

**Forgotten but Not Gone:  
The Long-Term Fiscal Imbalance**

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## I. INTRODUCTION

Over the past few years, the long-term fiscal situation has improved. With the passage of the American Taxpayer Relief Act of 2012 (in early January, 2013), the Budget Control Act of 2011, the subsequent imposition of sequestration, and slowdowns in projections of health care expenditures, there have been a variety of sources of improvement. In addition, the slow but steady economic recovery has helped reduce the short-term deficit.

Policy makers are clearly fatigued from dealing with the issue. For example, the Congress recently approved a “clean” debt limit increase, without even a Republican request for any fiscal changes. Likewise, President Obama removed the chained CPI proposal from this year’s budget and downplayed long-term fiscal issues in his State of the Union address. The public is also tiring of the issue. In a January 2014 Pew poll, the share of respondents who thought that reducing the deficit should be a top economic priority had dropped by 9 percentage points over a year before, including a 17 percentage point drop among Democrats. The lack of interest in dealing with long-term fiscal issues may seem like a stark change, but it is essentially just a return to the status quo that existed before the Great Recession and the financial crisis.

Yet, the fiscal problem is not gone. The release of Congressional Budget Office’s annual budget and economic outlook (February 2014) allows for a new assessment of the fiscal picture. We find that despite the lack of focus on the issue now, fiscal imbalances remain significant.

First, ignoring projections for the future, the *current* debt-GDP ratio is far higher than at any time in U.S. history except for a brief period around World War II. The painful budget deals in 1990 and 1993 occurred when the debt-GDP ratio was more than 20 percent of GDP lower than it is now. While there is little mystery why the debt-GDP ratio grew substantially over the

last six years – largely the recession and, to a smaller extent, countercyclical measures – today’s higher debt-GDP ratio leaves less “fiscal space” for future policy.

Second, while we clearly face no imminent budget *crisis*, the 10-year budget outlook remains tenuous and is worse than it was last year, primarily due to changes in economic projections, which reflect greater pessimism about economic growth and swamp the effects of legislative changes over the past year.

There is no “smoking gun” in the 10-year projections, “just” a continuing imbalance between spending and taxes. Under current policy projections, revenue will not collapse, as it did in 2009-12, but rather will grow to higher-than-historical-average levels. Likewise, spending isn’t spiraling out of control, though it is projected to increase from 20.8 percent of GDP in 2013 to 22.3 percent of GDP in 2024, due to increases in mandatory and net interest spending. The 1.5 percent of GDP increase in spending reflects a 2.0 percent of GDP rise in net interest payments and a 0.5 percent of GDP *decline* in all other government programs. Discretionary spending is particularly hard hit, falling to its lowest share of the economy in decades. The projected rise in net interest payments to all-time high shares of GDP reflects higher initial debt levels and an expected rise in interest rates as the economy recovers, and is potentially troubling.

Notably, there is no suggestion in the projections that the debt-GDP ratio will fall. In the past, when the U.S. has run up big debts, typically in wartime, the debt-GDP ratio has subsequently been cut in half over a period about 10-15 years. Under current projections, the debt-GDP ratio will rise, not fall; the only question is how fast. Moreover, even if seemingly everything goes right – with respect to keeping the fiscal house in order – deficits and debt will rise, not fall, and we still face the prospect of a high and rising debt-GDP ratio by the end of the next decade. For example, under the current policy baseline, even if:

- Revenues average 17.8 percent of GDP as projected from 2015 through 2024 and political leaders stand by and let revenues from the personal income tax rise steadily to 9.3 percent of GDP in 2024 (a figure exceeded only in 2000-1, at the end of the dot-com bubble and just before the Bush tax cuts);
- There are no new wars; defense spending falls to its lowest share of the economy since before World War II;
- There are no new spending programs; non-defense discretionary spending falls to its lowest share of the economy since before separate records were kept starting in 1962;
- Significant reductions in projected health care cost growth occur as projected; and
- The economy returns nearly to full employment by 2017 as projected and remains there without recession through 2024;

Nevertheless, the implications of those favorable trends would be that:

- Net interest payments will rise from 1.3 percent of GDP in 2013 to 3.4 percent in 2024, which would be the highest ratio of interest to GDP in history (compared to 3.2 percent in 1991) and a sign of approaching fiscal unsustainability;
- The full-employment deficit would reach 4.3 percent of GDP in 2023 and 2024; (other than in the 2009-12 period, these would be among the largest full-employment deficits of the past 50 years);
- The debt-GDP ratio would be 81.6 percent by 2024, more than 30 percentage points higher than for any year between 1957 and 2007, and more than double the 36 percent level it averaged between 1957 and 2007 and the 35 percent level attained in 2007.

Third, the fiscal problems worsen after the next 10 years. Results over the longer term depend very much on one's choice of forecasts, in particular regarding the growth in health care

spending. Nevertheless, under the most optimistic of the health care spending scenarios we employ, the debt-GDP ratio will rise to 100 percent in 2032 and 200 percent by 2054 and then continue to increase after that. All told, to keep the 2040 debt-GDP ratio at its current level, 72 percent, in 2040, would require immediate and permanent policy adjustments – reductions in spending or increases in taxes – of 1.9 percent of GDP under current policy. To keep the ratio at its current level through 2089 would require immediate and permanent adjustments of about 3.5 percent of GDP. And the achievement of more ambitious future debt-GDP targets or a delay in the initiation of adjustment will necessitate even larger policy responses. For example, if policy makers aim to cut the debt-GDP ratio in half over the next 25 years -- to 36 percent, roughly its historical value from 1957-2007 and its value in 2007 before the financial crisis and Great Recession -- but do not want to begin imposing additional fiscal discipline until 2019, the required changes would be 3.8 percent of GDP.

## **II. THE 10-YEAR BUDGET OUTLOOK**

We construct our 10-year projections by starting with those in CBO’s February 2014 baseline (CBO 2014) and making a series of adjustments that, in our view, provide a better picture of “current policy” than do the CBO projections, which in many instances reflect conventions rather than assessments of the current state of policy.<sup>1</sup> First, CBO assumes that all temporary tax provisions (other than excise taxes dedicated to trust funds) expire as scheduled.

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<sup>1</sup> In the past, we have presented 10-year projections based on both the CBO baseline and our current policy alternative. However, the difference between these two sets of projections is now rather small, as a result of the passage of the American Taxpayer Relief Act of 2012. In April 2012, we estimated a difference between CBO and current policy baselines of \$6.9 trillion in deficits through 2022 and a 28 percent of GDP difference in debt-GDP levels at the end of 2022. Now, however, the difference in deficits is \$582 billion over the next 10 years (a slightly different time period than was used in 2012) and the difference in debt-GDP at the end of 2024 horizon is just 2.4 percentage points. The vast majority of this narrowing comes from the resolution of several long-standing but temporary tax policies, relating to the Bush tax cuts and the alternative minimum tax.

We assume that these provisions are extended. Second, under current law and in the CBO baseline, payments to physicians under Medicare are scheduled to decline by about 24 percent in April 2014. In every year since 2003, however, the Administration and Congress stepped in to postpone these reductions, adopting the so-called “doc fix.” We assume that similar actions will prevail in the future and thus include the cost of maintaining physician payment rates under Medicare at their current levels. Third, the CBO baseline maintains military spending at current levels in the future. However, consistent with stated Administration policy and based on CBO’s projections of scenarios not included in its official baseline (CBO 2014, Table 1-5), we assume that war-related defense spending will fall steeply after 2013, resulting in a \$572 billion reduction in defense spending relative to the CBO’s baseline.<sup>2</sup> We do not alter CBO’s assumption that the discretionary spending caps and sequestration procedures as imposed in the Budget Control Act of 2011 will be enforced.

Deficit-GDP and debt-GDP ratios are reported in Figures 1 and 2 and in Appendix Table 1. Under our view of current policy, the deficit falls to 3.1 percent by 2015 before rising to 4.3 percent by 2024.<sup>3</sup>

Also, note that the underlying economic projection assumes that the economy returns almost all the way to full employment by the end of 2017 and remains close to full employment throughout the remainder of the projection period, so that all projections after 2017 represent, essentially, full-employment deficits. The cyclically-adjusted budget deficit has fallen

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<sup>2</sup> We note, though, that this projected decline in overseas military spending may be optimistic, as groups on both sides politically would like either to use the funds for different purposes or to claim the cuts as a way to finance other changes, such as tax cuts.

<sup>3</sup> The slight decline in deficits from fiscal year 2022 to fiscal year 2024 reflects timing issues, not a real change in fiscal policy. As CBO explains, October 1, 2022 and October 1, 2023 land on weekends, so some payments will be made at the end of September (the end of the previous fiscal year) rather than in October of those years. CBO notes that were it not for those timing quirks, the deficit (under current law and under our projections of current policy) would be higher by 0.2 percent of GDP in 2024.

dramatically over the last several years – from 7.0 percent of GDP in 2009 to 2.3 percent in 2013 – sparking significant concerns about contractionary fiscal measures being imposed at a time when the economy was weak. Looking forward, to emphasize the role of the economy in the budget projections and the looming problems inherent in the 10-year outlook, Figure 1 shows that cyclically-adjusted deficits (with automatic stabilizers removed) rise sharply over the decade, as the economy returns to full employment.

The debt-GDP ratio is projected to fall slightly from 2014 until 2017 – from 74.0 percent of GDP currently to 73.6 percent. Once the economy has returned (nearly) to full employment the debt-GDP ratio is projected to begin to rise again, to 81.6 percent by 2024.

