-Year Outlook

In this section, we provide three different approaches to examine the ten-year budget outlook. The three approaches also form the basis of the long-term projections in section IV. The first approach, the CBO baseline, employs the assumption that *current law* is upheld – that there is no new legislation enacted. The second approach, which we call the adjusted baseline, examines the implications of continuing the tax and spending policies that were enacted under the Bush Administration. One distinction between current law and current policy arises because many tax and spending provisions are explicitly temporary by law, but are routinely extended in practice. Although such provisions have always existed, the use of temporary tax cuts skyrocketed during the Bush Administration, creating significant differences between the CBO baseline and the adjusted baseline (Gale and Orszag 2003). A second distinction between current policy and current law is that in some cases (e.g., discretionary spending) current law provides no guidance as to future outcomes. There is, of course, some judgment in determining what constitutes continuation of the policies of the Bush Administration, so we justify our assumptions below. The third approach describes and examines the implications of the Administration's budget proposals.

Our projections are based on CBO estimates. This approach provides a consistent standard and allows for independent estimates of our own adjustments and the Administration's proposals.[9]

A. Constructing the Adjusted Baseline

The CBO baseline is constructed using a set of mechanical assumptions that are based on current law. We modify these in several ways in order to reflect the continuation of policies enacted during the Bush Administration. Table 2 displays these adjustments (with annual details in Appendix Table 2). First, CBO assumes that all temporary tax provisions (other than excise

[8] For certain purposes, it might be more appropriate to look at the period from 2001 to 2007, which ends before the onset of the current recession. This would not fundamentally change the interpretation in the text about a gradual decline due to policy and then a sharp decline due to the economic downturn.

[9] As described in detail below, to construct estimates of the Administration's budget, we use CBO (2009d). To construct the adjusted baseline, we use CBO (2009g) to adjust for tax policies and CBO (2009b, d, and g) and population growth estimates to adjust for spending policies. For both the Administration's budget and the adjusted baseline, there are certain very minor proposals, for which CBO does not provide estimates; in these cases, we use data from OMB (2009b).

taxes dedicated to trust funds) expire as scheduled. The large majority of the tax cuts enacted since 2001 expire or sunset by the beginning of 2011; the Bush Administration repeatedly called for extending these provisions. A variety of other tax provisions that have statutory expiration dates are routinely extended for a few years at a time as their expiration date approaches. We assume that all of these provisions will be extended.[10] We do not, however, assume the extension of the tax provisions in the stimulus package.

Second, the alternative minimum tax (AMT) will grow to affect more than 40 million households by 2017 under current law (see Tax Policy Center 2008). The Bush Administration and Congress, however, did not let the number of people under the AMT grow dramatically. Our estimates reflect the continuation of this choice in two ways. We assume that AMT provisions that expire at the end of 2009 – including higher AMT exemption levels that had been in place since the 2001 tax cuts and the use of personal nonrefundable credits against the AMT, which had been in place for an even longer period – are granted a continuance. We index the AMT exemption amount for inflation starting in 2009.

Third, under current law, payments to physicians under Medicare will decline by about 21 percent in 2010 and 6 percent per year through 2019. In the past, however, the Administration and Congress stepped in to postpone such reductions. We assume similar actions will prevail in the future, so we include the costs of freezing physician payment rates under Medicare at their 2009 levels.[11]

The fourth issue involves discretionary spending. Unlike taxes and entitlement spending, which are governed by current law, discretionary spending typically requires new appropriations by Congress each year. The CBO baseline assumes that discretionary spending will remain constant in real dollars at the level prevailing in the first year of the budget period. We make four assumptions regarding CBO's assumed discretionary spending path. First, and most important, we differ from the CBO methodology and assume that the $106 billion in supplemental spending appropriated in June 2009 does not represent a permanent increase in the level of discretionary spending. Most of the supplemental spending can reasonably considered to be a one-time or temporary expense—most spending was earmarked for military operations in Iraq and Afghanistan, preparations for a flu pandemic, and economic stabilization funding for the International Monetary Fund (IMF). As a result, we subtract from the baseline roughly $1.0 trillion in direct spending that represents a mechanical extrapolation of this year's supplemental spending through 2019. Unlike most of the other adjustments we make to the baseline, this *reduces* the deficit. Second, we assume (as does the CBO) that discretionary spending in the stimulus package is allowed to expire as scheduled. Third, for non-stimulus, non-supplemental domestic discretionary spending, we note that maintaining current services often would require

[10] CBO (2008) reports that the baseline includes $870 billion in outlays, not including debt service costs, for mandatory spending programs that are assumed to be extended beyond their expiration dates. CBO (2009a) does not report comparable figures.

[11] We also make other minor adjustments to transitional medical expenses and social insurance administrative expenses, consistent with some adjustments the Administration makes in its budget.

increases for both inflation and population growth, rather than just inflation.[12] Accordingly, we adjust baseline expenditures to allow for population growth, consistent with adjustments that we have made in earlier years. Fourth, with respect to defense spending, our removal of extrapolated supplemental spending means that our initial adjustment likely understates future costs of military expenditures associated with ongoing operations in the Middle East. CBO has estimated defense outlays under different policies of withdrawal from Iraq and Afghanistan. We adopt the more expensive option, which adds $190 billion to the deficit over 2010-2019. These adjustments to discretionary spending are largely offsetting: by 2019, discretionary spending as a percent of GDP is roughly 7.0 percent under both the CBO baseline and our adjusted baseline.

B. The Administration's Budget

As can be seen in Table 3 (with annual details in Appendix Table 3), relative to current law (the CBO baseline), the Administration proposes a raft of tax cuts and significant new spending on defense, education, health, and other programs. The table does not show the fiscal effects of the President's proposed health reform, since the proposal is designed to be revenue-neutral, and thus would have no effect on budget deficits under this assumption.[13] In addition, because the Administration has not proposed making permanent the spending from 2009 supplemental appropriation (discussed above), we make the same adjustment to extrapolated supplementary spending that we made in our adjusted baseline in Table 2.

Although not shown in Table 3, the Administration's budget can be also described and characterized relative to the policy path developed during the Bush Administration (our adjusted baseline).[14] Relative to the extension of policies enacted in the Bush Administration, the Administration's budget proposals include significant increases in taxes on high-income households (including the estate tax, the top income tax rates, capital gains and dividend taxes, and reimposition of the phase-outs of itemized deductions and personal exemptions), tax cuts for lower-income households, closing of corporate income tax loopholes, substantial cuts in spending on overseas contingency operations, and increases in nondefense discretionary spending.

C. Results

The three approaches to the ten-year budget outlook display several important differences. The time paths of deficits differ under the alternative scenarios (Figure 6 and Table 4). All the measures show deficits shrinking sharply relative to GDP through the recovery, but

[12] In some cases, like veterans' health benefits, even larger increases might be needed to maintain current services (because the number of veterans may rise faster than the population and because health costs may rise faster than the overall price level).

[13] The President's budget proposes policies that would generate $954 billion to pay for the cost of health reform. Specifically, the budget proposes to raise $622 billion in Medicare and Medicaid savings, $275 billion in additional revenue from limiting deductions for high-income taxpayers, and $58 billion from improved tax compliance and other minor adjustments (OMB 2009b).

[14] The Administration also develops a "current policy" baseline (showing the effects of continuation of current policies) that is close to our adjusted baseline. The policy differences between the Administration's current policy baseline and our adjusted baseline center around differing assumptions regarding the estate tax, refundable tax credits, military-related discretionary spending, and funding for domestic disasters.

CBO's baseline shows a constant deficit share of GDP after 2013, while the adjusted baseline and the Administration budget show a gradual and persistent increase in the deficit as a share of GDP over the last six years of the projection. Note also that because the economy is expected to reach full employment by around 2015, all of the deficit figures for subsequent years represent "full employment" deficits.

More specifically, the CBO baseline shows deficits declining by 8 percent of GDP from 2009 to 2013 and then remaining constant thereafter at about 3 percent of GDP. The sharp decline through 2013 is the result of a recovering economy, but also of the assumptions that scheduled expirations in the stimulus package, AMT extensions, financial interventions, and the 2001 and 2003 tax cuts are allowed to take place. Our adjusted baseline also shows deficits declining sharply, but only to 5.5 percent of GDP in 2013, since the adjusted baseline extends the tax cuts and the AMT provisions. After 2013, however, the deficit in the adjusted baseline starts rising, ending up at 7.1 percent of GDP by 2019. The Administration's budget is an intermediate outcome: deficits fall to 4.5 percent of GDP in 2013, and then gradually rise to 5.9 percent of GDP by 2019.

These differences in time paths turn into substantial annual differences by the end of the decade. By 2019, the CBO baseline deficit is "only" $722 billion; the annual deficit is $774 billion higher in the adjusted baseline and $531 billion higher in the Administration's budget (Table 4).

As a result of these differences, the overall fiscal shortfalls vary substantially. The CBO baseline projects a ten-year deficit of $7.1 trillion. In contrast, the adjusted baseline shows a ten-year deficit of $11.7 trillion and the Administration budget shows a decade-long deficit of $10.3 trillion. Indeed, the results show that even excluding this year's deficit of $1.6 trillion, both our adjusted baseline (showing Bush policy) and the Administration's budget imply deficits that average at least $1 trillion per year from 2010 to 2019 and exceed $1 trillion per year after 2019.

What is perhaps most notable is how problematic the 2019 outcomes are under the Administration's budget, despite being preceded by several years of full employment. Revenues would essentially be flat and insufficient (Figure 1). Spending would be at 24.5 percent of GDP, the highest level, other than this year, since World War II (Figure 2) and would be rising over time. The deficit would stand at 5.9 percent of GDP and would be rising over time (Figure 3). Other than the deep recession year of 1983 and the current downturn, this would be the highest deficit share of GDP in more than 60 years. The debt–to-GDP ratio would be 82.8 percent, the highest level since 1948 (Figure 4), and rising.

Figures 7-10 provide additional perspectives on the Administration's budget. The rise in spending would occur in mandatory programs, which in 2019 would be at their highest share of GDP ever, except for during the current downturn (in which the financial interventions are recorded as mandatory programs). In contrast, defense spending would fall dramatically and non-defense discretionary spending would drop to a level well below the average over the past 50 years (Figures 8 and 9). These reductions would require significant political discipline. Finally, net interest payments would rise to 4.1 percent of GDP by 2019, the largest figure ever, and larger than non-defense discretionary spending or defense spending in that year (Figure 10).

In summary, while it is clear that the current deficits are expected to represent a temporary surge in government borrowing, the ten-year outlook suggests that the surge may well not subside as much as would be desired. In addition, borrowing will rise again later in the decade in a manner that appears to be unsustainable in the long term. Of course, as shown in Figure 6, as bad as outcomes are under the Administration's budget, outcomes would be even worse under a mechanical extension of the policies enacted in the Bush Administration.

D. Baselines and PAYGO Rules

As shown above, the Administration's fiscal outcomes can be represented as either a substantial deterioration relative to current law or a modest improvement relative to the continuation of current policies inherited from the Bush Administration. For purposes of understanding the economic effects of the Administration's budget, it is not important which characterization is applied. For political purposes, however, it is vitally important. The Administration portrays itself as fiscally responsible, relative to the path the country was on. Critics portray the Administration as fiscally profligate, relative to current law. More fundamentally, the choice of baselines actually influences policy choices. For example, for Republicans who have signed the "no new taxes" pledge, the choice of baseline is critical in determining what is actually a new tax. Likewise, the Administration has proposed new PAYGO rules, which would require that any new tax cut or new entitlement spending be paid for with tax increases or spending cuts.

In advocating the reinstatement of PAYGO, however, the Administration exempts from consideration (a) extensions of the 2001 and 2003 income and estate tax cuts, (b) AMT cuts, and (c) Medicare physician payments. As shown in Tables 2 and 3, these policies create fiscal costs exceeding $2 trillion over the next decade (including their pro rata share of interest costs) relative to the CBO baseline. Closing the proverbial budgetary barn door after these policies have already left the stable strikes many people as "too little too late" in terms of imposing budget restraints, even if Congress and the Administration do abide by the rules going forward, which is by no means certain.

The Administration's willingness to adopt a baseline that extends the Bush tax cuts is no minor matter and it colors several issues. First, an extension of the 2001 and 2003 tax cuts is very different than the routine extensions that apply to common, small temporary tax provisions. In every year from 2001 to 2008, the Bush Administration requested that the tax cuts be made permanent and in every year Congress has refused to do so – even when Congress was in Republican hands and even when the budget projections suggested future surpluses. Now that even the CBO baseline projection is for large deficits throughout the ten-year budget period, it is hardly obvious that the tax cuts should be extended. It certainly is not obvious that the extension should be incorporated into the Obama Administration's baseline and therefore allowed to be enacted without being paid for.

Second, the ability to enact significant tax reform is closely linked to the baseline issue. The expiration of the Bush tax cuts in 2010, coupled with the use of a current-law baseline for PAYGO would create an ideal – once in a generation – situation to undertake broad-based

reform, for two reasons. It would give lawmakers several hundred billion dollars per year to allocate; that is, to offer as transition relief to taxpayers who would be adversely affected by reform. And, it would create the potential for a bipartisan reform plan, because it would allow the majority of Republican lawmakers who have signed the "no new taxes pledge" to support a reform plan that represents a tax cut relative to the current-law baseline but a tax increase relative to the current policy baseline.

