The Fiscal Problem: Gone Today, Here Tomorrow

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ABSTRACT

We provide new projections of the fiscal outlook over 10-year and longer-term horizons, based on the latest government estimates. The outlook has improved recently, but debt remains historically high as a share of GDP and is projected to rise further. While addressing this need not require current spending cuts, and while a financial meltdown due to debt is quite unlikely, the medium- and long-term debt outlook does raise concerns. To re-attain a debt-GDP ratio of 36 percent – the level prevailing in 2007 and the average in 1957-2007 – by 2040 would require policy changes of 3.0 percent of GDP.

I. INTRODUCTION

Over the past few years, the 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, improvement has come from many sources. In addition, the slow but steady economic recovery has helped reduce the short-term deficit.

Policy makers are clearly fatigued from dealing with deficits. Last year, for example, the Congress approved a "clean" debt limit increase, without even a Republican request for any fiscal changes, and President Obama removed from his budget the chained CPI proposal to slow the growth of Social Security benefits. And longer-term fiscal imbalances have largely disappeared from discussion altogether. This year, for example, the President did not even mention long-term fiscal issues in the State of the Union address. Public interest in long-term fiscal policy as a top economic priority has also dropped off in recent years (Pew Research Center 2014, 2015), and the 2016 Presidential campaign thus far has universally ignored the issue. These changes may seem like a stark shift from a few years ago, but they are essentially just a return to the status quo that existed until the Great Recession and the financial crisis, when large short-term deficits and a rapid rise in the debt-GDP ratio helped focus attention on both long- and short-term fiscal imbalances. Nevertheless, with a potential government shutdown looming as a possibility if Congress cannot pass appropriations bill by October 1, the fiscal situation may well attract policy makers' attention in the near future, either as a motivation or a justification for policy choices.

The latest update (August 2015) of the Congressional Budget Office's *Budget and Economic Outlook* allows for an updated assessment of the fiscal picture. Although annual

deficits have fallen substantially since 2009-12 and are expected to remain low as a share of GDP for the next several years, the ratio of *debt* to GDP has doubled since 2007 and is far higher than at any time in U.S. history except for a brief period around World War II. The painful budget deals seen as necessary 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 in recent years – largely the recession and slow recovery and, to a smaller extent, countercyclical measures – today's higher debt-GDP ratio leaves less "fiscal space" for future policy.

On the surface, there is nothing remarkable 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 hover at slightly-higher-than-historical-average levels**.** Likewise, spending isn't spiraling out of control, though it is projected to increase from about 20.6 percent of GDP in 2015 to about 22.3 percent of GDP in 2025. However, the 1.7 percent-of-GDP overall spending increase masks a significant shift in composition; it results from a 1.7 percent of GDP increase in net interest payments, a 1.3 percent of GDP increase in mandatory spending (mostly Social Security and Medicare), and a decline of 1.4 percent of GDP in discretionary spending. The decline in discretionary spending is notable both because it is such a large share of such spending (which totaled 6.5 percent of GDP in 2015) and because it would reduce discretionary spending to its lowest share of GDP (by 0.8 percent of GDP) since separate records were kept starting in 1962. The projected rise in net interest payments relative to GDP reflects higher initial debt levels and an expected rise in interest rates as the economy recovers. While the projections for interest rates and interest payments are lower than last year, net interest is still projected to reach by 2025 to one of its highest shares of GDP ever.

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. In the current projection, however, while we clearly face no imminent budget *crisis*, debt does not fall over the next 10 years; indeed, it actually rises somewhat, even if seemingly everything goes right – with respect to keeping the fiscal house in order. For example, under the current policy baseline (meant to reflect current policy more closely than the official CBO baseline), even if:

- Revenues average 17.9 percent of GDP as projected from 2015 through 2025 and political leaders stand by and let revenues from the personal income tax rise steadily to 9.0 percent of GDP in 2025 (a figured exceeded only in 1981-1982, and 1998-2001 since World War II.)
- 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 to nearly full employment by the end of 2017 as projected and remains there without recession through 2025.

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

- Net interest payments will rise from 1.2 percent of GDP in 2015 to 2.9 percent in 2025;
- The full-employment deficit would reach 4.1 percent of GDP in 2025. This would be one of the largest full-employment deficits in the last 50 years, exceeded only in 1985-86 (which led to budget deals in 1990 and 1993) and 2009-12, due to the Great Recession.

- The debt-GDP ratio would be 81.3 percent by 2025, more than 30 percentage points higher than for any year between 1957 and 2007, and well more than double the 36 percent level it averaged between 1957 and 2007 and the 35 percent level attained in 2007.

And, of course, the fiscal projections 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, even under the most optimistic of the government health care spending scenarios available, the debt-GDP ratio will rise above 100 percent in 2037 and over 200 percent by 2070 and then continue to increase after that. All told, just to keep the 2040 debt-GDP ratio at its current level, 74.0 percent, would require immediate and permanent policy adjustments – reductions in spending or increases in taxes – of 1.59 percent of GDP under current policy. To keep the ratio at its current level through 2090 would require immediate and permanent adjustments of about 2.99 percent of GDP. Those policies, painful as they might be, would nevertheless leave debt at historically high peace-time levels.