Given that basic summary, several aspects of the 10-year budget outlook stand out.

- **The current debt-GDP ratio is high relative to U.S. historical norms.**

At 72 percent of GDP, the debt-GDP ratio at the end of 2013 is the highest in U.S. history other than during a seven-year period around World War II. From 1957 to 2007, the ratio did not exceed 50 percent and averaged just 36 percent of GDP. In 2007, before the financial crisis and the Great Recession, the ratio was 35 percent.

- **The Debt-GDP ratio is projected to rise over the second half of the decade, whereas in previous high-debt episodes it fell rapidly.**

The debt-GDP ratio rises by 8 percentage points from 2018 to 2024. This increase occurs despite the projection of a full-employment economy during this period, hinting at an unsustainable fiscal situation and the need for longer-term analysis. It also highlights the difference between the current situation and previous high-debt episodes in U.S. history. In such episodes – the Civil War, World War I, and World War II – the debt-GDP ratio was cut in half roughly 10-15 years after the war ended. This difference is not surprising, since there are

continuing forces pushing toward increased debt, but it does suggest that historical experience may of little relevance in our current situation. A better analogue may be the 1990-1993 period, when the debt-GDP ratio reached almost 50 percent and interest payments exceeded 3 percent of GDP. During and after that episode, two budget deals and strong economic growth helped reduce the debt-GDP ratio from 47 percent to 34 percent by the end of the decade.

- **Total spending is projected to rise over the decade.**

Figure 3 looks at total spending, non-interest spending and revenues over the next decade under our current policy baseline. Total spending was 20.8 percent of GDP in 2013, and is projected to rise to 20.9 percent in 2018, before further rising to 22.3 percent by 2024. This compares to a historical average of 19.4 percent for 1957 to 2007.

- **Net interest payments are projected to rise to high levels.**

Net interest payments rise from 1.3 percent of GDP in 2014 to 3.4 percent in 2024, higher than the previous peak of 3.2 percent in 1991. The projected high level is due to the increase in the debt-GDP level in recent years, coupled with an expected rise in interest rates as the economy returns to full employment. The projected rise in interest rates is particularly notable given both the low levels of current interest rates and the magnitude of the projected changes. The three-month Treasury bill rate rises to 3.7 percent in 2018 compared to 0.1 percent in 2013, according to CBO's February 2014 economic projections. The 10-year Treasury note rate rises to 5.0 percent in 2018 compared to 2.1 percent in 2013. Various measures of the inflation rate are expected to rise by less than 1 percentage point over the same period, so most of the projected increases represent higher real interest rates.



- **Non-interest spending is projected to fall over the decade.**

In 2013, non-interest spending was 19.4 percent of GDP. This figure is projected to fall to 18.8 percent by 2018. It rises slightly by 2024 to 19.0 percent, but still remains 0.4 percentage points of GDP lower than the 2013 level. This is a higher spending level than the historical average. From 1957 to 2007, non-interest spending averaged about 17.5 percent of GDP.

- **The decline in non-interest spending is due to declines in discretionary spending, including both the defense and non-defense portions.**

Figure 4 shows data on the composition of spending over the next 10 years. The projected decrease in discretionary spending follows from the provisions of the Budget Control Act of 2011. The legislation instituted caps on discretionary spending that would, by themselves, reduce discretionary spending to its lowest share of the economy since records separate records were kept in 1962. The legislation also instituted, in the absence of further deficit reduction, a broad-based sequester of federal spending – mainly discretionary – that will drive down discretionary spending even further. Since 2011, the American Taxpayer Relief Act (ATRA) of 2012 and the Bipartisan Budget Act (BBA) of 2013 have made slight adjustments to these discretionary caps (all taken into account in our simulations).<sup>4</sup>

In our baseline projections, discretionary spending will decrease from 7.2 percent of GDP in 2013 to 4.9 percent in 2024; defense spending from 3.8 percent in 2013 to 2.4 percent in 2024; and non-defense discretionary spending, having already fallen from a peak of 4.5 percent of GDP in 2010, is projected to fall from 3.5 percent of GDP in 2013 to 2.5 percent of GDP in 2024. All of these shares are remarkably low relative to historical figures. Between 1962 and 2012, the

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<sup>4</sup> ATRA delayed implementation of automatic spending reductions from January 2 to March 1, 2013. BBA increased caps for 2014 and 2015 by \$37 billion and \$18 billion, respectively, divided equally between defense and non-defense spending, and extended sequestration of some nonexempt mandatory programs from 2021 through 2023.

lowest discretionary spending share of GDP occurred in 1999, at 6.0 percent, and the lowest share for defense spending was 2.9 percent of GDP in 1999-2001.

- **Mandatory spending rises, despite the recent downward revisions in cost growth for Medicare and Medicaid.**

Mandatory spending is projected to rise from 12.2 percent of GDP in 2013 to 14.0 percent in 2022. This is lower than CBO's projection in 2012 for 2022, which was 14.3 percent. The lower mandatory spending is due to slower projected cost growth in the major federal health programs, Medicare and Medicaid. In 2012, CBO expected Medicare and Medicaid to account for about 6.0 percent of GDP in 2022; this year it projects these programs to be 5.5 percent of GDP in 2022. The vast majority of this reduction is due to slower growth in the projected path of health care prices.

- **Revenues are not only projected to recover from extremely low levels in recent years, but to rise significantly to above average historical levels.**

Due to the recession and slow recovery, as well as tax policy choices, federal revenues hovered around 15 percent of GDP from 2009 to 2012, representing the lowest share of GDP in almost 60 years. Since then, as the economy has recovered and ATRA and surtaxes adopted under the Affordable Care Act (ACA) kicked in, revenues rose to 16.7 percent in 2013, will rise to almost 18 percent of GDP by 2016, and are projected to remain close to or above that level for the rest of the decade. Receipts averaged 17.5 percent of GDP from 1957 to 2007.

Income tax revenues are projected to grow steadily and stay high (not shown in Figure 4). Revenues from the individual income tax are projected to rise steadily through the decade, reaching 9.3 percent of GDP by 2024 under current policy. The only years the income tax has ever raised at least 9 percent of GDP in revenue were 1944 (at the height of the war), 1981-82

(leading to the Reagan tax cuts) and 1998-2001 (helped by a sharp but temporary explosion in the value of technology companies) leading to the Bush tax cuts in 2001 and 2003). Under the projections, income tax revenues will rise to more than half of total revenues by the late part of the decade, the first time that has happened since at least the 1920s.

- **Trust fund balances may force action in the near term**

The federal government runs several trust funds, most notably for Social Security (Old Age and Survivors Insurance), Disability, Medicare (two separate funds), and civilian and military retirement. All of the projections highlighted above integrate the trust funds into the overall budget situation. The projections also assume that scheduled benefit payments will be made even if trust funds run their balances to zero. However, many of the trust funds are not legally allowed to pay out benefits that draw their balances below zero.

This is not just an academic concern. This constraint was one of the proximate causes of Social Security reform in 1983; the trust fund literally had almost run out of money, an eventuality that would have required cuts in promised benefits so that they would not exceed revenues coming in. Currently, the highway and mass transit trust fund is scheduled to run out of funds by 2015. The disability trust fund is scheduled to run out of funds by 2017. The Medicare Part A (hospital insurance) fund appears, based on the CBO projections that run through 2024, to be likely to run out of funds by 2025.

Each of these dates may force at least limited fiscal action. In each case, legislators will be forced to override the rules regarding trust funds, legislate lower benefits, or legislate higher taxes. In contrast, Social Security does not have cash flow issues for a couple of decades and Medicare part B (Supplementary Medical Insurance) does not have the constraint that spending can only be financed by trust fund payments.

Although low trust balances may require action, low balances and actions to address them relate to individual programs and the nature of their funding sources, and provide a very incomplete picture of the federal government's overall fiscal position over the longer term. This is the issue to which we now turn our attention.

### **III. THE LONG-TERM BUDGET OUTLOOK**

For our long-term model, we assume that most categories of spending and revenues remain constant at their baseline 2024 share of GDP in subsequent years. Assuming constant shares of GDP, however, would be seriously misleading for the major entitlement programs and their associated sources of funding. For the Medicare and OASDI programs, in our base case we project all elements of spending and dedicated revenues (payroll taxes, income taxes on benefits, premiums and contributions from states) using the intermediate projections in the 2013 Trustees reports.<sup>5</sup> Social Security spending, Medicare spending, and payroll taxes follow the growth rates assumed in the Trustees' projections of the ratios of taxes and spending to GDP for the period 2024–2090 for OASDI and 2024–2080 for Medicare, assuming that these ratios are constant at their terminal values thereafter. For Medicaid, CHIP, and exchange subsidies, we use growth rates implied by CBO's most recent long-term projections (CBO 2013e) through 2088 and assume that spending as a share of GDP is constant thereafter.