Third, allowing PAYGO not to apply to extension of the Bush tax cuts is simply an enormous budget gimmick. When the Bush Administration proposed such a change, Gale and Orszag (2004b, p. 9) wrote that in the light of the (in retrospect relatively benign) fiscal imbalances that existed at that time,

> ... the temptation to turn to budget gimmicks may prove overwhelming. Policy makers and the public should be especially aware of at least five tricks ... [including] policies that allow politicians to ignore budget issues – such as not reinstating budget rules that require spending and tax changes to be self-financing, or even worse, the [Bush] Administration's proposal in last year's budget to allow the tax cuts to be made permanent without showing any change in the budget baseline.

Finally, turning from problems regarding this specific implementation of PAYGO, there is a fundamental problem in relying on PAYGO as a primary vehicle for budget discipline in the current fiscal environment. The PAYGO approach is ill-suited to dealing with problems associated with autonomous growth in entitlement spending programs such as Medicare, for the rules simply limit new unfunded initiatives and exert no pressure on spending growth that arises from meeting existing program commitments.

IV. The Long-Term Outlook

The fiscal gap is an accounting measure that is intended to reflect the long-term budgetary status of the government.[15] As developed by Auerbach (1994) and implemented in many subsequent analyses, the fiscal gap measures the size of the immediate and permanent increase in taxes and/or reductions in non-interest expenditures that would be required to set the present value of all future primary surpluses equal to the current value of the national debt, where the primary surplus is the difference between revenues and non-interest expenditures.[16] Equivalently, it would establish the same debt-to-GDP ratio in the long run as holds currently. The gap may be expressed as a share of GDP or in dollar terms.

A. Initial Assumptions

[15] Auerbach, Gale, Orszag, and Potter (2003) discuss the relationship between the fiscal gap, generational accounting, accrual accounting and other ways of accounting for government.

[16] Over an infinite planning horizon, this requirement is equivalent to assuming that the debt-GDP ratio does not explode. See Auerbach (1994, 1997).

There are a variety of assumptions necessary to compute the fiscal gap. It is helpful to break these assumptions down into those regarding the ten-year budget period and those regarding the years thereafter, for which no official CBO projections are available. We start with perhaps the simplest approach for the ten-year budget period, following the CBO baseline through 2019. We assume that, after 2019, most categories of spending and revenues remain constant as a share of GDP. These long-run assumptions, however, would be seriously misleading for the major entitlement programs and their associated sources of funding, for which recent long-term projections are available. For the Medicare and OASDI programs, projections for all elements of spending and dedicated revenues (payroll taxes, income taxes on benefits, premiums and contributions from states) are available or can be calculated from figures presented in the 2009 Trustees reports (see Medicare Trustees Report, 2009; OASDI Trustees Report, 2009).[17] We use the Trustees' projections of the ratios of taxes and spending to GDP for the period 2020-2085 for OASDI and 2020-2080 for Medicare, assuming that these ratios are constant at their terminal values thereafter. For Medicaid, we assume that spending through 2083 is based on CBO's most recent long-term projections (CBO 2009f) and that spending as a share of GDP is constant thereafter.

It is important to understand how to interpret these assumptions. They do not represent a pure projection of current law but instead assume that policymakers will make a number of future policy changes, including a continual series of tax cuts, discretionary spending increases, and adjustments to keep health spending from growing too quickly. For example, if current tax parameters were extended forward, income taxes would rise as a share of GDP. Our forecast implicitly assumes policymakers will cut taxes in response. Conversely, our forecast assumes that a richer society will want to spend more on discretionary spending, going beyond the current services provided by government. Finally, our forecasts for government health programs reflect the intermediate assumptions of the Medicare Trustees and are below the past rate of growth, implicitly assuming policymakers will make changes to reduce spending growth in these programs.

B. Estimates

Under the CBO baseline assumptions, we estimate that the fiscal gap through 2085 is now 5.14 percent of GDP (Table 5).[18] This implies that an immediate and permanent increase in taxes or cut in spending of 5.14 percent of GDP – about $727 billion per year in current terms – would be needed to maintain fiscal balance through 2085. In present-value dollars, rather than as a share of GDP, the fiscal gap through 2085 under these assumptions amounts to $39.3 trillion. The fiscal gap is even larger if the time horizon is extended, since the budget is projected to be running substantial deficits in years approaching and after 2085. If the horizon is extended indefinitely, for example, the fiscal gap rises to 6.93 percent of GDP under the CBO baseline, or $100.2 trillion.

These measures of the fiscal gap reflect a substantial worsening of economic conditions

[17] Details of these computations are available from the authors upon request.

[18] The discount rate in these calculations is based upon the intermediate assumptions of the Social Security trustees, which assume a nominal interest rate of 5.7 percent.

since our estimates in May, 2008,[19] when we reported an estimate of 2.93 percent of GDP through 2082, and 4.96 percent of GDP over the infinite horizon. One can break this deterioration down into several factors. For the infinite horizon gap, shifting the calculation forward from 2008 to 2009 with no change in projections increases the gap by 0.05 percent of GDP, simply because the large problems of the future loom one year closer on the horizon. Second, the Trustees' projections of the long-run growth rates of Social Security and Medicare and CBO's long-term projections for Medicaid have become slightly more pessimistic, the updating of these projections adding another 0.34 percent to the gap. Third, other projected revenues at the end of the budget period are 0.23 percent of GDP lower, and other projected non-interest expenditures are 1.21 percent higher, than was forecast last spring, and projecting these forward over the remaining period adds roughly another 1.44 percent of GDP to the fiscal gap. The remainder of the increase in the fiscal gap, 0.14 percent of GDP over the infinite horizon, is a residual, attributable to a worsening within the ten-year budget period beyond that occurring over the long run.

The fiscal gap is substantially larger under the adjusted baseline representing the extension of Bush Administration policies. These assumptions lead to a lower level of revenue and a higher level of spending than the CBO baseline. Under the adjusted baseline, the fiscal gap through 2085 amounts to 7.67 percent of GDP, or 2.53 percent of GDP more than under the CBO baseline. In present-value dollars, the fiscal gap under this scenario amounts to $58.6 trillion through 2085. Over the infinite horizon, the fiscal gap under the adjusted baseline is 9.53 percent of GDP, or $137.7 trillion. CBO (2009f) and GAO (2009) obtain similar conclusions.[20]

The results based on the third ten-year scenario, which starts with CBO's estimate of the Administration's budget, are only slightly less dire than those of the adjusted baseline, with long-term gaps through 2085 and over the infinite horizon of 6.86 percent and 8.70 percent, respectively. Thus, the Administration's proposals, if adopted, would leave the economy on an unstable path.

By contrast, the inclusion of the recently passed stimulus package adds just 0.09 percent of GDP to the fiscal gap under all three baselines through 2085, and 0.05 percent of GDP over the infinite horizon. The effects are small because the provisions in the stimulus package are estimated to be temporary, even though they are large for those years during which they apply.

Figure 11 shows projected revenues and non-interest expenditures through 2085 under all

[19] See Auerbach, Furman and Gale (2008).

[20] The Government Accountability Office (GAO 2009) estimates a fiscal gap of 4.3 percent of GDP through 2083 under its baseline scenario and 8.1 percent of GDP under its alternative scenario. The assumptions in GAO's baseline scenario are almost identical to those in our estimates using the CBO baseline. GAO's alternative scenario makes three changes relative to its baseline: discretionary spending grows with the economy rather than inflation over the first 10 years; Medicare physician payments are not reduced; and after 2019, revenues revert to their historical average of 18.3 percent of GDP, rather than the 2019 level of 20.3 percent of GDP. CBO (2009f) uses a complex micro simulation model that differs considerably from our approach, but the results are roughly the same. CBO estimates a gap through 2083 of 3.2 percent of GDP using CBO baseline assumptions for the first 10 years and a gap of 8.1 percent of GDP under an alternative scenario that extends the 2001 and 2003 tax cuts and fixes the AMT.

three scenarios, the CBO baseline, the adjusted baseline, and the Administration budget. Both alternatives to the CBO baseline project lower paths for revenues and higher paths for expenditures, with the Administration budget projections for revenues being higher than those for the adjusted baseline.

When one confronts such dire long-term forecasts, a natural reaction is that the projections several decades out are hardly relevant if the paths of revenues and expenditures diverge so strongly, because the accumulation of debt will be so strong that some further fiscal actions will be required long before the period beginning several decades from now. Indeed, under the projections based on the CBO baseline, the economy would pass its highest-ever debt-to-GDP ratio (108.6 percent, in 1946) by 2033. This benchmark would be passed much sooner – in 2026 and 2023, respectively – under the Administration and adjusted baselines. And, in all three cases, the following years would see very rapid further growth of the debt-GDP ratio, making a continuation of policy "as is" very unlikely.

These long-run projections are, of course, subject to considerable uncertainty. While uncertainty can in general push in either direction, there is considerable risk that these forecasts understate long-run fiscal pressure in one area. In keeping with past practice, the Medicare Trustees project that the growth in health care spending, adjusted for demographics, will eventually moderate. But no mechanism by which this moderation will occur is specified, and the historical experience offers little support for it. Thus, one might reasonably project faster Medicare growth later in the projection period, after the Trustees' assumed slowdown takes effect, and this is the approach taken recently by CBO (2009f) in its long-run Medicare projections.

C. Closing the Gap

How can so large a fiscal gap be closed? Even under the most optimistic estimates just provided, for the CBO baseline, closing the gap would translate into a permanent reduction in non-interest spending of 26.3 percent or a permanent increase in revenues of 35.1 percent, both calculated relative to their projected trajectories. Narrower means of closing the gap would be even more Draconian – a 64.2 percent increase in income taxes, for example; or eliminating nearly all discretionary spending.

One possibility is a new revenue source, in particular a value added tax (VAT). The tax rate that would be required depends on a number of crucial tax design details – including the legislated tax base, the rates of evasion and avoidance, and the extent to which low-income households are compensated. Estimates in Gale (2005) suggest that closing the permanent fiscal gap reported in Table 5 under the Administration's budget would require an immediate and permanent VAT at a rate between 15 and 20 percent.

Some have suggested that the long-term fiscal gap is not a general fiscal problem, but a medical care spending problem. Consistent with that, all three sets of projections in Figure 7 illustrate a mismatch in the growth rates of spending and revenues, rather than constant differences between the levels of the two series. As is well known, this spending growth is to a large extent associated with Medicare and Medicaid. Under the projections using the

Administration's baseline, cutting the annual growth rate of health spending by 1.5 percentage points for 10 years (as suggested recently by the President and health industry leaders) would reduce the long-term fiscal gap by 1.5 percent of GDP, but the gap would still remain above 7 percent of GDP. The same growth rate reduction for 30 years would reduce the gap by almost 4 percent of GDP, but would still leave the fiscal gap at almost 5 percent of GDP. To eliminate the long-term gap through reductions in health spending growth alone, the growth rate of spending on Medicare and Medicaid would need to be reduced by more than 3 percentage points annually over the next 75 years. That is, expenditures currently projected to grow at a rate nearly 2.5 percent *faster* than GDP during the next ten years would instead have to begin *falling immediately* as a share of GDP. This is clearly implausible in the short term. Moreover, all of the cost control scenarios are questionable over the longer term because the cuts would be relative to baselines that, as discussed above, already incorporate questionable assumptions about slowing future medical spending growth.

A significant share of the fiscal gap is due to policies enacted during the Bush Administration. As shown in Appendix Table 1, between fiscal years 2001 and 2007 – i.e., before the onset of the current recession – the tax and spending policies enacted during the Bush Administration raised the primary budget deficit by 4.3 percent of GDP. Given the way the long-term fiscal gap is calculated, that change translates roughly into an increase in the fiscal gap of the same amount. So, at least for the period through 2085, almost all of the gap under the CBO baseline and more than half of the gap under the adjusted baseline and the Administration's budget can be attributed to policies enacted during the Bush Administration. Of course, besides tax cuts, one of those key policies was the creation of Medicare Part D, which is slated to grow over time relative to GDP. Based on figures in the Medicare Trustees Report on the projected growth of Part D, the full contribution to the fiscal gap of policies enacted in the Bush Administration is somewhat larger than 5 percent of GDP.[21]

Because the fiscal gap measures the size of the required *immediate* fiscal adjustment, the required adjustment also rises if action is delayed, and would be substantially larger when computed relative to the adjusted baseline. It is important to stress that the problem of delay is not simply one of accumulating debt and debt service. If it were, then the currently low interest rates would be expected to lessen the problem and make the required adjustments smaller. But this is not the case. If one assumed, for example, that the government's borrowing rate were zero for the next 20 years, then the estimated fiscal gap under the CBO baseline would *increase* slightly over the infinite horizon, from 6.93 percent of GDP to 7.01 percent of GDP. This is because the fiscal gap can be thought of as arising from two sources: the debt already in place, and the implicit liabilities that loom in the future. Lower interest rates reduce the cost of servicing the debt. For example, a 20-year period of zero debt service would cause the debt-GDP ratio to fall to roughly 42 percent in 2029 instead of rising to 95 percent. But lower interest rates also increase the present value of future cash-flow gaps, in this calculation the factor that

[21] According to the Medicare Trustees (2009, Table III.C22), Part D spending will be 0.43 percent of GDP in 2009, of which 77 percent must be covered by general revenues (Table III.C19), leaving a gap of 0.33 percent of GDP in 2009. On the other hand, the infinite horizon gap (i.e., that part to be funded by general revenues) from Part D is estimated to be 1.2 percent of GDP (Table III.C23). Thus, the infinite horizon Part D gap is roughly 0.87 percent of GDP (1.2 – 0.33) higher than the 2009 Part D gap, thus boosting the total contribution of Bush-era policies from 4.3 percent of GDP to 5.17 percent of GDP.

dominates. Indeed, if one changes the relative importance of these two factors, the effect of lower interest rates changes. For example, focusing on the fiscal gap through 2085 rather than over the infinite horizon reduces the significance of future unfunded liabilities; for this calculation, a 20-year period of zero interest rates would *reduce* the fiscal gap under the CBO baseline, from 5.14 percent of GDP to 5.00 percent. The key point, though, is that low interest rates are not necessarily an advantage to addressing the fiscal gap, even if debt accumulation slows sharply over the short run. Another implication of this analysis is that one cannot use the debt-to-GDP ratio as an indicator of how long we have to address the fiscal problem.