In order to pay down our debt enough to return to historically more typical debt-GDP ratios within the next generation would necessitate even larger policy responses. For example, if policy makers aim to cut the debt-GDP ratio back to 36 percent – the average level prevailing in 1957-2007, approximately the value in 2007, and about half of the current value – over the next 25 years, it would require immediate and permanent policy changes of 3.0 percent of GDP. If the implementation were delayed until 2020, 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 August 2015 baseline update (CBO 2015b) and making a series of adjustments that, in our view, provide a better picture of "current policy" than do the CBO baseline projections, which in many instances reflect conventions rather than assessments of the current state of policy. First, the CBO baseline assumes that all temporary tax provisions (other than excise taxes dedicated to trust funds) expire as scheduled. We assume that these provisions are extended. Second, 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 2015b, "Alternative Assumptions About Fiscal Policy"), we assume that war-related defense spending will fall steeply after 2015, resulting in a $456 billion reduction in defense spending relative to the CBO's baseline.[1] Lastly, the CBO baseline holds discretionary spending at the levels created by the recent discretionary spending caps and sequestration procedures as imposed in the Budget Control Act of 2011 and modified by the Bipartisan Budget Act of 2013. We allow these levels of discretionary spending (after adjusting for the military operations noted above) to rise with inflation.[2] [3]

[1] 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.

[2] CBO's inflation adjustment applies to all discretionary spending in the baseline, but our current policy baseline reduces military spending below baseline amounts. To account for this, we adjust the inflation adjustment to account for the reduction in military spending.

[3] In previous estimates, we also included an adjustment to account for the so-called "doc fix." Under prior CBO baselines, future payments to physicians under Medicare were scheduled to decline. From 2003-2014, however, the Administration and Congress stepped in on an annual basis to postpone these reductions. We assumed that similar actions would prevail in the future and thus included the cost of maintaining physician payment rates under Medicare at their current levels. In April 2015, the President signed The Medicare Access and CHIP Reauthorization Act, which essentially made the "doc fix" permanent. As a result, the appropriate payment schedules are now incorporated into the CBO baseline and no adjustment is required for current policy estimates.

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 2.4 percent in 2015 before rising to 4.2 percent by 2025.[4] 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. The cyclically-adjusted budget deficit has fallen dramatically over the last several years – from 7.1 percent of GDP in 2009 to 1.4 percent in 2015 – 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 (i.e., the deficit with automatic stabilizers removed) rise over the decade, as the economy returns to full employment. The cyclically-adjusted deficit rises to 4.1 percent of GDP by 2025 (timing issues affect the results in immediately preceding years – see footnote 4). As noted above, this would be a very high full-employment deficit relative to history.

As shown in Figure 2, the debt-GDP ratio remains essentially unchanged on net through 2018 as the economy recovers. Once the economy has returned (nearly) to full employment in 2017, the debt-GDP ratio is projected to rise to 81.3 percent by 2025 under current policy.

[4] 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 (CBO 2014, page 14), 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.

Given this 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 73.8 percent of GDP, the debt-GDP ratio at the end of 2015 represents a slight decline from 2014, but is still among 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 decade, whereas in previous high-debt episodes it fell rapidly.**

The debt-GDP ratio rises by 6.6 percentage points from 2018 to 2025. This increase occurs despite the projection of a near 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 currently continuing forces pushing toward increased debt, but it does suggest that the historical experience of rapid debt pay-down after wars is unlikely to occur. A better analogue may be the 1990-1993 period, when the debt-GDP ratio reached almost 50 percent and interest payments averaged more than 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 is expected to be 20.6 percent of GDP in 2015 and is projected to rise to.22.3 percent by 2025. 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 1.2 percent of GDP in 2015 to 2.9 percent in 2025. 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 2.6 percent in 2018 compared to 0.04 percent in 2015, according to CBO's August 2015 economic projections (CBO 2015b). The 10-year Treasury note rate rises to 4.0 percent in 2018 compared to 2.2 percent in 2015. Various measures of the inflation rate such as the Consumer Price Index are expected to rise around 2 percentage points over the same period; the remainder of the increases represents changes in real interest rates.

- **Non-interest outlays are projected to be roughly constant as a share of GDP, reflecting declines in discretionary spending that are offset by increases in mandatory spending (despite the recent downward revisions in cost growth for Medicare and Medicaid).**

In fiscal-year 2015, non-interest spending is estimated to be 19.4 percent of GDP. This figure is projected to fall to 18.7 percent by 2018. It then rises by 2025 to 19.3 percent; this is a

higher spending level than the historical average. From 1957 to 2007, non-interest spending averaged about 17.5 percent of GDP.