The projected overall rate of economic growth after 2024 is taken from the Social Security Trustees report, and equals 4.63 percent. Net interest payments in a given year are calculated as the product of the Social Security Trustees' projected long-run interest rate on

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<sup>5</sup> Details of these computations are available from the authors upon request. The 2013 Medicare Trustees Report is at <http://www.cms.gov/ReportsTrustFunds/downloads/tr2013.pdf>. The 2013 OASDI Trustees Report is at <http://www.ssa.gov/OACT/TR/2013/tr2013.pdf>.

government debt (5.63 percent) multiplied by the projection of the level of net debt held by the public at the end of the previous year.<sup>6</sup>

By assuming that tax revenues and many categories of spending remain constant relative to GDP, we are not simply projecting based on current law but instead are assuming 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. If current-law tax parameters were extended forward, income taxes would rise as a share of GDP (due to bracket creep and rising withdrawals from retirement plans). Our projection implicitly assumes policymakers will cut taxes, in order to maintain the revenue share of GDP. If discretionary spending were held constant in real terms, it would fall continually as a share of GDP. Our projection also assumes that a wealthier and more populous society will want to maintain discretionary spending as a share of GDP. Kamin (2012) and Kogan et al. (2013) provide additional perspective on these assumptions and we provide sensitivity estimates below.

We provide three projections of Medicare spending. As noted, our base case projections come from the intermediate projections of the Medicare Trustees, which have for many years incorporated the assumption that Medicare growth will eventually slow in the future. Starting in the 2010 report, however, the Trustees' official medical projections have assumed a much stronger slowdown, as a consequence of provisions in the ACA. These assumptions, though they may be consistent with the impact of the bill's provisions should they remain in force over the

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<sup>6</sup> We also considered an alternative (not shown in the tables below) with lower long-run growth and interest rates and a smaller gap between the two, by assuming that economic growth remained at the value projected by CBO in 2024 (4.10 percent) and interest rates remained at the value determined by dividing net interest payments in 2024 by net debt held by the public at the end of 2023 (4.37 percent), under the CBO baseline. Using the CBO-based growth and interest rates yields slightly lower fiscal gaps than those presented below in Table 1 through 2040 and 2089, but slightly higher fiscal gaps on a permanent basis. This switch in sign occurs because, although lower interest rates reduce the financing requirements of carrying debt, they also raise the present value of future liabilities. The longer the horizon, the more important is the latter effect.

long term, are controversial, for the sustainability of such spending reductions is not clear. Reflecting this controversy, the Medicare Actuary has, since 2010, released a separate set of projections (CMS Office of the Actuary 2013) showing less optimistic (although still positive) reductions in spending, which is the source of our second projection. The third projection is the alternative Medicare scenario in CBO's long-term budget outlook (2013e), which projects a still more pessimistic path for Medicare spending.

### **A. Basic Projections**

Figure 5 shows projected revenues, plus non-interest expenditures through 2089 under two "bracketing" scenarios: the most optimistic scenario (Medicare Trustees) for health spending assumptions and the most pessimistic scenario (CBO's alternative Medicare projections). Revenues are projected to be constant at around 18.0 percent of GDP, close to its historical share. Under the more optimistic health-care projections, non-interest outlays will rise more or less continually. By 2040, non-interest outlays will total 21.1 percent of GDP. By 2089, the figure will rise to 22.9 percent of GDP. Thus, even using optimistic projections for the long term, the current gap between spending and revenues persists, and indeed grows, far into the future. Under the pessimistic scenario, non-interest outlays will rise to 21.9 percent of GDP by 2040 and are projected to exceed 27 percent of GDP by 2089.

Figure 6 shows debt-to-GDP ratios under the most optimistic and most pessimistic projections. Under both scenarios, the economy would pass its highest previous debt-to-GDP ratio (106.1 percent, in 1946) by 2033. Projected debt-GDP ratios would hit 200 percent in 2054 under the most optimistic scenario and in 2051 under the most pessimistic. In both cases, the following years would see additional growth in the debt-to-GDP ratio.

## B. The Fiscal Gap

The fiscal gap is an accounting measure that is intended to reflect the long-term budgetary status of the government (Auerbach 1994).<sup>7</sup> The fiscal gap answers the question: if you want to start a policy change in a given year and reach a given debt-GDP target in a given future year, what is the size of the annual, constant-share-of-GDP increase in taxes and/or reductions in non-interest expenditures that would be required? For example, one might ask what immediate and constant policy change would be needed to obtain the same debt-GDP in 2089 as exists today.<sup>8</sup> Or one might ask, if we wanted the debt-GDP ratio to return to its historical average of 36 percent by 2040, what immediate and constant-share-of-GDP change would be required starting in 2019?

The first row of Table 1 displays calculations of the fiscal gap using the Medicare trustee projections for health care. We show fiscal gaps for three different horizons, assuming the policy changes begin in 2014, and aiming for the same debt-GDP ratio in the terminal year (72.1 percent of GDP) as existed at the end of 2013. With the Medicare Trustees assumptions about projected health expenditures, the gap through 2040 is 1.92 percent of GDP. This implies that an immediate and permanent increase in taxes or cut in spending of over \$300 billion per year in current terms would be needed to achieve the current debt-GDP ratio in 2040.

The fiscal gap is larger if the time horizon is extended, since the budget is projected to be running substantial deficits in future years. If the horizon is extended through 2089, the gap rises to 3.53 percent of GDP. If it is extended indefinitely, the fiscal gap rises to 4.52 percent of GDP.

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<sup>7</sup> Auerbach et al. (2003) discuss the relationship between the fiscal gap, generational accounting, accrual accounting and other ways of accounting for government.

<sup>8</sup> Over an infinite planning horizon, this requirement is equivalent to assuming that the debt-to-GDP ratio does not explode (Auerbach 1994, 1997). For the current value of the national debt, we use publicly-held debt. An alternative might be to subtract government financial assets from this debt measure, but the impact on our long-term calculations would be small (reducing the fiscal gaps by less than 0.1 percent of GDP).

The second and third rows show that the choice of health care scenario has a significant and changing impact on the estimated fiscal gaps. Through 2040, the differences in the fiscal gaps implied by the different health care scenarios are small – about 0.18 percent of GDP. Over longer periods, however, the differences are much larger. Using the CMS actuaries’ projection raises the fiscal gap by about 1 percent of GDP through 2089 and 1.7 percent of GDP on a permanent basis relative to using the Medicare Trustee projections. Using the CBO Medicare projections raises the gap by an additional 0.5 percent of GDP through 2040 and an additional 1.3 percent of GDP over the infinite horizon.

The rest of Table 1 displays a variety of sensitivity analyses. As noted above, the projections assume that outlays for discretionary spending remain constant as a share of GDP after 2024. If we instead assumed that such spending stayed constant in real, per capita terms, discretionary spending would fall from 4.9 percent of GDP in 2024 to 3.9 percent in 2040 and 1.8 percent in 2089. This would reduce the fiscal gap by about 0.4 percent of GDP through 2040, 1.9 percent of GDP through 2080 and just over 3 percent of GDP on a permanent basis.

We assumed that tax revenues would remain a constant share of GDP after 2024. Under a strict view of current law, tax revenues would rise as a share of GDP because of “real bracket creep” (i.e., the increase in the tax/GDP ratio caused by real income growth pushing taxpayers into higher brackets) and increased withdrawals from retirement accounts. Assuming that policy makers do not offset these increases, revenues would rise from 18.1 percent of GDP in 2024 to 19.4 percent of GDP in 2040 and 21.8 percent of GDP in 2089. This would reduce the estimated fiscal gap by 0.43 percent of GDP through 2040, 1.74 percent of GDP through 2089 and 2.74 percent of GDP on a permanent basis.



In its 2013 long-term outlook, the CBO decided to incorporate its own projections of mortality rates instead of using the Trustees' assumptions. CBO's assumptions reduce mortality rates – that is, extend lifespan – faster than the Trustees' assumptions do. Using Social Security projections that incorporate CBO's new mortality assumptions increases the fiscal gap by about 0.2 percent of GDP through 2040, 0.5 percent through 2089 and 0.7 percent permanently.

Table 2 shows fiscal gaps under different combinations of debt targets, dates for reaching the target, and dates for implementing the policy changes. We employ three debt targets – 72.1 percent, the current ratio of debt-to-GDP; 60 percent, a ratio proposed by several Commissions, including Bowles-Simpson (National Commission on Fiscal Responsibility and Reform 2010) and Domenici-Rivlin (Debt Reduction Task Force 2010), and 36 percent (representing both the average from 1957-2007 and roughly the value in 2007 before the financial crisis and Great Recession hit). We look at both roughly 25-year and 75-year target dates for reaching the new debt-GDP level.

We employ two start dates for policy – current (i.e. 2014) and 2019, the latter reflecting the reality of political deadlock, the undesirability of austerity policies in a weak economy, and the possibility of implementation delays. The first line of Table 2 replicates the fiscal gap calculations through 2040 and 2089 shown in the top row of Table 1, for obtaining a 72.1 percent debt-GDP ratio in the target year, with the policy starting in 2014.

A main message of Table 2 is that it will be quite difficult to return to historical levels of the debt-GDP ratio anytime soon. In order to get the debt-GDP ratio down to 36 percent over the next 25 years would require deficit reduction in excess of 3 percent of GDP per year starting in 2014. Another key message is that this task will be even more challenging under the assumption

that no action occurs for the next five years.<sup>9</sup> If we wait until 2019 to start the fiscal adjustment, it would require cuts on the order of 3.8 percent of GDP per year to get the debt-GDP ratio down to 36 percent by 2040. To achieve that ratio in 2089 would require cuts on the order of 4.2 percent of GDP starting in 2019. Even holding the 2040 debt-GDP ratio at its current level would require annual cuts of 2.40 percent of GDP starting in 2019, and reducing the debt-GDP ratio to 60 percent in 2040 would require cuts of 2.8 percent of GDP beginning in 2019.