V. Discussion

The current U.S. fiscal deficit is enormous, but it is temporary – or at least is expected to be. The real concerns lie in the ten-year projection and long-term outlook. Our analysis shows the unsustainability of continuing current policies inherited from President Bush (as shown in our adjusted baseline) and of pursuing the budget proposed by President Obama (as shown in our Administration budget figures).

The usual caveats apply, of course. Budget projections are uncertain. Deficit projections are particularly uncertain, since relatively small percentage changes in outlays and revenues can lead to relatively large percentage changes in deficits. Economic projections in the current environment may be more uncertain than usual, given the magnitude of the downturn and the unprecedented scale and scope of policy interventions. Still, caveats notwithstanding, it is hard to paint an optimistic picture. Indeed, the projections above depend on a series of assumptions that may well be too optimistic.

A. Political and Economic Assumptions

Politically, despite the high spending levels envisioned in the future, the projections actually require a significant amount of budget discipline on the part of Congress and the Administration. For example, the Administration's budget requires that key features of the stimulus package will be allowed to expire as scheduled – aid to the states in particular. To abide by the Administration's budget, Congress would need to cut off that funding in 2011, even if the States are mired in fiscal difficulties and the economy is recovering slowly. The Administration's budget also requires that Congress enact PAYGO rules (or act as if they have enacted PAYGO rules) and stick to those rules for the next 10 years.

Nor do the economic assumptions provide much solace. Short-term growth projections will naturally vary but are of less concern to the budget outlook than the medium- and longer-term growth implications. In that light, it is worth noting that Reinhart and Rogoff (2009) provide sobering evidence about precipitous and lasting declines in revenue in the aftermath of financial crises. Blanchard (2009) cites a recent IMF study that shows that potential output tends to fall to a permanently lower growth path following financial crises. Neither the CBO nor the Administration projection appears to take these considerations into account (Mankiw 2009).

CBO (2009c) reviews the major components of GDP and describes several reasons why a slow recovery might be expected in the current environment. Consumption expenditures will be

held down by the roughly 25 percent decline in household net worth and by rising unemployment, which tends to peak much later than the recession's trough. Investment in housing will stay low because of low prices and the overhang of vacant houses. Equipment investment may not recover until the capacity utilization rate, which hit a 40-year low a few months ago, recovers strongly. A leading indicator of structures investment is down substantially, and there are concerns that the commercial real estate market will decline. Rising interest rates could do significant harm to consumption (by making it less attractive to refinance mortgages and by raising interest-payment burdens on other loans), housing investment (by reducing affordability of home purchases) and business investment (by raising the cost of capital). Inventory adjustments could provide a one-time push, but not a sustained boost. State and local governments are likely to reduce spending over the next few years, as discussed below. Some analysts point to net exports as a potential source of growth. However, many countries around the world will be trying to raise net exports in the recovery, and of course it is impossible to raise net exports in aggregate, since net exports sum to zero world-wide. Efforts to raise net exports by devaluing the dollar, even if successful, could ignite inflation. Additionally, if other countries, European nations in particular, are fiscally retrenching in the coming years, their cutbacks will make it even more difficult to raise U.S. net exports.

B. Policy Balancing Act

If the other components of GDP do not spark recovery, that leaves federal spending as a key driver of growth over the next few years. While short-term fiscal stimulus can boost an otherwise slack economy, persistent deficits in a full-employment economy will have deleterious effects on national saving and national income.[22] This creates a difficult balancing act between efforts over the next few years to improve the economic recovery and efforts to establish (or at least not harm) long-term fiscal sustainability.[23]

If fiscal discipline is imposed too soon – that is, before the recovery is secure – the imposition of spending cuts or tax increases could put the recovery at risk. This could happen gradually, by making the growth rate more anemic than it otherwise would be. This is the L-shaped scenario that is sometimes discussed. The Japanese experience, combining a long, slow recovery with some attempts at fiscal discipline – including a 1997 increase in value added taxes – provides a cautionary example. Alternatively, the impact could occur in a more dramatic fashion, by causing a new downturn, the so-called W-shaped scenario. A cautionary lesson here comes from the restrictive tax and spending policies enacted in the mid-1930s that choked off a growing recovery and plunged the economy into a new downturn, thus lengthening and deepening the Great Depression.[24] At the very least, these scenarios warn against declaring victory against the downturn and pursuing fiscal discipline too quickly.

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[22] For further discussion of the recent economic stimulus see Auerbach and Gale (2009b). For discussion of the impact on sustained deficits on the economy, see Gale and Orszag (2004).

[23] Although not the focus of this paper, it is worth noting that monetary policy makers will face a similar set of trade-offs. If interest rates begin to rise, policies that allow that increase to remain will risk cutting off the recovery. Policies that aim to reduce interest rates could fuel inflation and create a stagflation scenario. More generally, the conduct of monetary policy could potentially enhance or offset fiscal policy choices.

[24] For further discussion of fiscal policy during the Great Depression and Japan's Lost Decade, see Romer (1992), Posen (1998) and Auerbach and Gale (2009b).

On the other hand, if fiscal cutbacks are not imposed soon enough, the lack of discipline could itself become a drag on the recovery. Again, this could happen gradually or suddenly. The gradual scenario would be that investor fears of future deficits translate into higher interest rates that reduce housing refinancing and business investment and slow the pace of recovery. The more sudden scenario has been emphasized, even under considerably more sanguine fiscal conditions than exist today, by leading economists in both political parties (see Ball and Mankiw 1995; Rubin, Orszag, and Sinai 2004). Under this scenario, investors' fears about future deficits can reach a tipping point and trigger a financial crisis. Both sets of authors point to this potential sudden impact as perhaps the most important reason to avoid substantial, ongoing budget deficits.

In fact, the Administration's budget calls for the deficit to shrink by more than 6 percentage points of GDP from 2009 to 2012. This would be the largest 3-year decline since the end of World War II. The resulting decline in aggregate demand in the late 1940s, coupled with other factors, sparked a recession. Most of the planned decline in the deficit over the next three years reflects the completion of financial interventions and the effects of rising GDP, rather than legislated spending cuts or tax increases. Thus, there is a chance that the projected fiscal consolidation over the next three years could occur with minimal damage to aggregate demand. However, a significant part also represents the expiration of key provisions of the stimulus package. As discussed further below, legislators may be tempted to grant continuances to these provisions.

Still, CBO (2009b) does not expect the economy to return to full employment until 2015**,** so the need to balance short-term recovery and long-term fiscal sustainability could go on for a long time. The lag until full employment is reached may raise difficult political issues as well. Financial markets tend to lead recoveries. As a result, if and when the recovery begins in earnest, policy makers will be facing an environment that not only features poor fiscal statistics and weak labor markets, but an improving financial sector relative to the rest of the economy. Given the current resentment in mainstream America of those in the financial sector, the pressure to enact politically populist, but economically counterproductive, policies may increase.

A second political issue has to do with the viability of imposing budget discipline of any type over the medium term. On the tax side, both political parties have taken strong positions – no new taxes in one case, and no new taxes for 95 percent of the population in the other – that are inconsistent with serious attempts to bring about fiscal balance. On the spending side, in each year between 1985 and 2008, more than 70 percent of federal expenditures went to Social Security, Medicare, Medicaid, defense and net interest. Although that share is temporarily down due to recession-related interventions, it is projected to rise to 70 percent by 2012 and rise to 80 percent by 2019 (under the CBO baseline). It will be very difficult to establish significant cuts in any of the first three programs over at least the next five years; indeed, each is slated to rise substantially. Projected cuts in defense simply cannot offset these increases, and interest payments merely reflect accumulating deficits and the going rates of interest. As a result, efforts to cut back spending would imply that the remaining share of federal expenditures needs to be cut by relatively large amounts, which seems unlikely.

Lastly, in proposing to use climate revenues to pay for the Making Work Pay Credit and clean energy policies rather than deficit reduction, and in proposing to finance new health spending with income tax increases on high-income households and improved tax compliance, rather than by curtailing or transforming the employer deduction for health insurance premiums, the Administration has promised away billions of potential revenue gains that could otherwise have been used for deficit reduction, leaving fewer options for deficit reduction on the table.

C. Cracks in the Armor

Concerns about how the federal government will balance fiscal sustainability and other issues in and beyond the recovery are already beginning to show up in remarkable ways. In March, the Chinese Prime Minister Wen Jiabao said that "we have lent a huge amount of money to the US. Of course we are concerned about the safety of our assets. To be honest, I am definitely a little worried." He called on the US to "maintain its good credit, to honor its promises and to guarantee the safety of China's assets."[25]

Recent trends in credit default swap markets are also of interest. Figure 12 shows that the price of purchasing insurance against default on 5-year senior U.S. Treasury debt rose from around 10 basis points before September 2008 to above 90 basis points in early 2009 before falling back to around 25 basis points by August. Under the assumption (used by the Bloomberg data set that generates these figures) that if defaults occur, bond holders would recover about 40 percent of par value, the implied default probabilities rose from less than 1 percent to almost 8 percent, before declining again to about 2 percent in August, as shown as in Figure 13. While we find these figures hard to reconcile with our own views of the current creditworthiness of the United States, especially over the next five years, it is worth highlighting several aspects of the data. First, the data clearly show a visible increase in the likelihood of default on U.S. Treasury bonds, a notion that was virtually unthinkable in the past. Second, the figures relate to default *in the next five years*, not to long-term liabilities associated with Medicare and Medicaid. Third, even higher credit default prices exist for the bonds of other countries. Lastly, if one assumes a higher recovery rate than 40 percent in the event of default, the implied default probabilities would be even higher than shown in Figure 13.

Recent trends in Treasury markets show yields on ten-year Treasury rates rising by about 100 basis points over the past six months. This will have deleterious effects on the economic recovery, as noted above. Although some analysts have attributed these increases to renewed concerns about the long-term fiscal situation, it seems more plausible to us that the recent increase largely reflects an easing of investor attitudes toward risk and hence a reversal of the "flight to safety" that occurred during the financial panic last fall and that dropped Treasury rates to extremely low levels.[26]

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[25] Batson and Browne (2009).

[26] Engen and Hubbard (2004) and Gale and Orszag (2004a) report similar estimates of the impact of deficits and debt on interest rates, suggesting that the recent 50-percent-of-GDP increase in the projected debt-to-GDP ratio toward the end of the ten-year budget period would be expected to raise long-term rates by 150 basis points. Given these estimates, one might wonder why interest rates have been so low in recent years. The main reason is that while projected future deficits are an important influence on interest rates, they are certainly not the only one. Other factors – such as the Federal Reserve's 500 basis point reduction in the Federal funds rate since August 2007, the

D. Not Just the Feds

While our analysis has focused on the U.S. government, severe fiscal problems are emerging at State governments and around the world. These problems interact in problematic ways with U.S. national policy challenges.

The economic downturn has battered state and local government finances. Lower housing values reduce property tax collections; rising unemployment curtails income tax revenues; and consumer spending retrenchment affects sales tax receipts. More than 40 states were forced to reduce their budgets midway through fiscal year 2009 and 47 states are expected to face budget shortfalls in either or both 2009 and 2010. State budgets are expected to shrink by 2.5 percent in 2010, well below the historical growth rate of 5.9 percent. Total projected budget shortfalls are estimated to be $145 billion in 2010 (about 19 percent of state general fund allocations) and $180 billion in 2011. Until recently, California's budget shortfall was the most severe. In February the State Legislature took steps to close a two-year budget shortfall in excess of $40 billion, only to find itself with a $24 billion shortfall months later. In July, the California legislature proposed to balance the budget through a combination of spending cuts, increased borrowing, and budget gimmicks. The governor signed the proposed budget, but only after using line-item veto power to add another $500 million in cuts to social services. [27]

State fiscal problems will have several effects on the national economy and the federal budget. The balanced-budget rules in place in almost all states mean that declining revenues must be met with draw-downs of existing reserves, tax increases, or spending cuts. The latter two items, of course, would hurt the economic recovery. The pressure on state budgets increases the pressure on the federal government to lend support, as evidenced by the $150 billion in the recent stimulus legislation for aid to the states. As noted above, however, a key element in establishing fiscal discipline going forward is whether Congress allows the stimulus bill's allocation to the states to expire as scheduled in 2011. To the extent that the states face difficult fiscal situations and the recovery is weak, there will be significant pressure on the federal government to postpone the enactment of fiscal discipline and to continue to support the states.