Figure 4 shows data on the composition of spending over the next 10 years. In our current policy projections, discretionary spending will decrease from 6.5 percent of GDP in 2015 to 5.2 percent in 2025; defense spending will decline from 3.3 percent in 2015 to 2.5 percent in 2025; non-defense discretionary spending is projected to fall from 3.2 percent of GDP in 2015 to 2.6 percent of GDP in 2025. All of these shares are remarkably low relative to historical figures. Since 1962, the lowest discretionary spending share of GDP occurred in 1999, at 6.0 percent. The lowest share for defense spending was 2.9 percent of GDP in 1999-2001. The lowest nondefense discretionary spending share of GDP during this time period was 3.1 percent in 1998-1999.

Under current policy, mandatory spending is projected to rise from 12.9 percent of GDP in 2015 to 13.9 percent in 2022. This is lower than CBO's projection in 2012 for 2022, which was 14.3 percent (CBO 2012). The lower mandatory spending is due to slower projected cost growth in the major federal health programs, Medicare and Medicaid.

- **Revenues, which have recovered from the extremely low levels of recent years, are projected to hover just 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 18.2 percent in 2015, will fall to 17.7 percent of GDP by 2021, but are projected to increase to 18.0 percent by 2025. 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 generally to rise through the decade, reaching 9.0 percent of GDP by 2025 under current policy. The only years the income tax has ever raised at least 8.9 percent of GDP in revenue were 1944 (at the height of the war), 1981-82 (before the Reagan tax cuts took full effect), and 1998-2001 (helped by a strong economy and the sharp but temporary explosion in the value of technology companies and leading to the Bush tax cuts in 2001 and 2003).

- **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), civilian and military retirement, and transportation spending. All of the projections highlighted above integrate the trust funds into the overall budget. These 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 trust-fund 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. Despite recent legislation, the highway and mass transit trust fund is scheduled to have to make cuts starting in late 2015. Likewise, the disability (DI) trust fund is scheduled to have to make forced adjustments by late 2016. The Medicare Part A (hospital insurance) fund appears, according to the 2015 Trustees Report, likely to hit a similar constraint shortly after 2030 (Board of Trustees 2015).

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, make inter-fund transfers, reduce benefits, or raise taxes. In contrast, Social Security (OASI) does not have cash flow issues for a couple of decades and Medicare parts B (Supplementary Medical Insurance) and D (Drug Insurance) do 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 an incomplete picture of the federal government's overall fiscal position over the longer term, an 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 2025 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 2015 Trustees reports.[5] 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 2026–2090 for OASDI and Medicare, assuming that these ratios are constant at their terminal values thereafter. For Medicaid, CHIP, and exchange subsidies, we use growth rates implied by

[5] Details of these computations are available from the authors upon request. The 2015 Medicare Trustees Report is at https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/Downloads/TR2015.pdf. The 2015 OASDI Trustees Report is at http://www.ssa.gov/oact/tr/2015/tr2015.pdf.

CBO's most recent long-term projections (CBO 2015a) through 2090 and assume that spending as a share of GDP is constant thereafter.

We use interest rate and growth assumptions implied in CBO's 2015 Long Term Budget Outlook (CBO 2015a). The interest rate is obtained by dividing net interest payments in a given year by public debt in the previous year. The implied interest and growth rates vary somewhat on an annual basis due to rounding. Over the 2026-2090 period, the average economic growth rate is 4.3 percent and the average nominal interest rate is 4.4 percent.[6] For years after 2090, we use the 2090 values of 4.3 percent for the growth rate and 4.4 percent for the interest rate.

By assuming that many categories of tax revenues and spending remain constant relative to GDP, we are not simply projecting based on current law, but instead we 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.

[6] We also considered an alternative (not shown in the tables below) with higher long-run interest rates and a larger gap between the two, by assuming that economic growth occurred at the rate projected by the Social Security trustees (which averages 4.44 percent after 2025, just slightly above that in our baseline) and using the Trustees' projected interest rates (which averages 5.57 percent) to calculate net interest payments. This yields slightly higher fiscal gaps than those presented below in Table 1 through 2040, 2090, and lower or higher gaps over the indefinite period depending on the starting date of consolidation.

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 long term, are not adopted by other forecasters, who have a more pessimistic outlook. For example, the Medicare Actuary has, since 2010, released a separate set of projections (CMS Office of the Actuary 2015) showing smaller (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 (2015a), which projects a still more pessimistic path for Medicare spending. In all projections, we assume that all revenue and expenditure components except net interest remain constant as a share of GDP after 2090.

A. Basic Projections

Figure 5 shows projected revenues plus non-interest expenditures through 2090 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 Trustees' health-care projections, non-interest outlays will rise more or less continually. By 2040, non-interest outlays will total 21.0 percent of GDP. By 2090, the figure will rise to 22.2 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 CBO alternative health scenario, non-interest outlays will rise to

21.8 percent of GDP by 2040 and are projected to be 27.4 percent of GDP by 2090. Figure 6 shows debt-to-GDP ratios under the overall most optimistic and most pessimistic projections. The economy would pass its highest previous debt-to-GDP ratio (106.1 percent, in 1946) in 2035 under the most pessimistic scenario and in 2039 under the most optimistic scenario. Projected debt-GDP ratios would hit 200 percent in 2057 under the most pessimistic scenario and in 2070 under the most optimistic. In both cases, the following years would see continuing 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).[7] 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 (or combination of the two) 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 2090 as exists today.[8] Or one might ask, if we wanted the debt-GDP ratio to return to its 1957-2007 average of 36 percent by 2040, what constant-share-of-GDP change would be required starting in 2020?