### **C. Gradual Solutions**

The fiscal gaps displayed above are useful ways to gauge the overall size of the fiscal shortfall, but they may not provide the most politically plausible path for deficits. For example, as shown in top panel of Figure 7, if we were to obtain the current debt-GDP ratio in 2040 via a “fiscal gap adjustment” – that is, an immediate and constant-share-of-GDP policy change – the debt-GDP ratio would first decline, then rise over time. The political feasibility of reducing the debt that fast, solely for the purpose of letting it rise again, is questionable.

Thus, an alternative way of characterizing the required size of potential solutions is to examine what changes in primary deficits would be required each year to keep the debt-GDP ratio on a specified path. Obviously, given that the problem worsens over time, this requires increasingly large changes in primary deficits. As shown in the bottom panel of Figure 7, to keep the debt-GDP ratio constant at 72 percent of GDP after 2019 would require primary deficit cuts of 0.8 percent of GDP in 2020, 2.7 percent of GDP in 2030, and 3.8 percent of GDP in 2040. (Although not shown, it would require rising figures in subsequent years to maintain the same debt-GDP ratio past 2040.) This compares to the constant 2.1 percent of GDP deficit

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<sup>9</sup> Although gradual or slightly delayed implementation may be preferable in light of a still-struggling recovery, the decision to delay should be made with awareness that the necessary fiscal adjustment will then be larger.

reduction starting in 2019 required under the fiscal gap adjustment (which would also need to be higher to hit the target in a later year), also shown in the bottom panel.

Figure 8 shows debt trajectories and required deficit reduction paths for reaching a 36 percent debt-GDP ratio by 2040. If the ratio were reduced linearly over time, this would require even larger cuts in the primary deficit than discussed above in relation to Figure 7 – 2.3 percent of GDP in 2020, 4.2 percent of GDP in 2030, and 5.3 percent of GDP in 2040. This compares to a constant adjustment of 3.85 percent of GDP under the fiscal gap calculation.

Thus, both figures show that allowing the debt-GDP ratio to follow a linear path over time requires smaller cuts in the near future but larger cuts in later years, relative to a constant-share-of-GDP policy change portrayed in the fiscal gap calculations.

#### **IV. UNCERTAINTY AND ITS IMPLICATIONS**

Budget projections are not written in stone. Clearly, they should be taken with a grain of salt – perhaps a bushel. They are, at best, the educated guesses of informed people, and the role of uncertainty in budget projections should not be underestimated, particularly as the time horizon lengthens. In the past, budget projections by CBO and others (including ourselves) have proven to be too optimistic in some instances and too pessimistic at others.

Major sources of uncertainty – noted in the analysis above – include the behavior of interest rates, trends in health care spending, shifts in demographics, and, of course, the choices of policy makers. In each case, the uncertainty can create significant changes in outcomes because errors tend to compound over time. Nevertheless, although there is substantial uncertainty regarding the outlook, reasonable estimates are for an unsustainable fiscal path that will generate significant problems if not addressed.

How should the presence of that uncertainty affect when and how we make policy changes? One argument is that we should wait; after all, the fiscal problem could go away. But, for several reasons, ignoring the problem hardly seems a responsible choice.

First, regardless of whether the long term turns out to be somewhat better or worse than predicted, there already is a debt problem. The debt-GDP ratio has already doubled, to more than 70 percent. The future is already here. There are benefits to getting the deficit under control – including economic growth and fiscal flexibility – regardless of whether the long-term problem turns out to be as bad as mainstream projections suggest.

Second, purely as a matter of arithmetic, the longer we wait, the larger and more disruptive the eventual policy solutions will need to be, barring a marked improvement in the fiscal picture. Policy makers certainly may not want to reduce spending or raise taxes during a weak period for the economy, but that is different from not planning ahead.

Third, uncertainty can cut both ways, and the greater the uncertainty the more we should want to address at least part of the problem now. The problem could turn out to be worse than expected, in which case delay in dealing with the problem would make solutions even more difficult politically and even more wrenching economically. If people are risk-averse, the existence of uncertainty should normally elicit precautionary behavior – essentially “buying insurance” against a really bad long-term outcome by reducing the potential severity of the problem – through enactment of at least partial solutions to the budget problem right away.

Lastly, although the point may seem obvious, it is useful to emphasize that even if the main driver of long-term fiscal imbalances is the growth of entitlement benefits, this does not mean that the only solutions are some combination of benefit cuts now and benefit cuts in the future. For example, when budget surpluses began to emerge in the late 1990s, President Clinton

devised a plan to use the funds to “Save Social Security First.” Without judging the merits of that particular plan, our point is that Clinton recognized that social security faced long-term shortfalls and, rather than ignoring those shortfalls, aimed to address the problem in a way that went beyond simply cutting benefits. A more general point is that addressing entitlement funding imbalances can be justified precisely *because* one wants to preserve and enhance the programs, not just because one might want to reduce the size of the programs. Likewise, addressing these imbalances may involve reforming the structure of spending, raising or restructuring revenues, or creating new programs, as well as simply cutting existing benefits.

## **V. CONCLUSION**

Several recent changes have helped improve the nation’s medium-term and long-term budget picture. But the country started with a substantial fiscal gap, and so while the recent improvements have helped shave part of the problem away, there is still a long way to go. Moreover, even as current-period deficits fall to more typical historical levels from the enormous levels that persisted in 2009-11, the nation now must carry a debt load that is twice as large as its historical average and that makes budget outcomes much more sensitive to interest rates.

Under even the most optimistic scenario, the necessary adjustments will be large relative to those adopted under the recent legislation. Moreover, the most optimistic long-run projections already incorporate the effects of success at “bending the curve” of health care cost growth, so further measures will clearly be needed. Also, the changes needed relate much more to medium- and long-term deficits, not short-term deficits. They thus are to a large extent unrelated to and unaffected by the recent fiscal drama in Washington.

## REFERENCES

Auerbach, Alan J. 1994. “The U.S. Fiscal Problem: Where We Are, How We Got Here, and Where We’re Going.” In *National Bureau of Economic Research Macroeconomics Annual 1994, Volume 9*, edited by Stanley Fischer and Julio Rotemberg, 141–175. Cambridge, MA: MIT Press.

Auerbach, Alan J. 1997. “Quantifying the Current U.S. Fiscal Imbalance.” *National Tax Journal* 50 (3): 387–98.

Auerbach, Alan J., William G. Gale, Peter R. Orszag, and Samara Potter. 2003. “Budget Blues: The Fiscal Outlook and Options for Reform.” In Aaron, Henry J., James Lindsay, and Pietro Nivola (eds.), *Agenda for the Nation*, 109–143. Brookings Institution, Washington, DC.

Auerbach, Alan J., and William G. Gale. 2013. “Fiscal Fatigue: Tracking the Budget Outlook as Political Leaders Lurch from One Artificial Crisis to Another.” Brookings Institution, Washington, DC.

Board of Trustees, Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds. 2013. *The 2013 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds*. Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds, Washington, DC.

Board of Trustees, Federal Hospital Insurance and Federal Supplemental Medical Insurance Trust Funds. 2013. *The 2013 Annual Report of the Board of Trustees of the Federal Hospital Insurance and Federal Supplemental Medical Insurance Trust Funds*. Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds, Washington, DC.

CMS Office of the Actuary. 2013. *Projected Medicare Expenditures under Illustrative Scenarios with Alternative Payment Updates to Medicare Providers*. Centers for Medicare and Medicaid Services, Baltimore, MD.

Congressional Budget Office. 2010. *Social Security Policy Options*. Congressional Budget Office, Washington, DC.

Congressional Budget Office. 2012. *An Update to the Budget and Economic Outlook: Fiscal Years 2012 to 2022*. Congressional Budget Office, Washington, DC.

Congressional Budget Office. 2014. *The Budget and Economic Outlook: Fiscal Years 2014 to 2024*. Congressional Budget Office, Washington, DC.

Congressional Budget Office. 2013b. “How Have CBO’s Projections of Spending for Medicare and Medicaid Changed Since the August 2012 Baseline?” Blog Post. Available at: <<http://cbo.gov/publication/43835>>

Congressional Budget Office. 2013c. *Updated Budget Projections: Fiscal Years 2013 to 2023*. Congressional Budget Office, Washington, DC.

Congressional Budget Office. 2013d. "CBO's Baseline Budget Projections, as of May 2013, With Percentages of GDP Updated to Reflect Recent Revisions by the Bureau of Economic Analysis." Data or Technical Information. Available at: <<http://cbo.gov/publication/44574>>

Congressional Budget Office. 2013e. *The 2013 Long-Term Budget Outlook*. Congressional Budget Office. Washington, DC.

Debt Reduction Task Force. 2010. "Restoring America's Future: Reviving the Economy, Cutting Spending and Debt, and Creating a Simple, Pro-Growth Tax System." Senator Pete Domenici and Dr. Alice Rivlin, Bipartisan Policy Center.

Kamin, David. 2012. "Are We There Yet?: On a Path to Closing America's Long-Run Deficit." *Tax Notes* 137 (3): 53-70.

Kogan, Richard, Kathy Ruffing, and Paul N. Van de Water. 2013. "Long-Term Budget Outlook Remains Challenging, But Recent Legislation Has Made It More Manageable." Center on Budget and Policy Priorities, Washington, DC.

National Commission on Fiscal Responsibility and Reform. 2010. "The Moment of Truth: Report of the National Commission on Fiscal Responsibility and Reform."