The financial crisis and economic downturn is also affecting fiscal balances of other nations. For 2008 and 2009, the fiscal deficits of G-20 advanced countries are expected to rise by about 6 percentage points of GDP and debt is expected to rise by 14 percentage points of GDP. G-20 emerging countries are experiencing fiscal deterioration that is similar in direction though not as stark in magnitude. Many major economies have enacted substantial discretionary stimulus packages and automatic stabilizers, which are typically much stronger in European countries than in the United States, have also contributed significantly to fiscal shortfalls (IMF 2009).

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international flight to safety following last September's financial panic, the reduction in inflation, and the reduction in investment demand during the recession – have played key roles in keeping interest rates low. In addition, Gale and Orszag (2004a) show that a projected long-term deficit of given size has a smaller effect on interest rates during recession periods than during periods of normal economic activity.

[27] See Legislative Analyst's Office (2009), McNichol and Lav (2009) and National Association of State Budget Officers (2009).

To the extent that the rest of the world is trying to stimulate at the same time the United States is, there could be spillover benefits. However, if the rest of the world tries to retrench fiscally at the same time as the United States does in the near future, this will reduce export demand and thus make both fiscal retrenchment and economic recovery more difficult for the United States.

A potentially serious warning sign about fiscal deterioration occurred in May, when the United Kingdom was warned by Standard and Poor's Ratings Service that it may lose its AAA credit rating on account of its projected debt-to-GDP ratios.[28] This is a sobering event for the United States as well, given that United Kingdom projected debt levels are about the same as those projected for the United States levels over the next five years.[29] This suggests either that the United States could face a similar threat of downgrade or that some other factor, such as the dollar being the *de facto* world reserve currency, prevents that outcome. But a country's status as the reserve currency issuer may well depend on its underlying fiscal health (Friedman 1988). So if anything, the U.K. example suggests that the issuer status, which has helped the United States immensely in the current downturn by allowing large expansions of monetary and fiscal policy, may be at stake.

E. The Future is Now

For many years, serious observers of U.S. fiscal policy have understood that the country faced a long-term fiscal problem. But, until now, this long-term problem has been one that policy makers could ignore, and largely did, even though delays in addressing the problem could only make the eventual policy responses more difficult for the U.S. economy.

Recent developments, however, have caused a change in circumstances. Huge short-term deficits have accelerated the arrival of the future that policy makers have been choosing to ignore. And capital market disruptions have reduced the likelihood that growing U.S. fiscal imbalances will be tolerated. Thus, the United States will soon enter a new phase of fiscal policy decision-making. Although huge deficits are not desirable in the short term, they are nonetheless understandable. Once – or as – the economy recovers, though, the need to impose fiscal discipline will be a short-term and urgent problem that will require difficult choices that policy makers have so far refused to make. Worse still, if the economy recovers only very slowly or not at all, those decisions will still need to be faced, but in the context of a weaker economic situation.

[28] Fidler and Shah (2009).

[29] Under the British government's budget, net debt, expressed as a percentage of GDP rises from 46.5 at the end of fiscal 2009, to 59.0, 68.4, 74.0, 77.5, and 79.0 over the successive five years. (See HM Treasury (2009)). Under CBO (2009d) estimates of the Administration's budget, the analogous figures are 56.7 at the end of 2009, followed by 64.9, 68.6, 70.2, 71.3, and 73.0. After 2014, the U.K. debt-to-GDP ratio is expected to decline (under assumptions that are widely regarded as heroic) while the U.S. ratio continues to rise, as discussed above.

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Table 1

Federal Deficit or Surplus, 2001 Projections and Actual and Prospective Outcomes[1,2]

Dollars (Billions)	2001	2008	2009
CBO 2001 Baseline Projection	281	635	710
Actual Surplus or Deficit	128	-455	-1,587
Difference	-153	-1,090	-2,297
Policy Changes	-84	-1,007	-1,413
Tax and Spending	-83	-833	-1,189
Debt Service	-1	-174	-225
Economic and Technical Changes	-68	-83	-885
Percent of GDP			
CBO 2001 Baseline Projection	2.8	4.5	5.0
Actual Surplus or Deficit	1.3	-3.2	-11.2
Difference	-1.5	-7.7	-16.2
Policy Changes	-0.8	-7.1	-10.0
Tax and Spending	-0.8	-5.9	-8.4
Debt Service	0.0	-1.2	-1.6
Economic and Technical Changes	-0.7	-0.6	-6.3
GDP	10,060	14,222	14,140

[1]Columns may not sum to total due to rounding.

[2]See Appendix Table 1 for sources.

Table 2

CBO Baseline and Adjusted Budget (Bush Policy) Outcomes for 2010-2019 (Surplus or Deficit in $ billions)[1,2]

	Dollars (billions)	Percent of GDP
CBO baseline	**-7,137**	**-4.0**
Adjustments for tax policy		
Extend estate and gift tax repeal	-492	-0.3
Extend 15 percent rate dividends and capital gains	-307	-0.2
Extend other provisions of EGTRRA, JGTRRA	-1,497	-0.8
Extend other non-stimulus expiring provisions	-394	-0.2
Extend and index AMT exemption amounts for inflation	-448	-0.3
Interaction effect of indexing AMT	-514	-0.3
Subtotal	-3,651	-2.1
Adjustments for spending policy		
Remove the extrapolation of supplemental DS	997	0.6
Add military spending phase-out (Option 2)	-190	-0.1
Adjust non-stimulus non-supplemental DS for population growth	-625	-0.4
Freeze Medicare physician payment rates	-285	-0.2
Adjust Transitional Medical Assistance and Qualified Individuals Program	-16	0.0
Adjust growth rates for pay and social insurance administrative expenses	30	0.0
Subtotal	-89	-0.1
Net Interest	-795	-0.4
Adjusted baseline (Bush policy)	**-11,672**	**-6.6**

[1]Columns may not sum to total due to rounding.

[2] See Appendix Table 2 for sources and notes.

Table 3

CBO Baseline and Estimate of the Administration Budget (Obama Policy) Outcomes for 2009-2019 (Surplus or Deficit in $ billions)[1,2]

	Dollars (billions)	Percent of GDP
CBO baseline	**-7,137**	**-4.0**
Adjustments for tax policy		
Extend estate and gift tax at 2009 levels	-234	-0.1
Create 20 percent rate on dividends and capital gains	-224	-0.1
Extend other provisions of EGTRRA and JGTRRA, and income tax rates, but revert to 36 and 39.6 rates	-1,182	-0.7
Provide marriage penalty relief	-258	-0.1
Extend and index AMT exemption amounts for inflation	-447	-0.3
Extend and expand the Making Work Pay and other credits	-865	-0.5
Revenues from climate policy	632	0.4
Reform of the international tax system	161	0.1
Expand net operating loss carryback	-18	0.0
Other proposals	-12	0.0
Subtotal	-2,448	-1.4
Adjustments for spending policy		
Remove the extrapolation of supplemental DS	997	0.6
Add non-defense discretionary outlays	-458	-0.3
Add defense outlays	-143	-0.1
Freeze Medicare physician payment rates	-285	-0.2
Modify the Family Federal Education Loan Program	87	0.0
Modify Pell Grants	-293	-0.2
Other proposals	-33	0.0
Subtotal	-128	-0.1
Net Interest	-561	-0.3
Administration budget (Obama policy)	**-10,274**	**-5.8**

[1]Columns may not sum to total due to rounding.

[2]See Appendix Table 3 for sources and notes.

Table 4

Budget Measures Under Alternative Baselines
Percent of GDP[1,2]

	CBO Baseline	Adjusted Baseline (Bush Policy)	Administration Budget (Obama Policy)
2009			
Total Spending	26.1	26.3	26.3
Total Revenues	14.9	14.9	14.9
Surplus/Deficit	-11.2	-11.4	-11.4
Public Debt	53.8	54.0	54.1
2013			
Total Spending	22.6	22.7	22.6
Total Revenues	19.4	17.2	18.0
Surplus/Deficit	-3.2	-5.5	-4.5
Public Debt	65.5	71.8	70.2
2019			
Total Spending	23.6	24.8	24.5
Total Revenues	20.2	17.7	18.6
Surplus/Deficit	-3.4	-7.1	-5.9
Public Debt	67.8	89.4	82.8

[1]Columns may not sum to total due to rounding.

[2]Congressional Budget Office, "An Analysis of the President's Budgetary Proposals for Fiscal Year 2010," Washington: June 2009, *Doc 2009-13709, 2009 TNT 114-20* . Congressional Budget Office, "The Budget and Economic Outlook: An Update," Washington: August 2009 and authors' calculations.

Table 5
Fiscal Gaps

Baseline	CBO Baseline		Adjusted Baseline		Administration Budget	
	Through 2085	Permanent	Through 2085	Permanent	Through 2085	Permanent
As a Percent of GDP	5.14	6.93	7.67	9.53	6.86	8.70
In Trillions of Present-Value Dollars	39.3	100.2	58.6	137.8	52.5	125.8
1.5 percentage point reduction in health spending growth per year for 10 years						
As a percent of GDP					5.64	7.19
In trillions of present-value dollars					43.2	104.0
1.5 percentage point reduction in health spending growth per year for 30 years						
As a percent of GDP					4.02	4.95
In trillions of present-value dollars					30.8	71.6
1.5 percentage point reduction in health spending growth per year for 75 years						
As a percent of GDP					2.97	2.54
In trillions of present-value dollars					22.7	36.7
3.0 percentage point reduction in health spending growth per year for 75 years						
As a percent of GDP					0.99	0.05
In trillions of present-value dollars					7.6	0.7

Source: Authors' calculations

Appendix Table 1

Federal Deficit or Surplus, 2001 Projections and Actual and Prospective Outcomes[1,2]

Dollars (Billions)	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
CBO 2001 Baseline Projection	281	313	359	397	433	505	573	635	710
Actual Surplus or Deficit[3]	128	-158	-378	-413	-318	-248	-162	-455	-1,587
Difference	-153	-471	-737	-810	-751	-753	-735	-1,090	-2,297
Policy Changes	-84	-150	-364	-520	-542	-633	-723	-1,007	-1,413
Tax and Spending	-83	-146	-350	-485	-482	-541	-593	-833	-1,189
Debt Service	-1	-4	-14	-35	-60	-92	-130	-174	-225
Economic and Technical Changes	-68	-321	-372	-290	-208	-121	-12	-83	-885
Percent of GDP									
CBO 2001 Baseline Projection	2.8	3.0	3.3	3.5	3.5	3.9	4.1	4.5	5.0
Actual Surplus or Deficit	1.3	-1.5	-3.5	-3.6	-2.6	-1.9	-1.2	-3.2	-11.2
Difference	-1.5	-4.5	-6.8	-7.0	-6.1	-5.8	-5.3	-7.7	-16.2
Policy Changes	-0.8	-1.4	-3.4	-4.5	-4.4	-4.9	-5.2	-7.1	-10.0
Tax and Spending	-0.8	-1.4	-3.2	-4.2	-3.9	-4.2	-4.3	-5.9	-8.4
Debt Service	0.0	0.0	-0.1	-0.3	-0.5	-0.7	-0.9	-1.2	-1.6
Economic and Technical Changes	-0.7	-3.1	-3.4	-2.5	-1.7	-0.9	-0.1	-0.6	-6.3
GDP	10,060	10,378	10,804	11,504	12,245	13,023	13,808	14,222	14,140

[1]Columns may not sum to total due to rounding.

[2]Congressional Budget Office, "An Analysis of the President's Budgetary Proposals for Fiscal Year 2010," Washington: June 2009, *Doc 2009-13709, 2009 TNT 114-20* . Congressional Budget Office, "The Budget and Economic Outlook: An Update," Washington: August 2009. Authors' calculations.

[3]The Congressional Budget Office updated its estimate of the 2008 deficit from $455 billion in January 2009 to $459 billion in March 2009, but did not provide a source of the $4 billion change. For consistency, we use the January 2009 estimate of the 2008 deficit.