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 2015, and aiming for the same debt-GDP ratio in the terminal year (74.0

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

[8] 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).

percent of GDP) as existed at the end of 2014. With the Medicare Trustees assumptions about projected health expenditures, the gap through 2040 is 1.59 percent of GDP. This implies that an immediate and permanent increase in taxes or cut in spending of about $284 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 more distant future years. If the horizon is extended through 2090, the fiscal gap rises to 2.99 percent of GDP. If it is extended indefinitely, the gap rises to 4.25 percent of GDP.

The second and third rows of the table show that the choice of health care scenario has a significant and varying impact on the estimated fiscal gaps. Through 2040, the differences in the fiscal gaps implied by the different health care scenarios are small – about 0.15 percent of GDP. Over longer periods, however, the differences are much larger. Using the CMS actuaries' projections instead of the Medicare Trustees' projections raises the fiscal gap by about 1.3 percent of GDP through 2090 and 3.1 percent of GDP on a permanent basis. Using the CBO Medicare projections raises the gap by an additional 0.6 percent of GDP through 2090 and an additional 1.7 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 2025. If we instead assumed that such spending stayed constant in real, per capita terms, discretionary spending would fall from 5.2 percent of GDP in 2025 to 4.4 percent in 2040 and 2.1 percent in 2090. This would reduce the fiscal gap by about 0.3 percent of GDP through 2040, 2.1 percent of GDP through 2090 and just about 4.3 percent of GDP on a permanent basis.

We assumed that income tax revenues would remain a constant share of GDP after 2025. Under a strict view of current law, income 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, total revenues would rise from 18.0 percent of GDP in 2025 to 18.8 percent of GDP in 2040 and 24.3 percent of GDP in 2090. This would reduce the estimated fiscal gap by 0.2 percent of GDP through 2040, 2.3 percent of GDP through 2090, and 6.0 percent of GDP on a permanent basis.

Starting in its 2013 long-term outlook, the CBO has incorporated its own projections of mortality rates instead of using the Trustees' assumptions (CBO 2013). CBO's assumptions regarding mortality rates follow a different pattern than the Trustees' assumptions do. Using Social Security projections that incorporate CBO's mortality assumptions increases the fiscal gap by about 0.04 percent of GDP through 2040, reduces it by 0.03 percent through 2090, and increases it 0.15 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 – 74.0 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. 2015) and 2020, 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 2090 shown in the top row of Table 1, for obtaining a 74.0 percent debt-GDP ratio in the target year, with the policy starting in 2015.

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 of 3.0 percent of GDP per year starting in 2015. Another key message is that this task will be even more challenging under the assumption that no action occurs for the next five years.[9] If we wait until 2020 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 2090 would require cuts on the order of 3.7 percent of GDP starting in 2020. Even holding the 2040 debt-GDP ratio at its current level would require annual cuts of 2.0 percent of GDP starting in 2020, and reducing the debt-GDP ratio to 60 percent in 2040 would require cuts 2.6 percent of GDP beginning in 2020.

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

[9] 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.

debt that fast, solely for the purpose of letting it rise again, is questionable, given past policy responses to budget surpluses and reductions in the national debt.

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 annual imbalance 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 74.0 percent of GDP after 2020 would require primary deficit cuts of 0.1 percent of GDP in 2021, 2.4 percent of GDP in 2030, and 3.0 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 2.0 percent of GDP deficit reduction starting in 2020 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 – 1.9 percent of GDP in 2021, 4.3 percent of GDP in 2030, and 4.9 percent of GDP in 2040. This compares to a constant adjustment of 3.8 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 imply 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 is unlikely to be an optimal strategy.

First, regardless of whether the long term turns out to be somewhat better or worse than predicted, there is *already* 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. If carrying high debt were costless economically and politically, many more countries would have done so before the Great Recession. In fact, extremely few had net debt to GDP ratios above 70 percent.

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 have wanted to reduce spending or raise taxes during the relatively weak economic recovery starting in 2009, but that is different from not

planning ahead. Note that addressing the issue now does not necessarily mean cutting back on *current* expenditures or raising *current* taxes substantially or even at all; rather, it may involve addressing future spending and revenue flows now, in a credible manner.

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 – rather than better – 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.[10]

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,

[10] This argument is discussed at greater length in Auerbach (2014).

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 (as a share of GDP) 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 as a share of GDP 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 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 the short-term deficits that have been the focus of discussions in Washington in recent years, and certainly not the appropriations bills that need to be enacted in order to avert a government shutdown.