Peterson-Pew Commission on Budget Reform. 2010. "Getting Back in the Black."

**Table 1**  
**Fiscal Gaps (percent of GDP)**

	Through 2040	Through 2089	Permanent
<b>Health Spending Assumptions</b>			
Medicare Trustees	1.92	3.53	4.52
CMS Actuary	2.06	4.52	6.24
CBO Alternative Scenario	2.10	5.04	7.53
<b>Alternative Policy Options (Incremental Effects)<sup>1</sup></b>			
Discretionary and Other Mandatory Outlays Grow at Real Per Capita Rates	-0.43	-1.94	-3.13
Revenues Grow with Bracket Creep and Retirement Withdrawals	-0.43	-1.74	-2.74
Use CBO's Estimates of Social Security Benefit Spending	0.20	0.47	0.71

Source: Authors' calculations

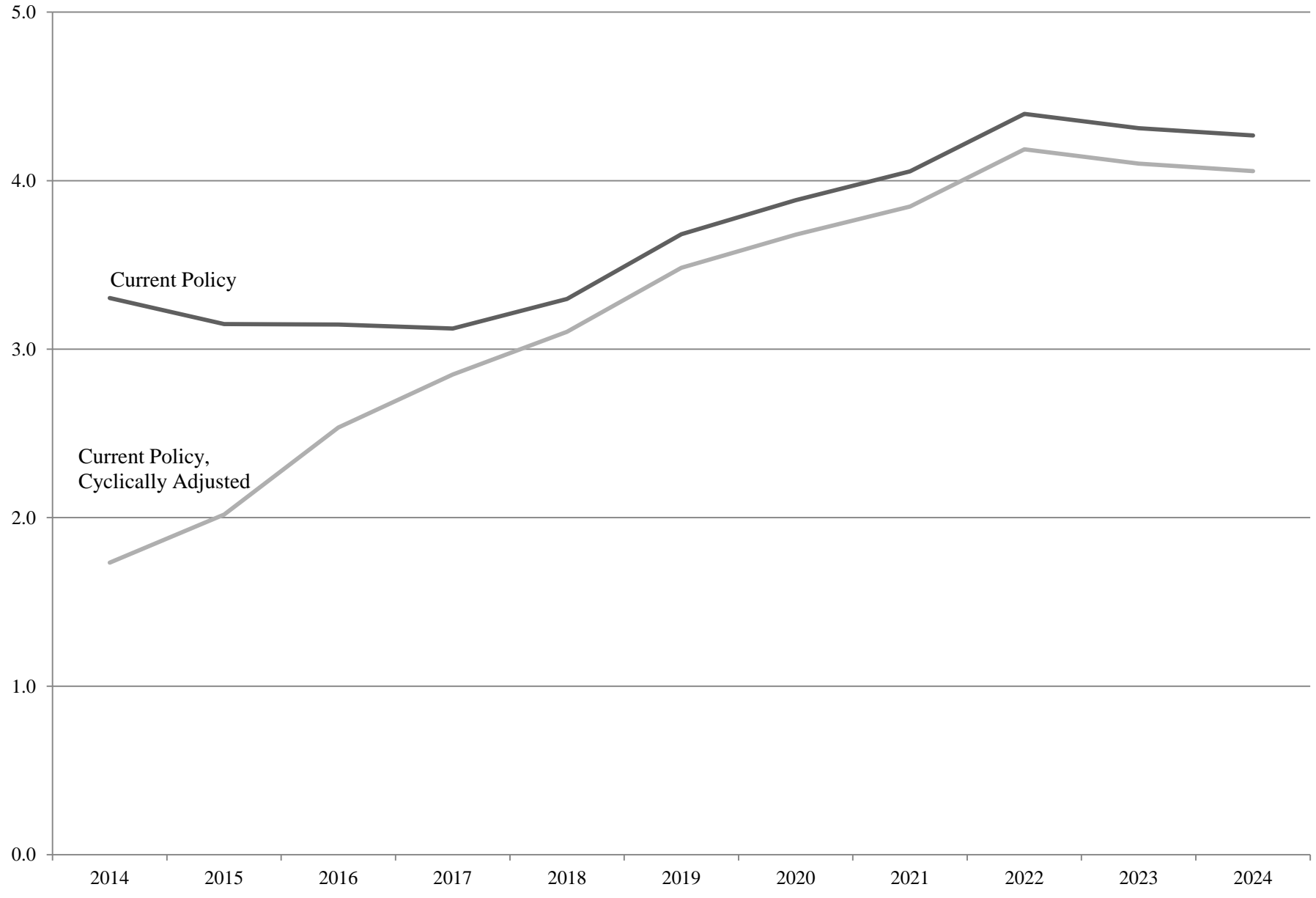
<sup>1</sup>The Alternative Policy Options are additive to the above fiscal gaps as they do not interact with the different health scenarios or each other.



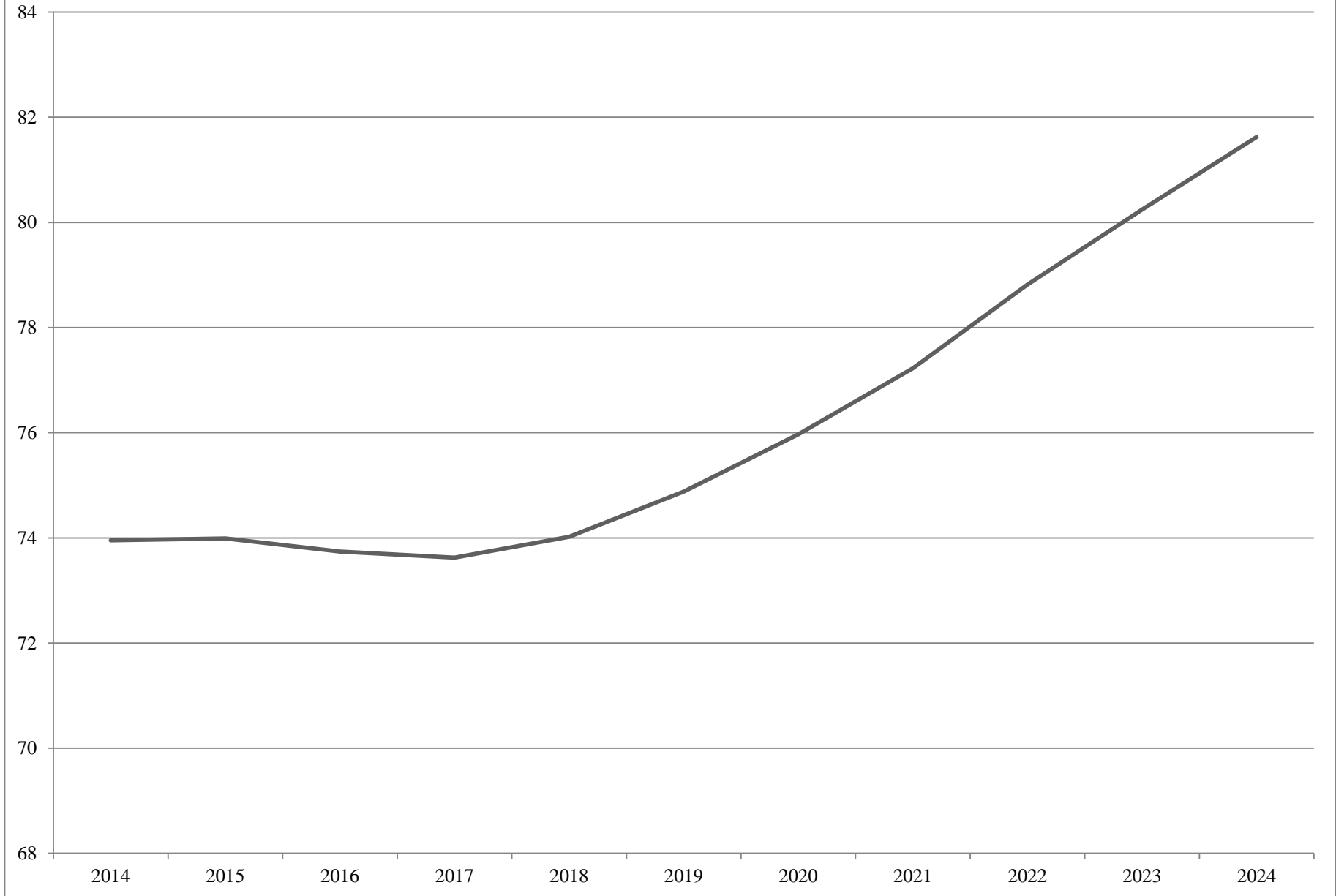
**Table 2**  
**Fiscal Gap Calculations for Various Start Dates, Target Dates and Target Ratios**

	Through 2040	Through 2089
Start Date: 2014		
Debt Target		
Current	1.92	3.53
60	2.25	3.62
36	3.09	3.85
Start Date: 2019		
Debt Target		
Current	2.40	3.86
60	2.80	3.96
36	3.84	4.20