Appendix Table 2

CBO Baseline and Adjusted Baseline (Bush Policy) Outcomes, 2009-2019
(Surplus or Deficit in $ billions)[1, 2]

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2010-2019
1. CBO baseline	**-1,587**	**-1,381**	**-921**	**-590**	**-538**	**-558**	**-558**	**-620**	**-626**	**-622**	**-722**	**-7,137**
as percent of nominal GDP	**-11.2**	**-9.6**	**-6.1**	**-3.7**	**-3.2**	**-3.2**	**-3.1**	**-3.3**	**-3.2**	**-3.1**	**-3.4**	**-4.0**
Adjustments for tax policy												
Extend estate and gift tax repeal	0	-1	-19	-41	-47	-52	-57	-62	-67	-70	-75	-492
Extend 15 percent rate dividends and capital gains	0	-2	-13	-17	-34	-36	-38	-40	-41	-43	-44	-307
Extend other provisions of EGTRRA, JGTRRA	0	-1	-89	-160	-166	-172	-176	-179	-182	-185	-188	-1,497
Extend other non-stimulus expiring provisions	0	-8	-25	-32	-35	-40	-43	-47	-50	-54	-58	-394
Extend and index AMT exemption amounts for inflation[3]	0	-7	-69	-31	-34	-37	-41	-46	-53	-60	-70	-448
Interaction effect of indexing AMT[3]	0	0	-13	-44	-49	-53	-58	-64	-70	-77	-85	-514
Subtotal	0	-19	-229	-324	-365	-390	-414	-438	-464	-489	-520	-3,651
as percent of nominal GDP	0.0	-0.1	-1.5	-2.1	-2.2	-2.3	-2.3	-2.3	-2.4	-419	-2.5	-2.1
Adjustments for spending policy												
Remove the extrapolation of supplemental DS[4]	0	0	93	104	107	110	113	115	116	118	121	997
Add military spending phase-out (Option 2)[5]	-26	-51	-64	-45	-22	-9	-4	0	2	2	1	-190
Adjust non-stimulus non-supplemental DS for population growth[6]	0	-11	-21	-32	-43	-54	-66	-79	-92	-106	-121	-625
Freeze Medicare physician payment rates[7]	0	-7	-17	-22	-18	-23	-28	-35	-42	-45	-47	-285
Adjust Transitional Medical Assistance and Qualified Individuals Program[8]	0	0	-1	-1	-2	-2	-2	-2	-2	-2	-3	-16
Adjust growth rates for pay and social insurance administrative expenses[8]	0	2	2	2	3	3	3	3	4	4	4	30
Subtotal	-26	-66	-8	6	24	24	15	2	-15	-29	-44	-89
as percent of nominal GDP	-0.2	-0.5	-0.1	0.0	0.1	0.1	0.1	0.0	-0.1	-0.1	-0.2	-0.1
Net Interest	0	-1	-4	-13	-30	-52	-76	-103	-135	-171	-210	-795
as a percent of nominal GDP	0.0	0.0	0.0	-0.1	-0.2	-0.3	-0.4	-0.5	-0.7	-0.8	-1.0	-0.4
2. Adjusted baseline (Bush policy)	**-1,613**	**-1,467**	**-1,162**	**-921**	**-909**	**-975**	**-1,032**	**-1,158**	**-1,239**	**-1,311**	**-1,496**	**-11,672**
as a percent of nominal GDP	**-11.4**	**-10.2**	**-7.7**	**-5.8**	**-5.5**	**-5.6**	**-5.7**	**-6.2**	**-6.3**	**-6.5**	**-7.1**	**-6.6**
GDP[9]	14,140	14,439	14,993	15,754	16,598	17,319	18,019	18,760	19,524	20,308	21,114	176,828

[1]Columns may not sum to total due to rounding.

[2]Unless otherwise noted, the source of these estimates is Congressional Budget Office. "Budget and Economic Outlook: An Update," August 2009. Supplemental Table.

[3]Congressional Budget Office. "Budget and Economic Outlook: An Update," August 2009. Table 1-7.

[4]Adjustment removes the extrapolation of 2009 supplemental spending.

[5]Congressional Budget Office. "Preliminary Analysis of the President's Budget," March 2009. Supplemental Table, "The Budgetary Effects of Selected Policy Alternatives Not Included in CBO's Baseline." Option to "Reduce the number of troops deployed for military operations in Iraq and Afghanistan and other activities related to the war on terrorism to 75,000 by 2013."

[6]Authors' calculations using Census 2000 projections of population growth. Only increases non-stimulus, non-supplemental discretionary spending.

[7]Congressional Budget Office. “An Analysis of the President’s Budgetary Proposals for Fiscal Year 2010," June 2009. Table 1-4.

[8]Office of Management and Budget, "A New Era of Responsibility: Renewing America's Promise," February 2009. Table S-5.

[9]Congressional Budget Office. "Budget and Economic Outlook: An Update." August, 2009. Table 1.

Appendix Table 3

CBO Baseline and Estimate of the Administration Budget (Obama Policy), 2009-2019
(Surplus or Deficit in $ billions)[1, 2]

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2010-2019
1. CBO baseline	**-1,587**	**-1,381**	**-921**	**-590**	**-538**	**-558**	**-558**	**-620**	**-626**	**-622**	**-722**	**-7,137**
as percent of nominal GDP	**-11.2**	**-9.6**	**-6.1**	**-3.7**	**-3.2**	**-3.2**	**-3.1**	**-3.3**	**-3.2**	**-3.1**	**-3.4**	**-4.0**
Adjustments for tax policy												
Extend estate and gift tax at 2009 levels	0	0	-1	-18	-22	-25	-29	-31	-34	-36	-38	-234
Create 20 percent rate on dividends and capital gains[3]	0	0	-5	-20	-25	-26	-28	-29	-30	-31	-31	-224
Extend other provisions of EGTRRA and JGTRRA, and income tax rates, but revert to 36 and 39.6 rates[4]	0	0	-79	-121	-125	-131	-135	-140	-145	-150	-156	-1,182
Provide marriage penalty relief	0	0	-18	-25	-27	-28	-29	-31	-32	-33	-34	-258
Extend and index AMT exemption amounts for inflation	0	-7	-69	-31	-34	-37	-41	-46	-52	-60	-70	-447
Extend and expand the Making Work Pay and other credits[5]	0	0	-29	-100	-103	-103	-105	-105	-106	-106	-108	-865
Revenues from climate policy	0	0	0	77	78	78	79	79	80	80	80	632
Reform of the international tax system	0	0	10	17	16	17	18	19	20	21	22	161
Expand net operating loss carryback	0	-60	10	10	7	5	4	3	2	1	1	-18
Other proposals	0	-5	-11	0	3	2	1	0	0	-1	-1	-12
Subtotal	0	-72	-192	-211	-232	-248	-265	-281	-297	-315	-335	-2,448
as percent of nominal GDP	0.0	-0.5	-1.3	-1.3	-1.4	-1.4	-1.5	-1.5	-1.5	-1.6	-1.6	-1.4
Adjustments for spending policy												
Remove the extrapolation of supplemental DS[6]	0	0	93	104	107	110	113	115	116	118	121	997
Add non-defense discretionary outlays	-2	-15	-6	-18	-31	-44	-56	-65	-70	-75	-79	-458
Add defense outlays	-23	-60	-35	-6	0	-3	-6	-7	-8	-9	-10	-143
Freeze Medicare physician payment rates	0	-7	-17	-22	-18	-23	-28	-35	-42	-45	-47	-285
Modify the Family Federal Education Loan Program	0	3	9	11	10	9	9	9	9	9	9	87
Modify Pell Grants[7]	0	-5	-20	-28	-30	-33	-32	-33	-35	-37	-39	-293
Other proposals	-6	-8	-8	-1	0	0	-1	-1	-4	-5	-5	-33
Subtotal	-31	-92	16	40	38	16	-1	-17	-34	-44	-50	-128
as percent of nominal GDP	-0.2	-0.6	0.1	0.3	0.2	0.1	0.0	-0.1	-0.2	-0.2	-0.2	-0.1
Net Interest	0	-2	-5	-12	-23	-37	-53	-72	-94	-119	-146	-561
as a percent of nominal GDP	0.0	0.0	0.0	-0.1	-0.1	-0.2	-0.3	-0.4	-0.5	-0.6	-0.7	-0.3
2. Administration Baseline	**-1,618**	**-1,547**	**-1,103**	**-773**	**-755**	**-827**	**-877**	**-990**	**-1,051**	**-1,100**	**-1,253**	**-10,274**
as a percent of nominal GDP	**-11.4**	**-10.7**	**-7.4**	**-4.9**	**-4.5**	**-4.8**	**-4.9**	**-5.3**	**-5.4**	**-5.4**	**-5.9**	**-5.8**
GDP[8]	14,140	14,439	14,993	15,754	16,598	17,319	18,019	18,760	19,524	20,308	21,114	176,828

1Columns may not sum to total due to rounding.

[2]Unless otherwise noted, the source of these estimates is Congressional Budget Office. "Analysis of the President's Budgetary Proposals for Fiscal Year 2010," June 2009. Table 1-4.

[3]The estimates include the effects of imposing a 20 percent tax rate on capital gains and dividends for taxpayers with income above certain levels, starting in 2011. Tax rates for the remaining taxpayers would be at the 2010 levels specified in JGTRRA.

[4]The estimates include the effects of maintaining, for taxpayers with income above certain levels, the income tax rates of 36 percent and 39.6 percent scheduled to go into effect in 2011 under current law. For the remaining taxpayers, tax rates would be at 2010 levels specified in EGTRRA.

[5]Sum of lines "Permanently extend Making Work Pay credit," "Provide Making Work Pay and other tax proposals," and "Expand earned income and child tax credits."

[6]Adjustment removes the extrapolation of 2009 supplemental spending.

[7]The current Pell Grant program has discretionary and mandatory components. CBO's estimate of the costs of modifying Pell grants includes the costs of setting the maximum award at $5,550 in 2010, indexing that award level for future years, and reclassifying the entire program as mandatory spending. That reclassification would result in eliminating spending for Pell grants in CBO's discretionary baseline, which currently includes $195 billion in outlays for new grants over the 2010–2019 period.

[8]Congressional Budget Office. "Budget and Economic Outlook: An Update." August, 2009. Table 1.

Appendix Table 4

Alternative Deficit Projections, 2009-2019

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2010-2019
CBO Baseline ($billions)[1]	-1,587	-1,381	-921	-590	-538	-558	-558	-620	-626	-622	-722	-7,137
as a percent of GDP	-11.2	-9.6	-6.1	-3.7	-3.2	-3.2	-3.1	-3.3	-3.2	-3.1	-3.4	-4.0
Adjusted Baseline ($billions)[2] (Bush Policy)	-1,613	-1,467	-1,162	-921	-909	-975	-1,032	-1,158	-1,239	-1,311	-1,496	-11,672
as a percent of GDP	-11.4	-10.2	-7.7	-5.8	-5.5	-5.6	-5.7	-6.2	-6.3	-6.5	-7.1	-6.6
Administration Budget ($billions)[3] (Obama Policy)	-1,618	-1,547	-1,103	-773	-755	-827	-877	-990	-1,051	-1,100	-1,253	-10,274
as a percent of GDP	-11.4	-10.7	-7.4	-4.9	-4.5	-4.8	-4.9	-5.3	-5.4	-5.4	-5.9	-5.8

[1]Congressional Budget Office, "The Budget and Economic Outlook: An Update," Washington: August 2009.

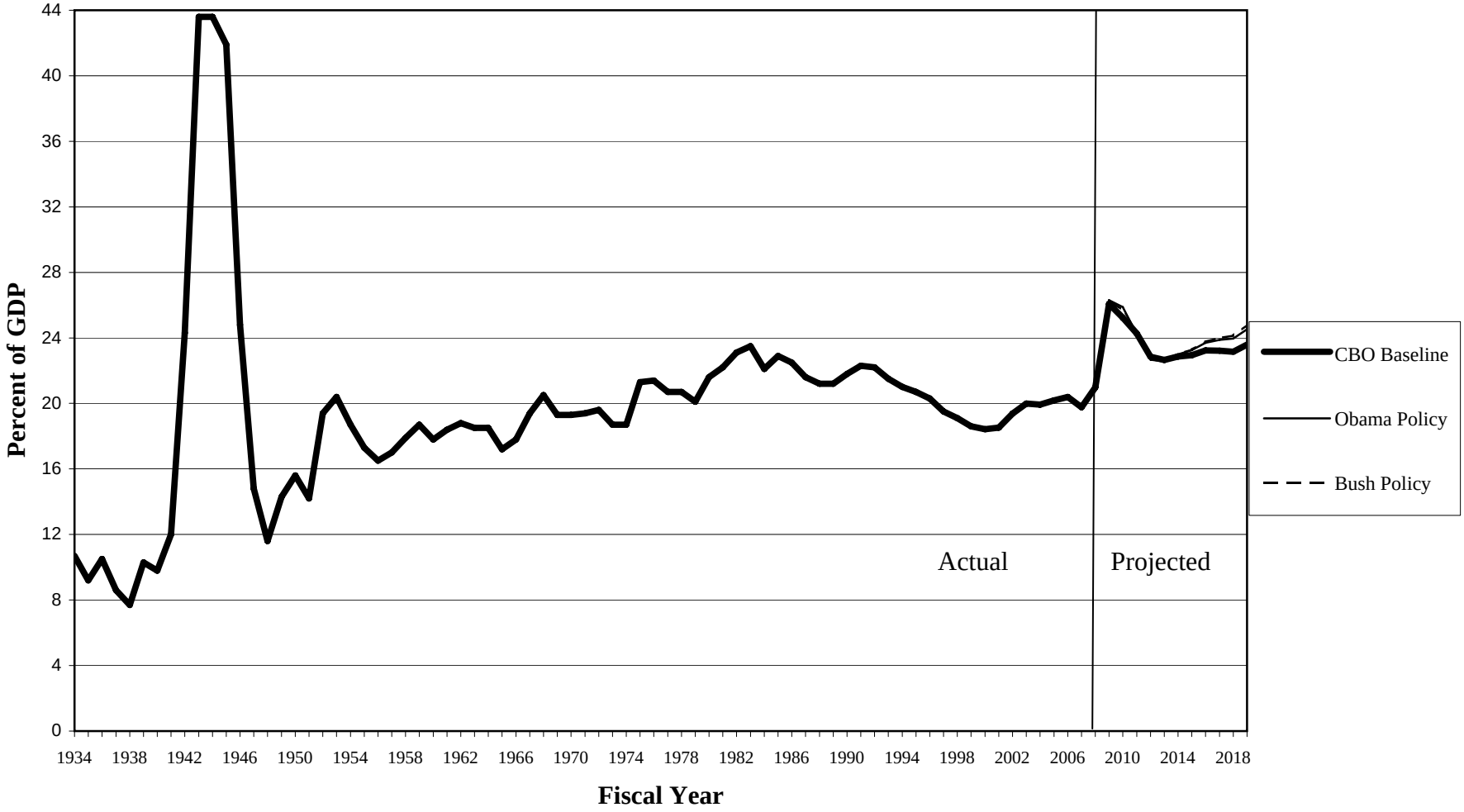
[2]See Appendix Table 2 for notes and sources.