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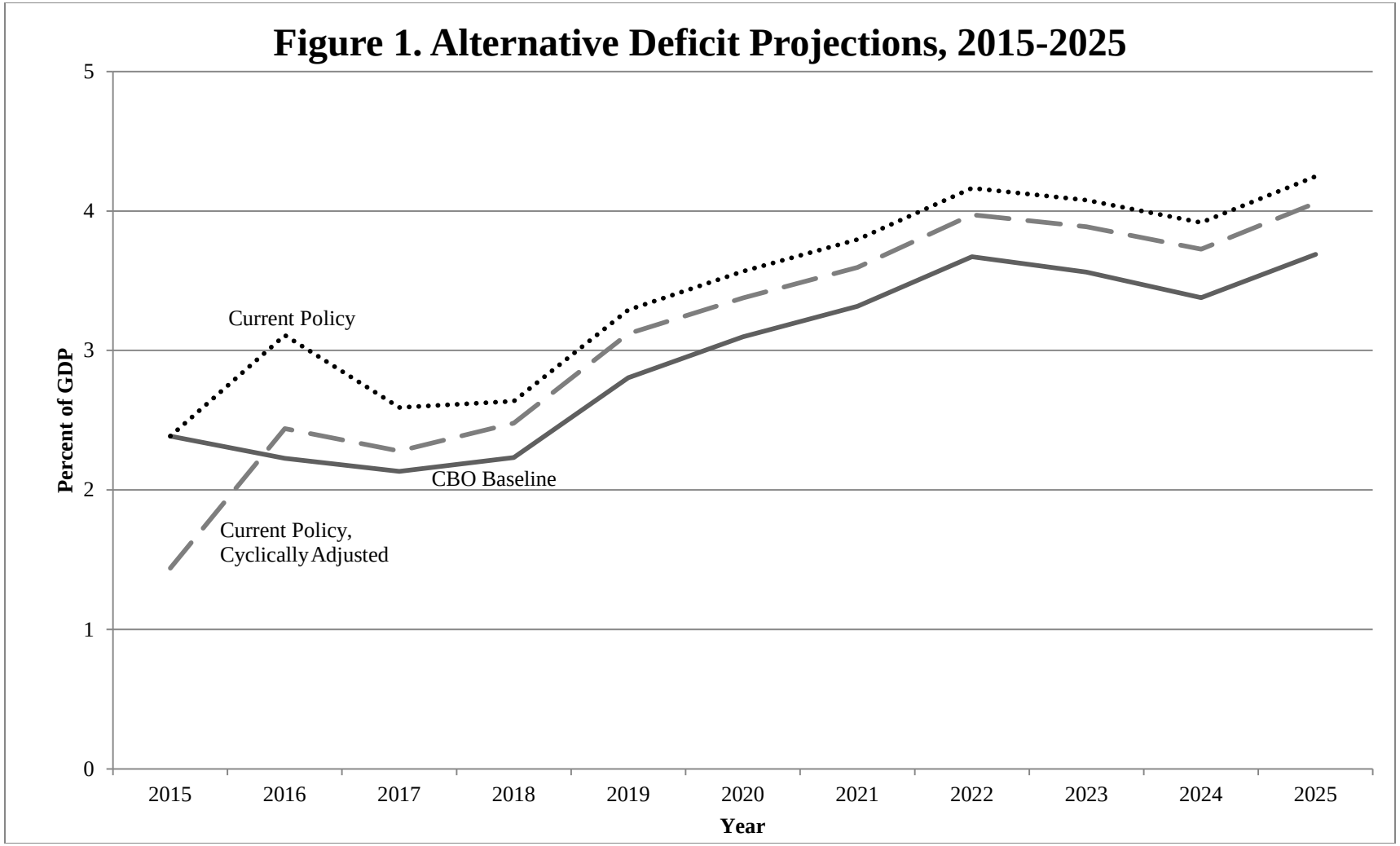


Note: All deficit measures divided by projected actual GDP.