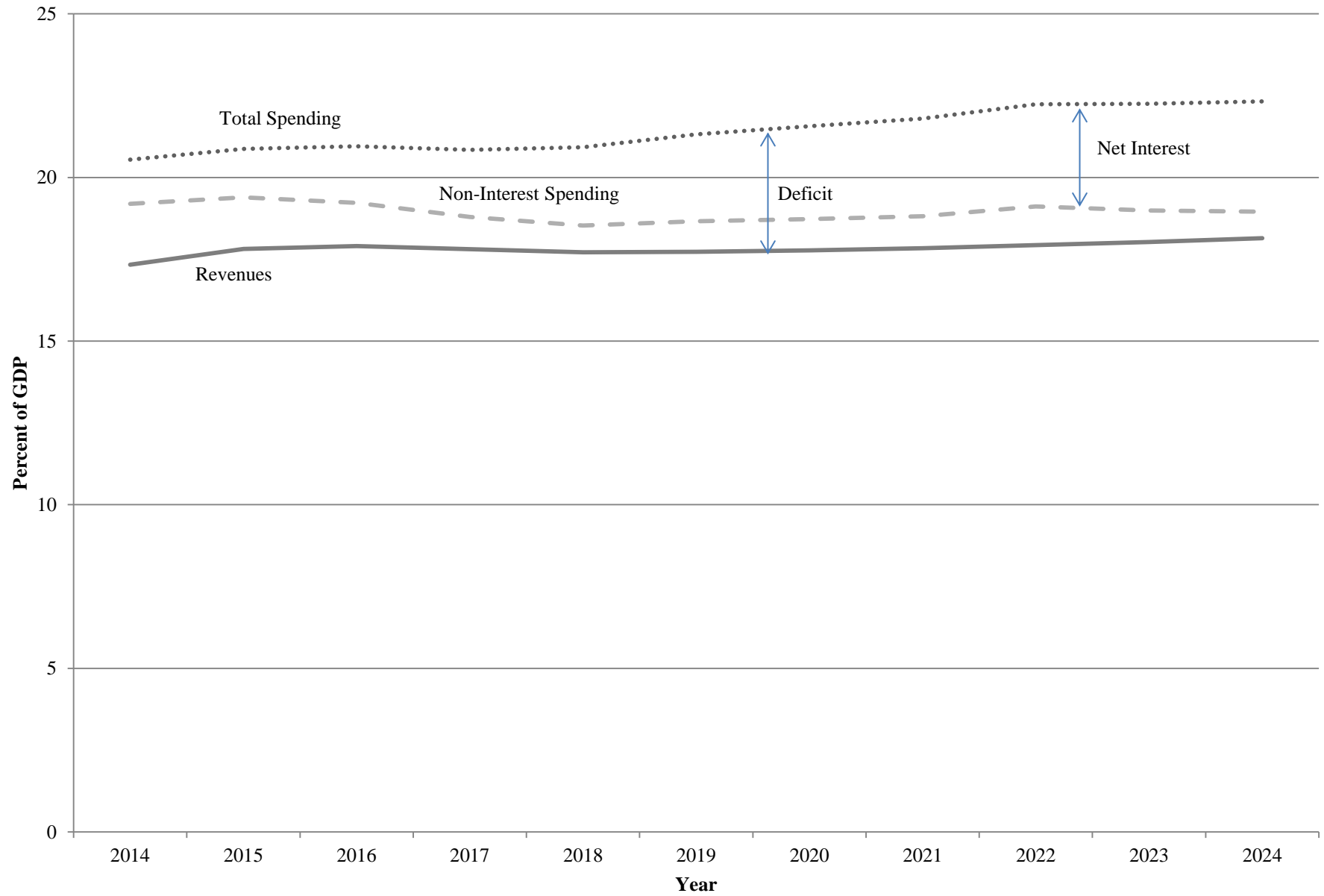
**Figure 1. Alternative Deficit Projections. 2014-2024.**



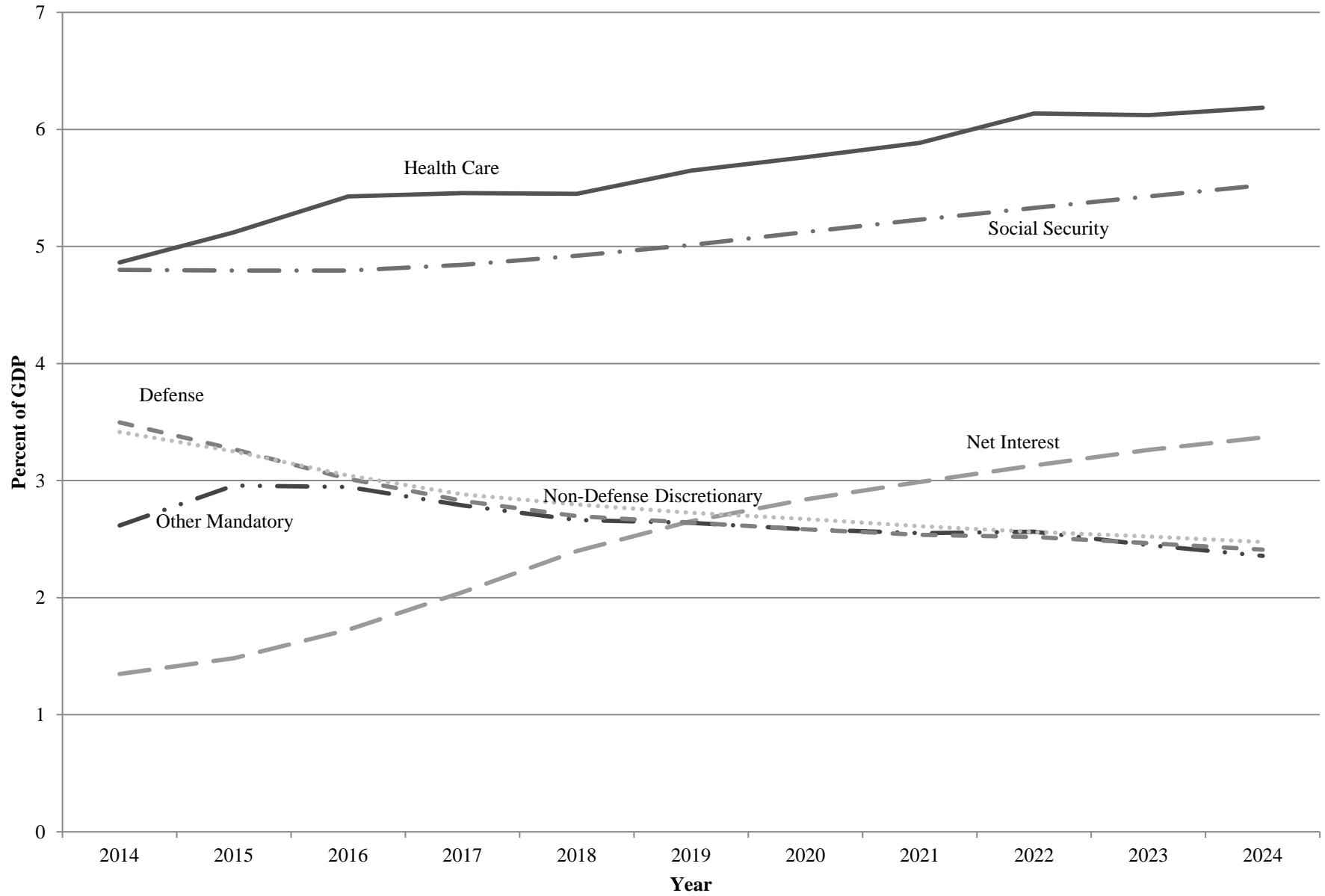
**Figure 2. Current Policy Debt Projection. 2014-2024**



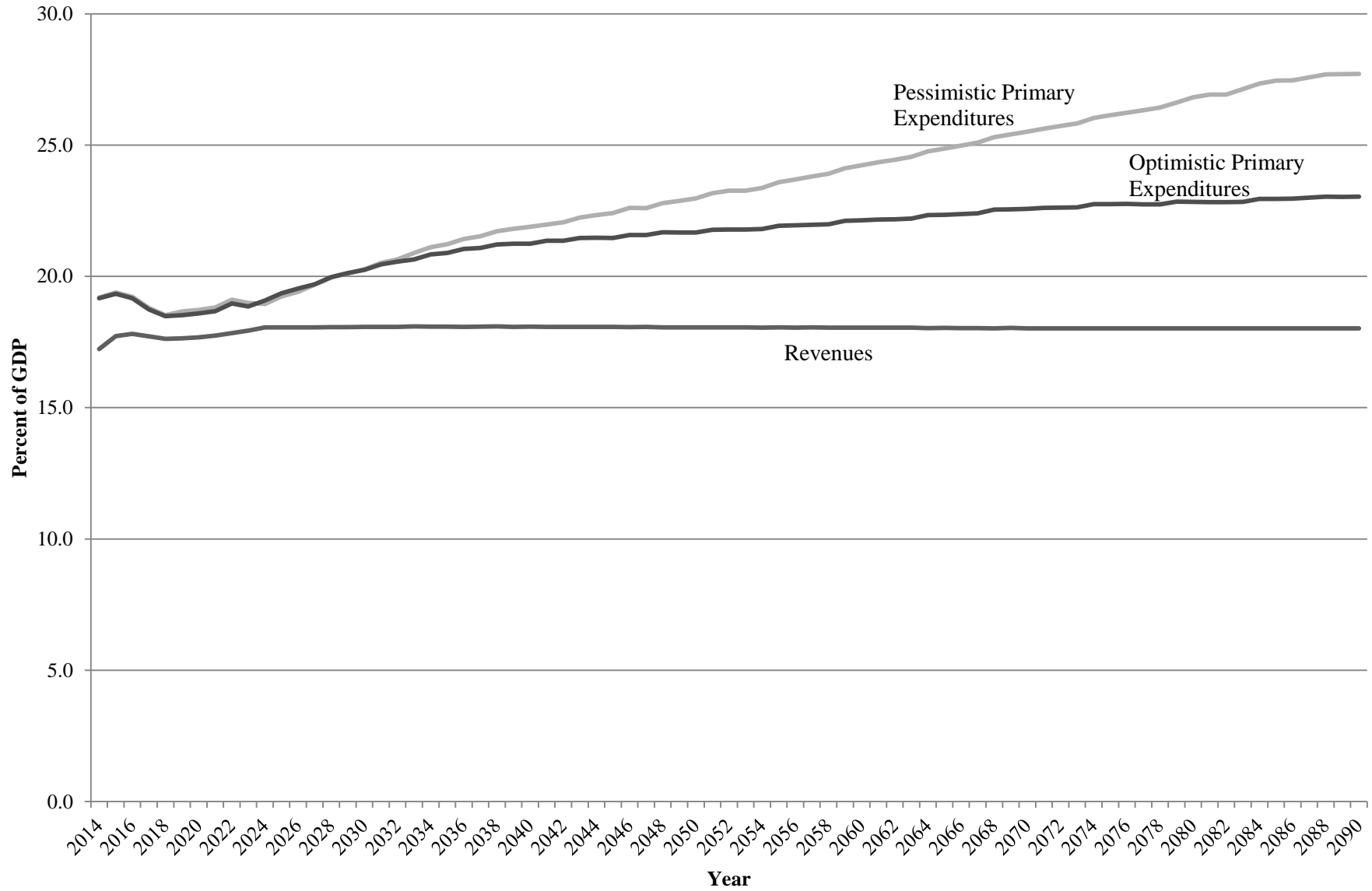
**Figure 3. Spending, Revenue and Deficits, 2014-2024**