[2]See Appendix Table 3 for notes and sources.

Figure 1
Federal Revenues, 1934-2019

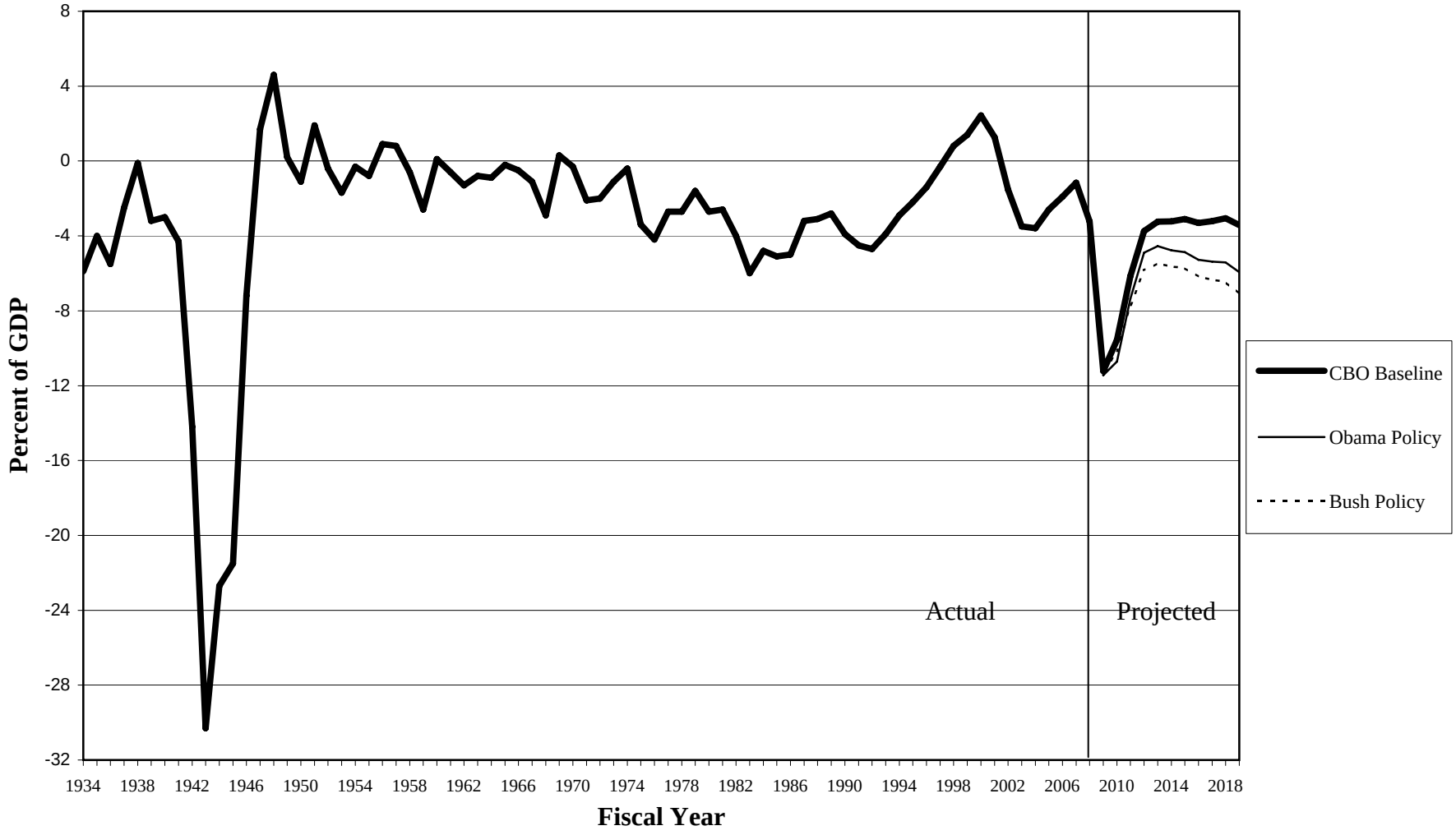
Source: CBO (2009b), CBO (2009g), Economic Report of the President (2009), and authors' calculations.

Figure 2
Federal Spending, 1934-2019



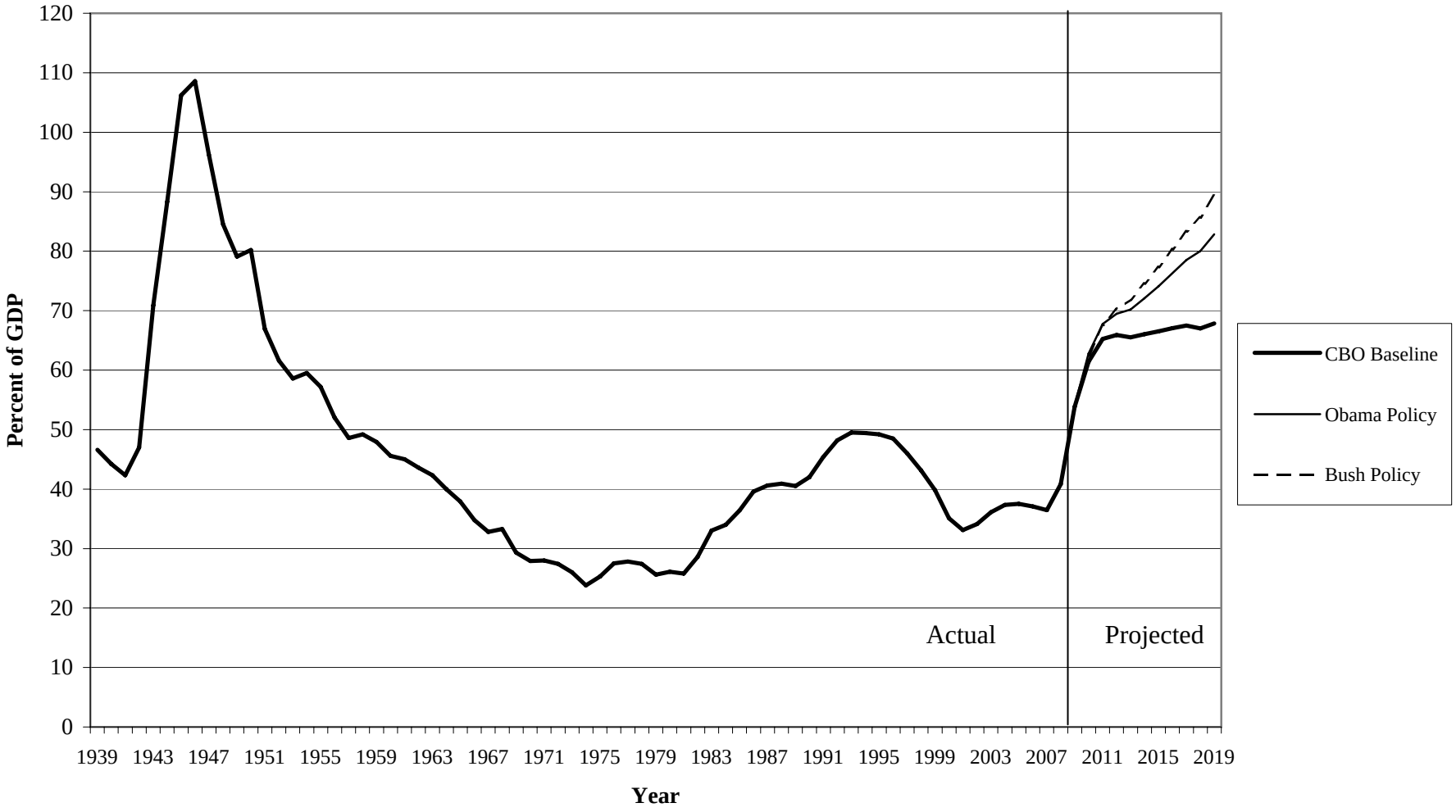
Source: CBO (2009b), CBO (2009g), Economic Report of the President (2009), and authors' calculations.

Figure 3
Federal Surplus or Deficit, 1934-2019



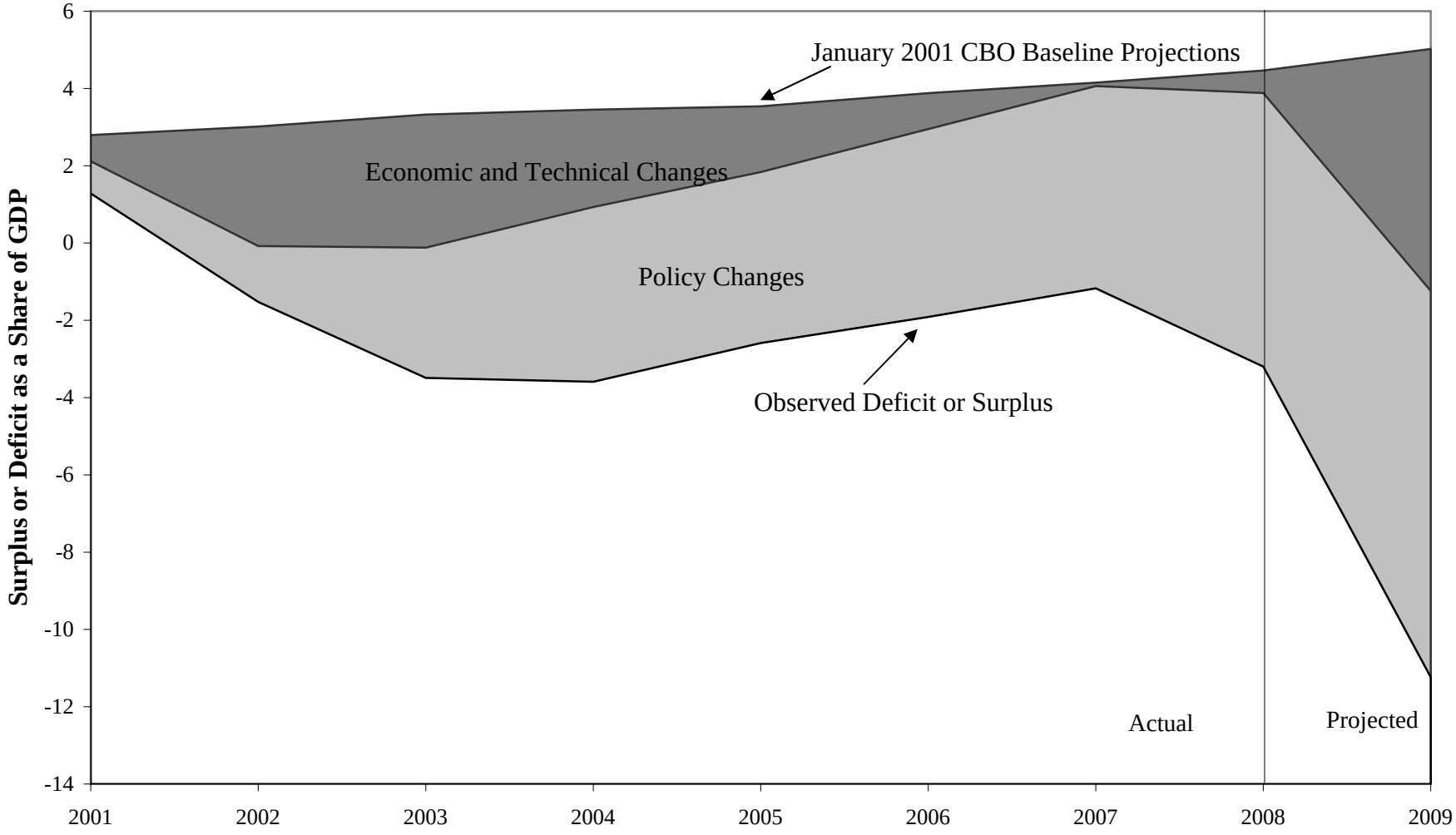
Source: CBO (2009b), CBO (2009g), Economic Report of the President (2009), and authors' calculations.