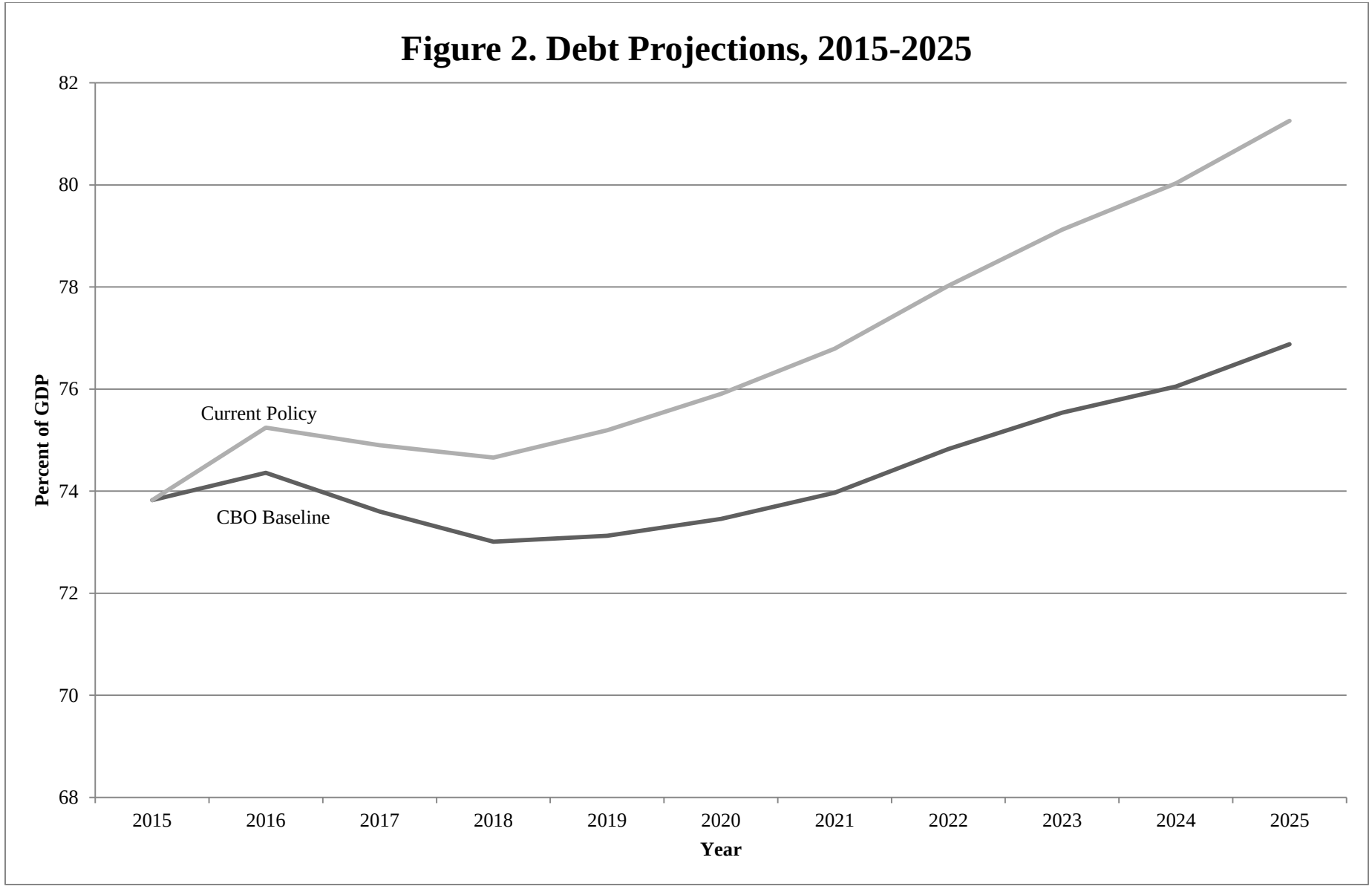


Figure 2. Debt Projections, 2015-2025
82
80
78
76
74
72
70
68
Percent of GDP
Current Policy
CBO Baseline
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
Year