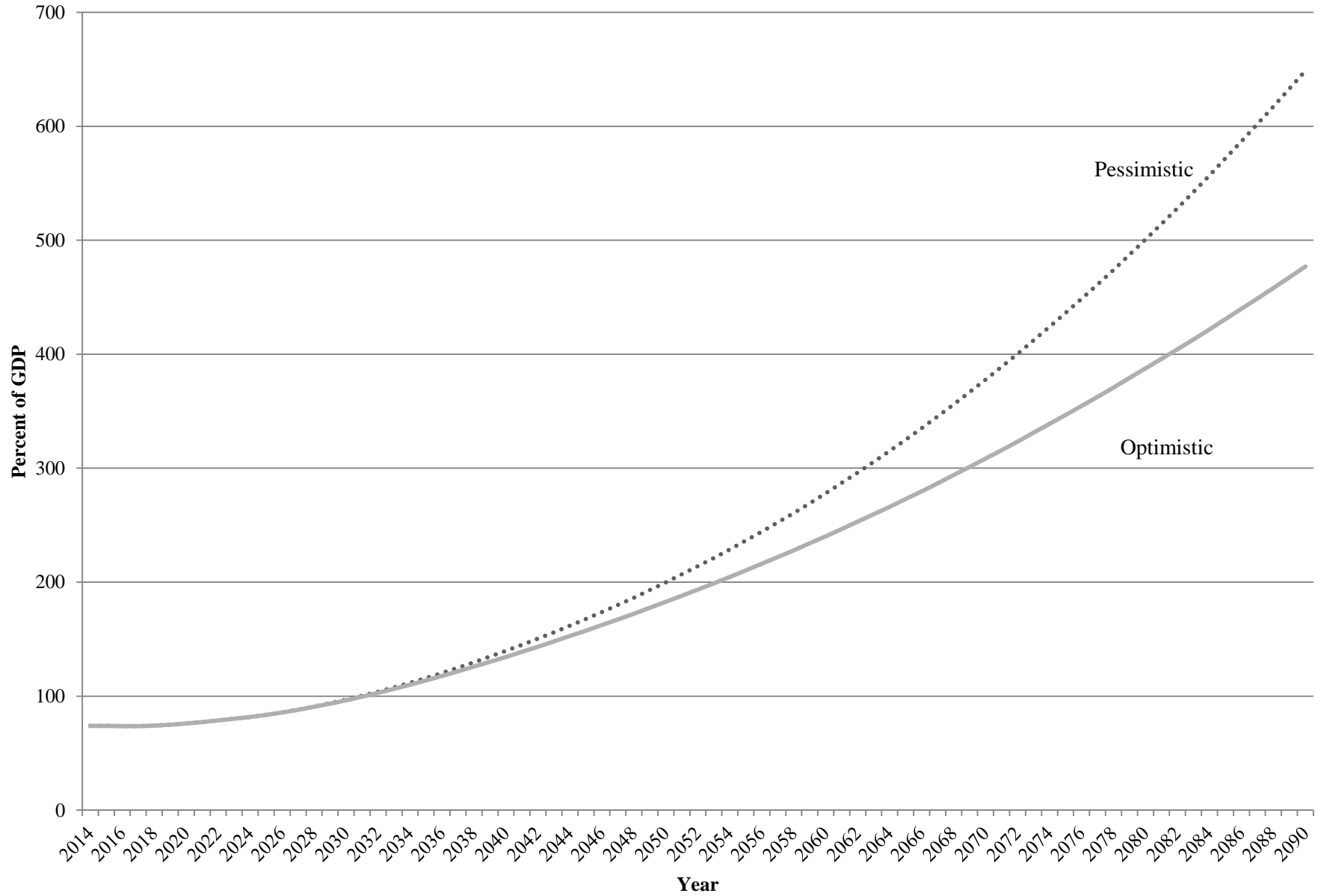
**Figure 4. Composition of Spending, 2014-2024**



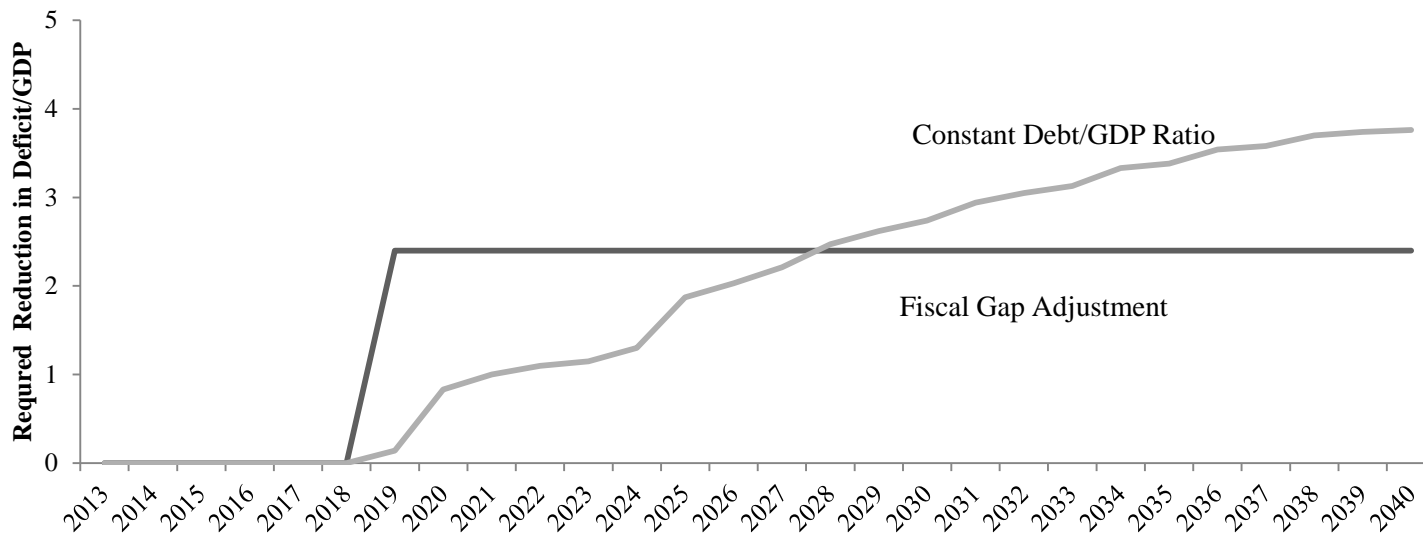
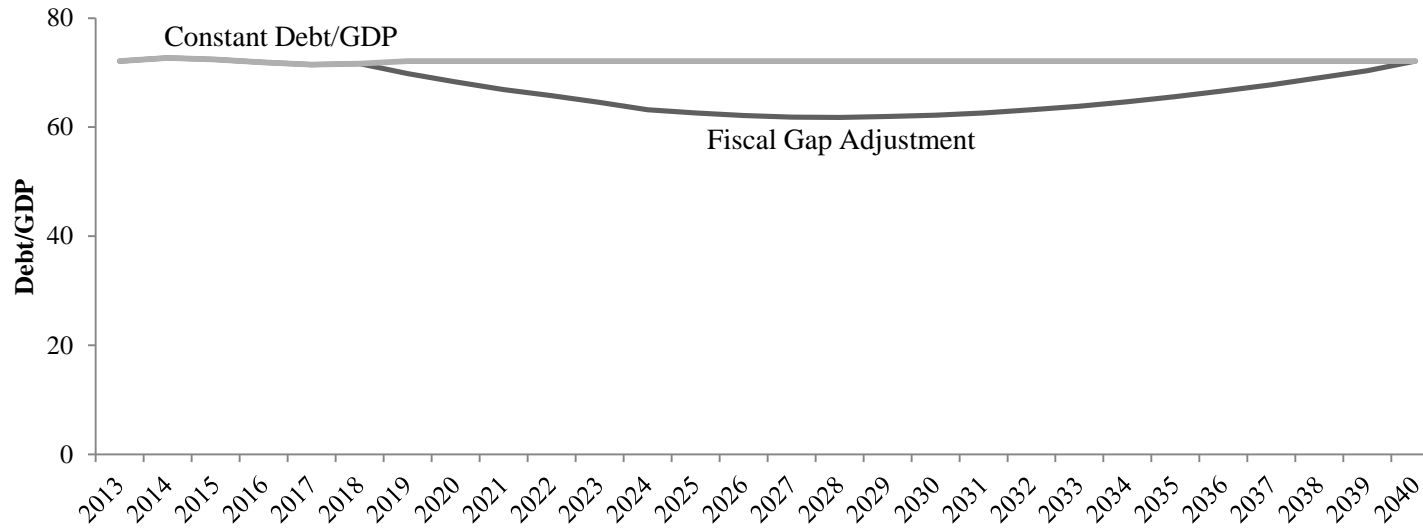
**Figure 5. Alternative Projections of Revenue and Non-Interest Outlays, 2014-2090**