Figure 4
Public Debt, 1939-2019



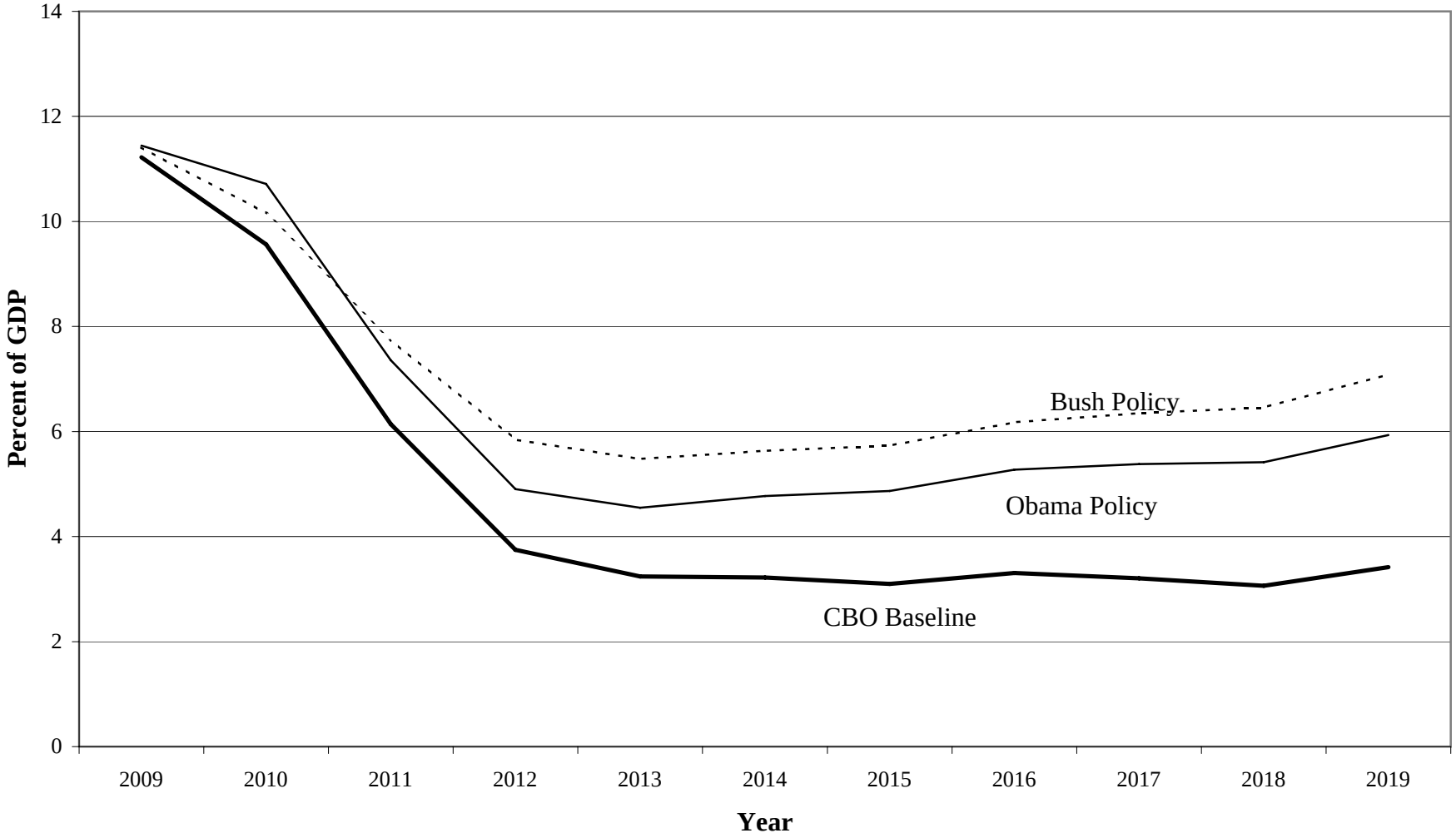
Source: CBO (2009b), CBO (2009g), Economic Report of the President (2009), and authors' calculations.

Figure 5
Federal Deficit or Surplus, 2001 Projections and Actual and Prospective Outcomes



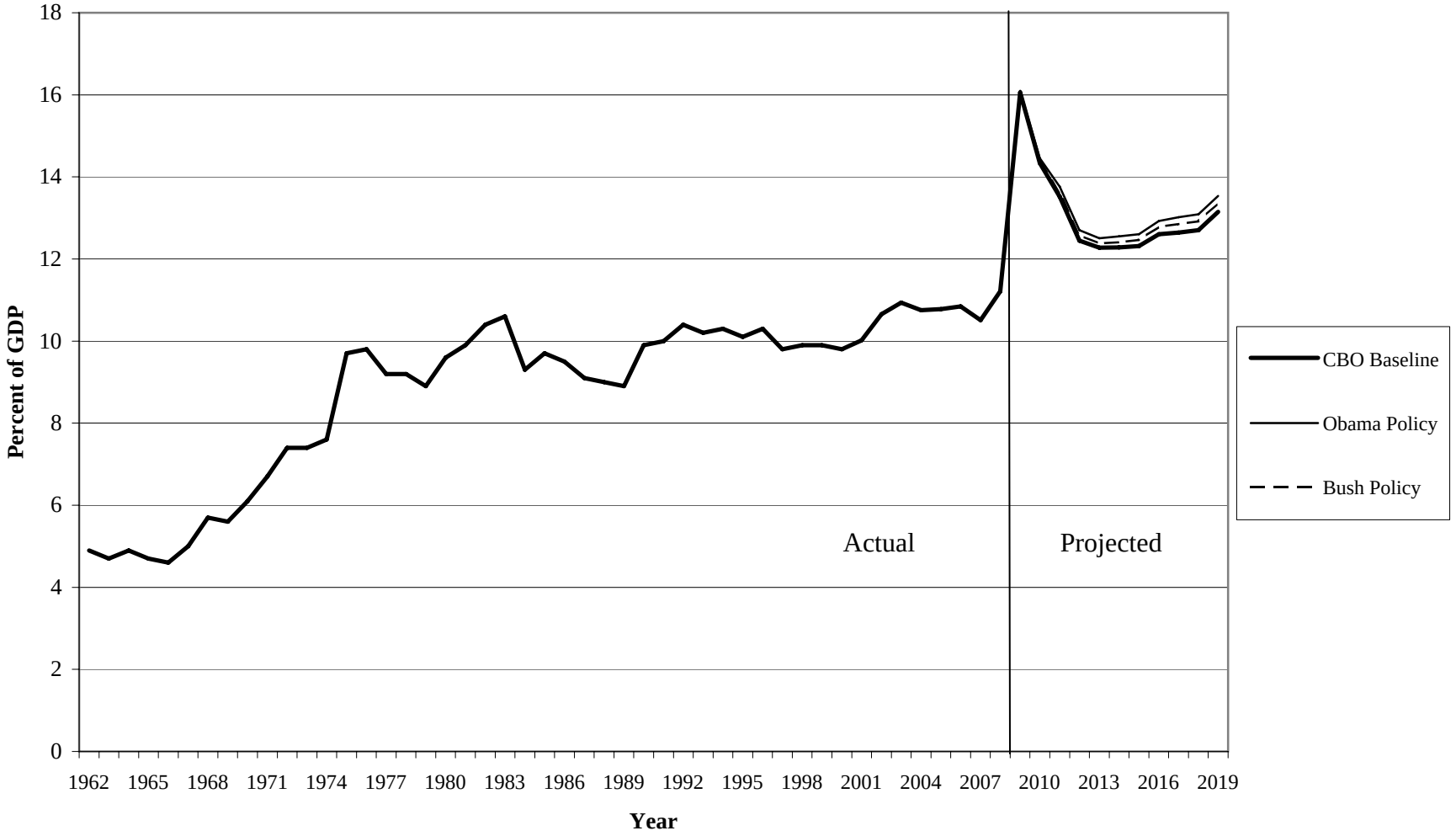
Source: CBO (2009), CBO (2001), and authors' calculations.

Figure 6
Alternative Deficit Projections, 2009-2019



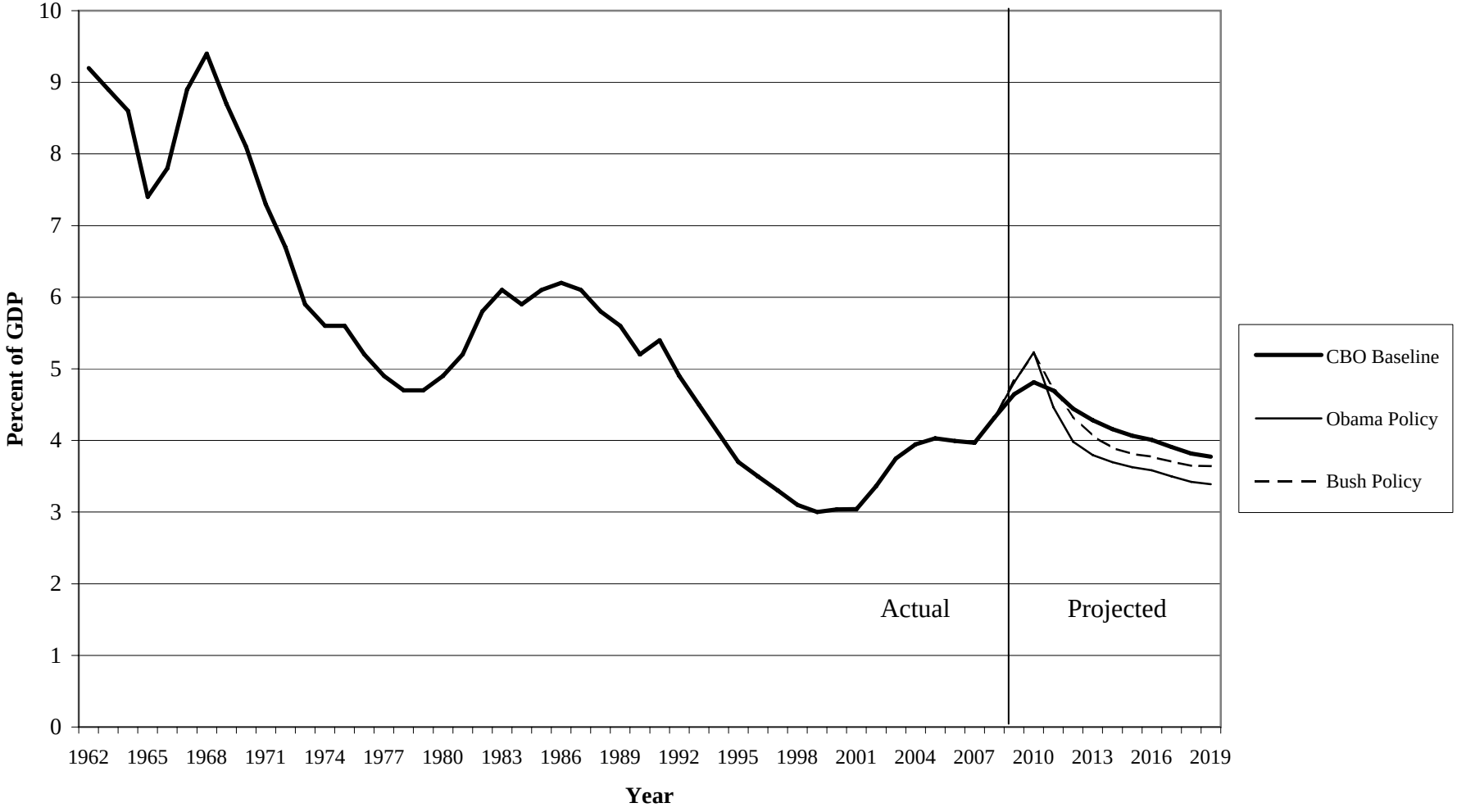
Source: CBO (2009d), CBO (2009g), and authors' calculations.

Figure 7
Historical and Prospective Mandatory Spending, 1962-2019



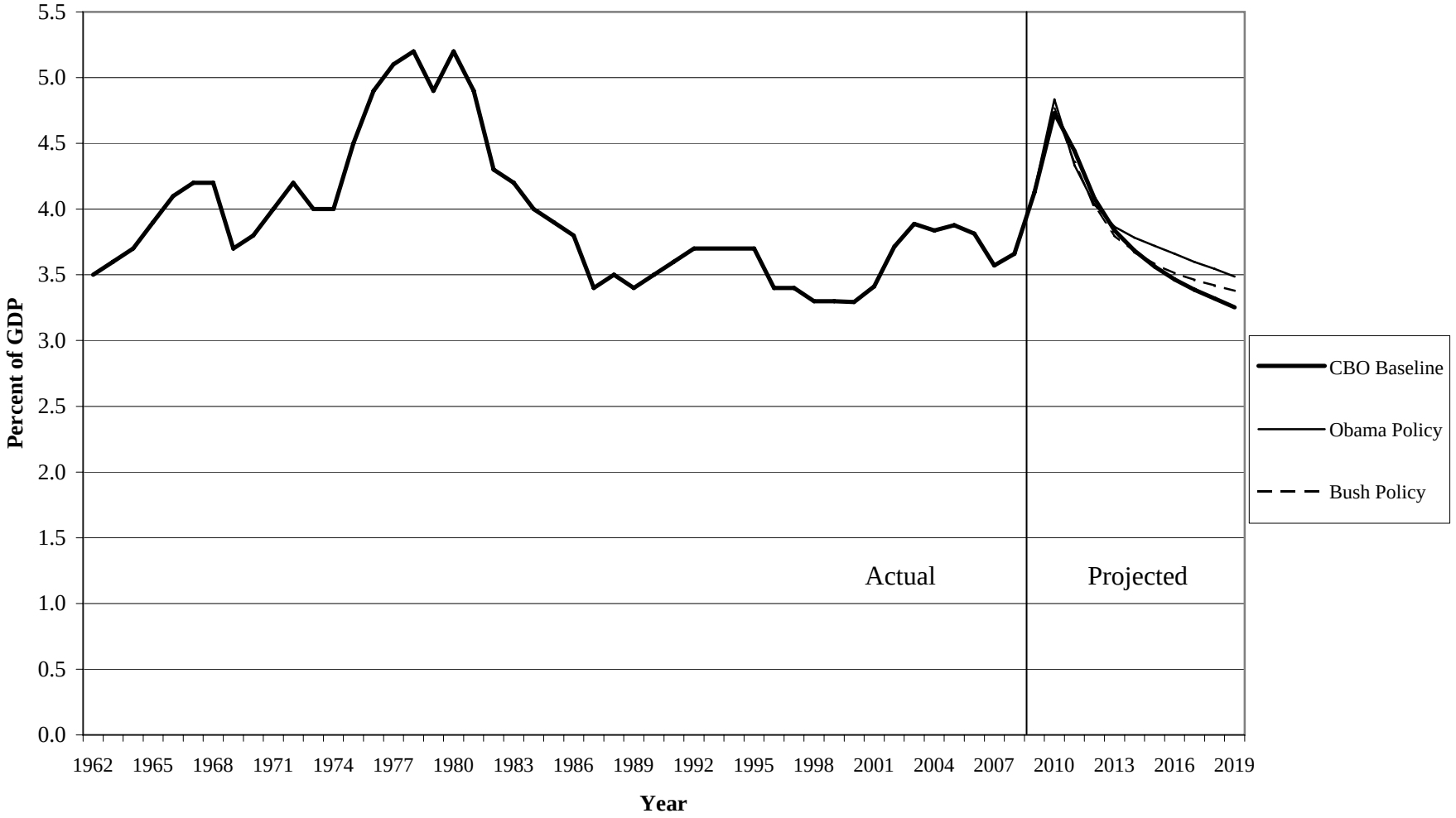
Source: CBO (2009b), CBO (2009g), Economic Report of the President (2009), and authors' calculations.