Figure 3. Spending, Revenue and Deficits, 2015-2025

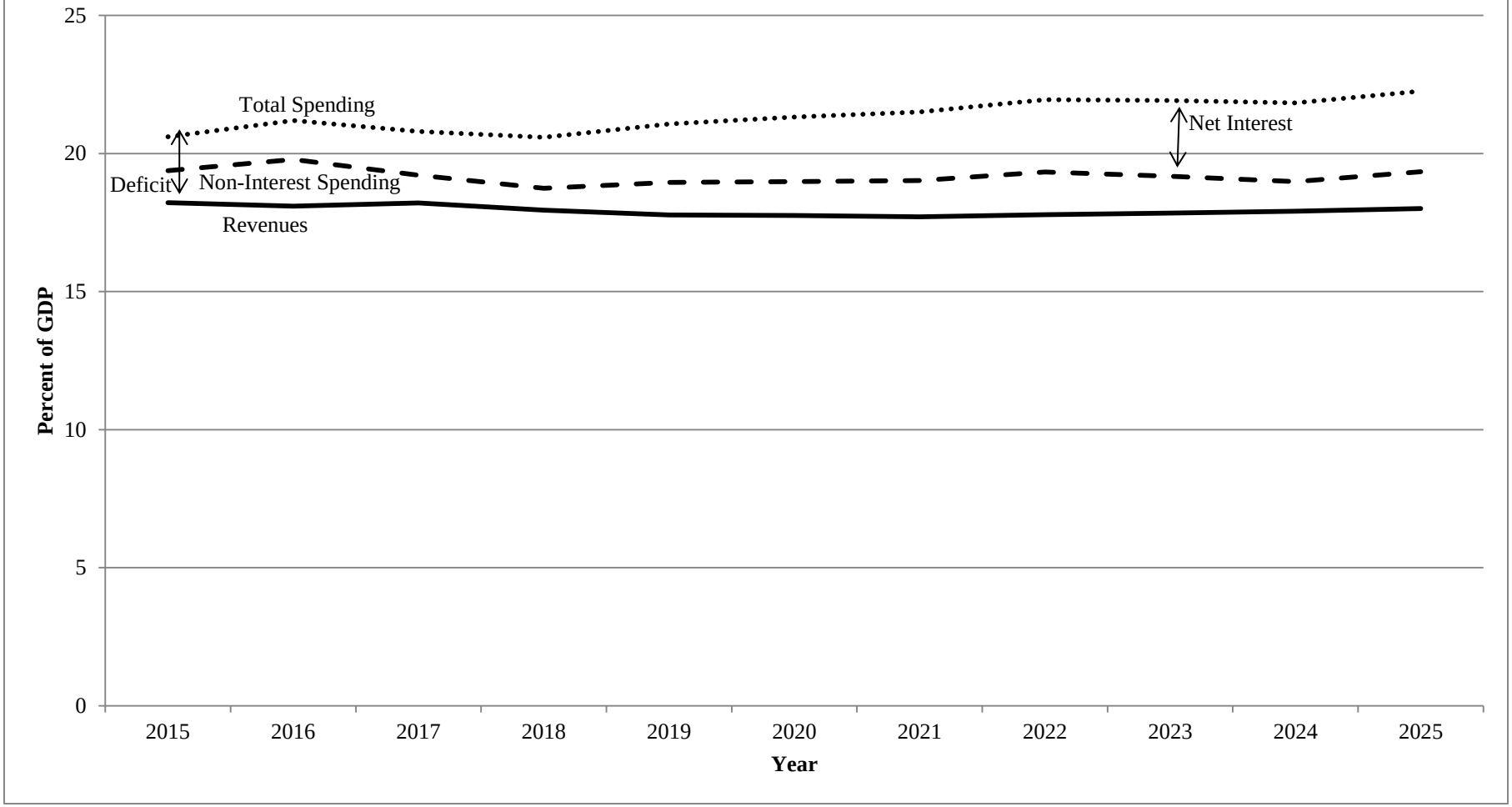


Figure 4. Composition of Spending, 2015-2025, Current Policy

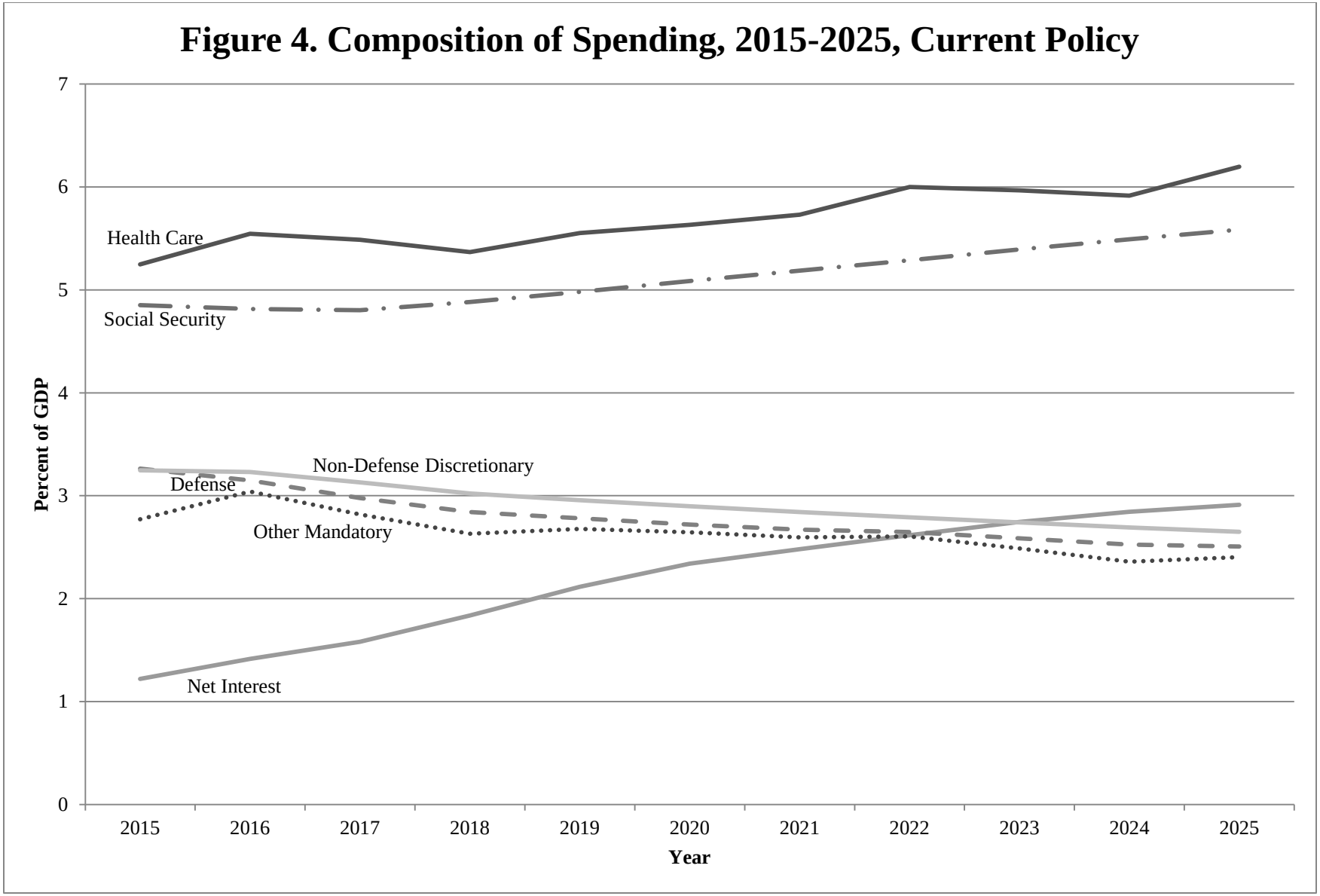