**Figure 6. Alternative Projections of the National Debt, 2014-2090**

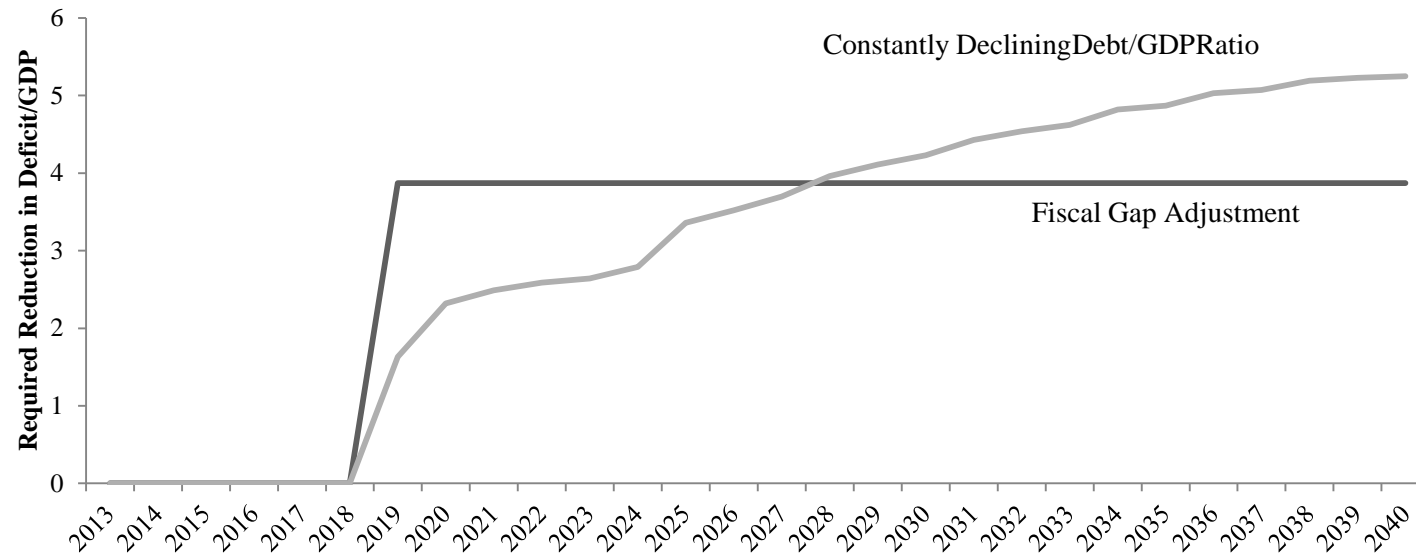
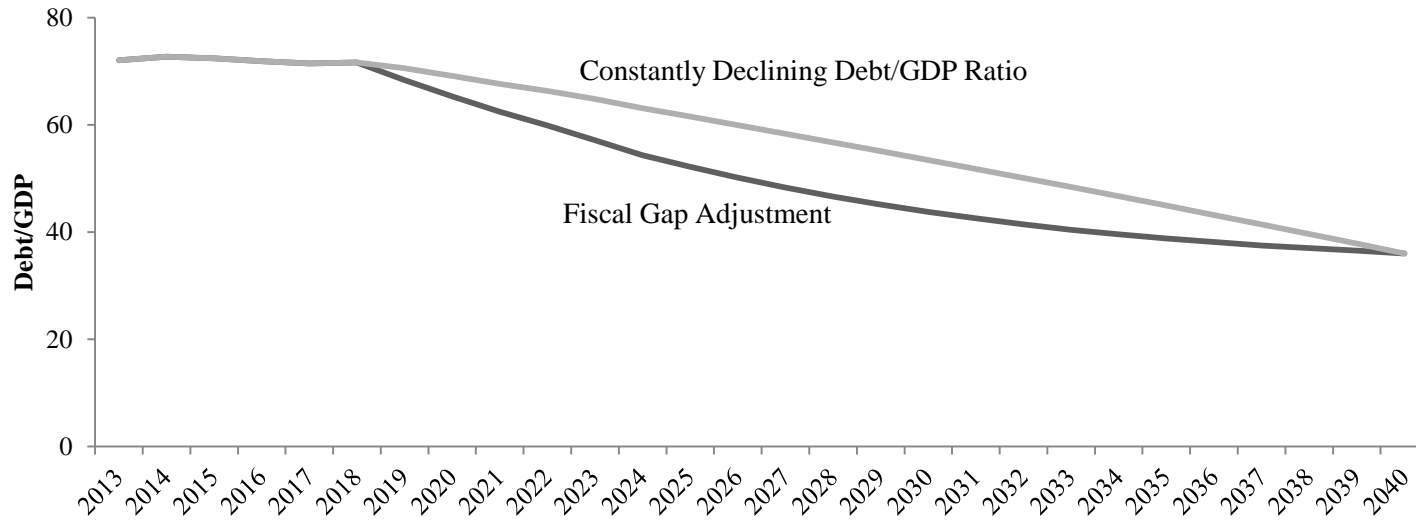


**Figure 7. Two Ways To Obtain a 72% Debt/GDP Ratio by 2040**





**Figure 8. Two Ways To Obtain a 36% Debt/GDP Ratio by 2040**



Appendix Table 1

Federal Budget Deficit  
CBO Baseline and Extended Policy 2015-2024<sup>1,2</sup>

	Deficit (\$ billions)											
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2015-24
<b>CBO Baseline</b>	514	478	539	581	655	752	836	912	1,031	1,047	1,074	<b>7,904</b>
as percent of nominal GDP	<b>3.0</b>	<b>2.6</b>	<b>2.8</b>	<b>2.9</b>	<b>3.1</b>	<b>3.4</b>	<b>3.7</b>	<b>3.8</b>	<b>4.2</b>	<b>4.1</b>	<b>4.0</b>	<b>3.5</b>
<b>Adjustments for tax policy</b>												
Extend expiring tax provisions	51	92	83	78	77	96	93	93	96	101	104	913
Subtotal	51	92	83	78	77	96	93	93	96	101	104	913
Net interest	0	1	4	8	13	17	22	27	33	39	45	209
<b>Total adjustments for tax policy</b>	<b>51</b>	<b>93</b>	<b>87</b>	<b>86</b>	<b>90</b>	<b>113</b>	<b>115</b>	<b>121</b>	<b>129</b>	<b>139</b>	<b>149</b>	<b>1,122</b>
as percent of nominal GDP	0.3	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.5
<b>Adjustments for spending policy</b>												
Maintain Medicare's Payment Rates for Physicians	5	10	11	10	9	10	11	12	13	14	16	115
Drawdown in defense spending	0	-10	-36	-49	-59	-64	-68	-70	-72	-72	-72	-572
Subtotal	5	0	-25	-39	-50	-55	-57	-58	-58	-58	-57	-457
Net interest	0	0	0	-1	-4	-6	-8	-11	-14	-17	-20	-82
<b>Total adjustments for spending policy</b>	<b>5</b>	<b>0</b>	<b>-25</b>	<b>-41</b>	<b>-53</b>	<b>-61</b>	<b>-65</b>	<b>-69</b>	<b>-72</b>	<b>-75</b>	<b>-77</b>	<b>-539</b>
as percent of nominal GDP	0.0	0.0	-0.1	-0.2	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.2
<b>Current Policy</b>	<b>571</b>	<b>571</b>	<b>600</b>	<b>626</b>	<b>691</b>	<b>805</b>	<b>885</b>	<b>963</b>	<b>1,088</b>	<b>1,111</b>	<b>1,145</b>	<b>8,486</b>
as a percent of nominal GDP	<b>3.3</b>	<b>3.1</b>	<b>3.1</b>	<b>3.1</b>	<b>3.3</b>	<b>3.7</b>	<b>3.9</b>	<b>4.1</b>	<b>4.4</b>	<b>4.3</b>	<b>4.3</b>	<b>3.8</b>
GDP	17,273	18,126	19,083	20,052	20,954	21,867	22,799	23,755	24,746	25,774	26,830	223,984

<sup>1</sup>Columns may not sum to total due to rounding.

<sup>2</sup>The source of these estimates is CBO (Feb 2014) "The Budget And Economic Outlook: 2014 To 2024."