Figure 8
Historical and Prospective Defense Spending, 1962-2019



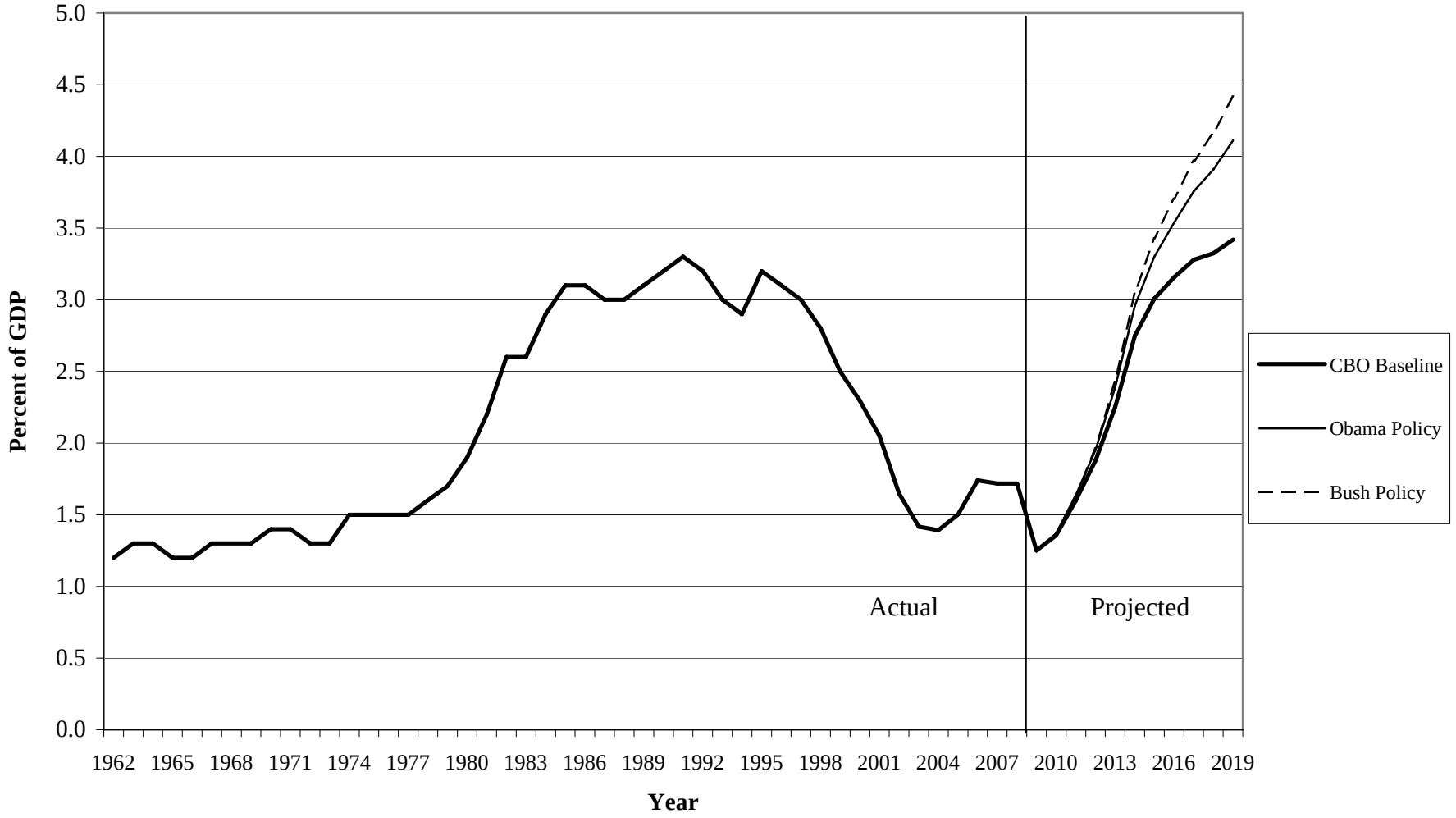
Source: CBO (2009b), CBO (2009g), Economic Report of the President (2009), and authors' calculations.

Figure 9
Historical and Prospective Non-Defense Discretionary Spending, 1962-2019



Source: CBO (2009b), CBO (2009g), Economic Report of the President (2009), and authors' calculations.

Figure 10
Historical and Prospective Net Interest Spending, 1962-2019



Source: CBO (2009b), CBO (2009g), Economic Report of the President (2009), and authors' calculations.

Figure 11. Revenues and Non-Interest Expenditures as a Percent of GDP

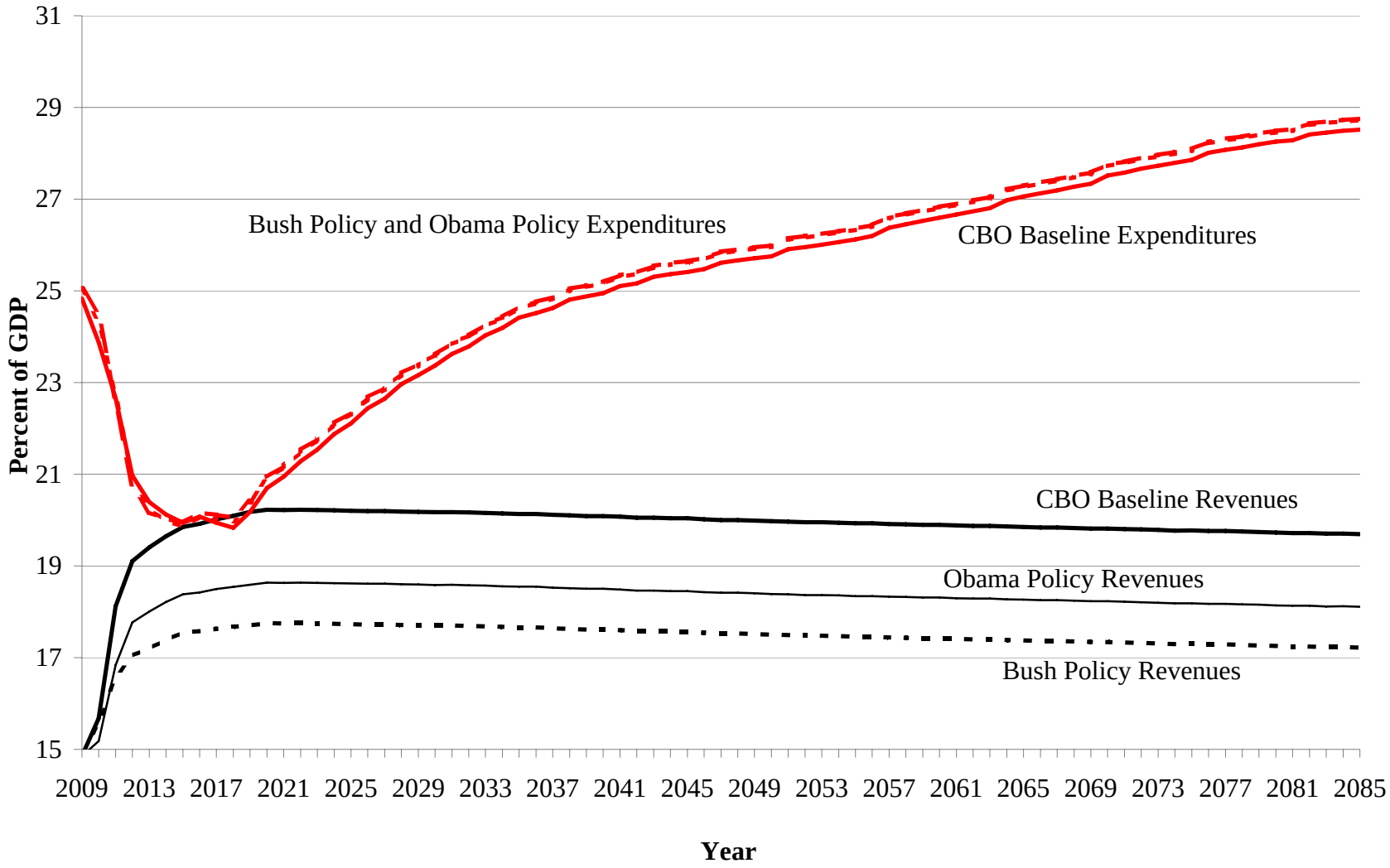
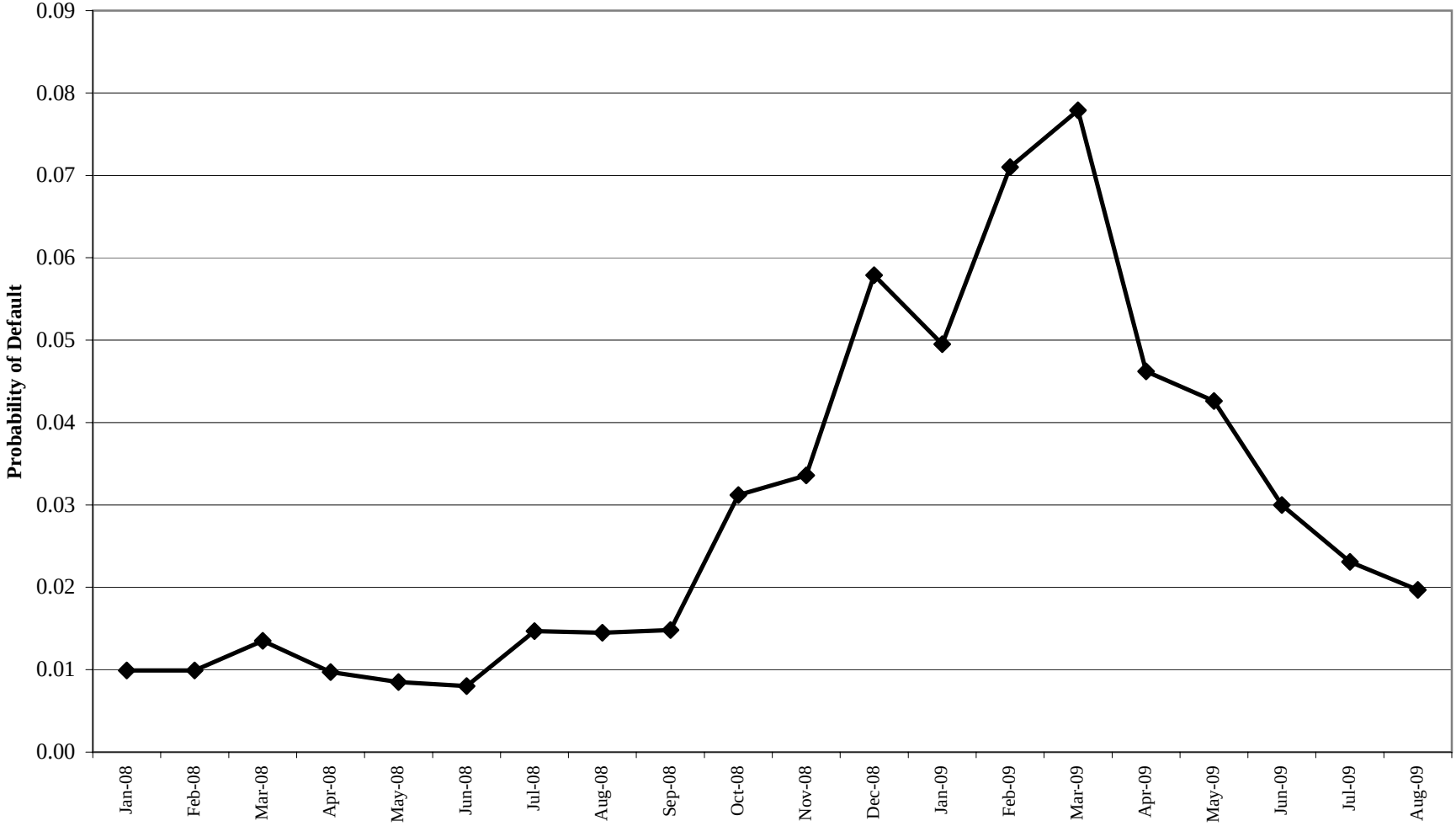


Figure 13
Implied Probability of Default on 5 Year Senior U.S. Treasury Debt



Source: Bloomberg. Based on Credit Default Swaps. The probability that the United States will default on 5-year treasury bonds at any time within 5 years of the date of initiation of the CDS contracts shown above. Calculated by Bloomberg using the JP Morgan pricing model. Determines the implied probability of default from the par CDS spreads and assumes a recovery rate of 40 percent.