Figure 5. Alternative Projections of Revenue and Non-Interest Outlays, 2015-2090

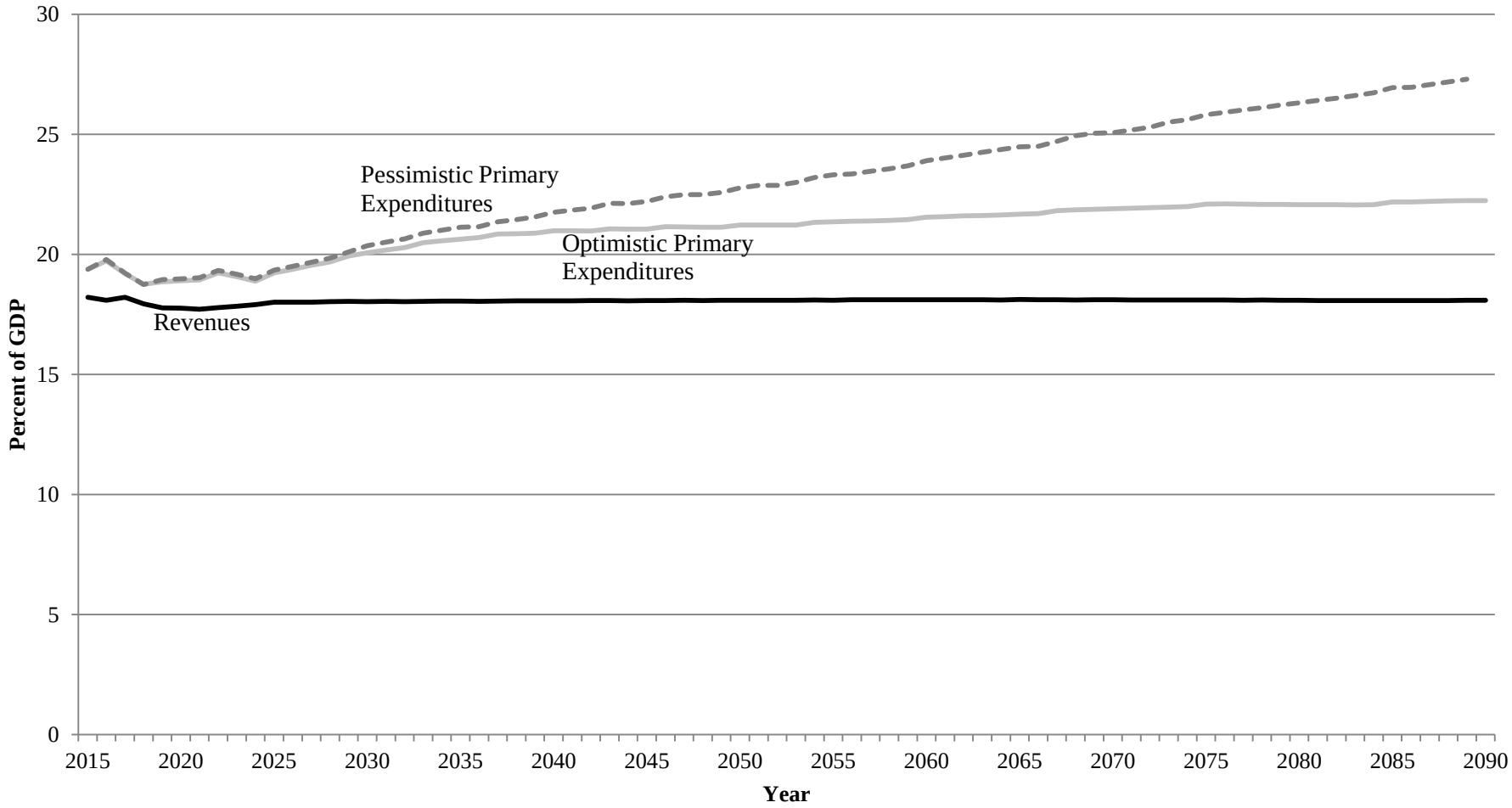


Figure 6. Alternative Projections of the National Debt, 2015-2090

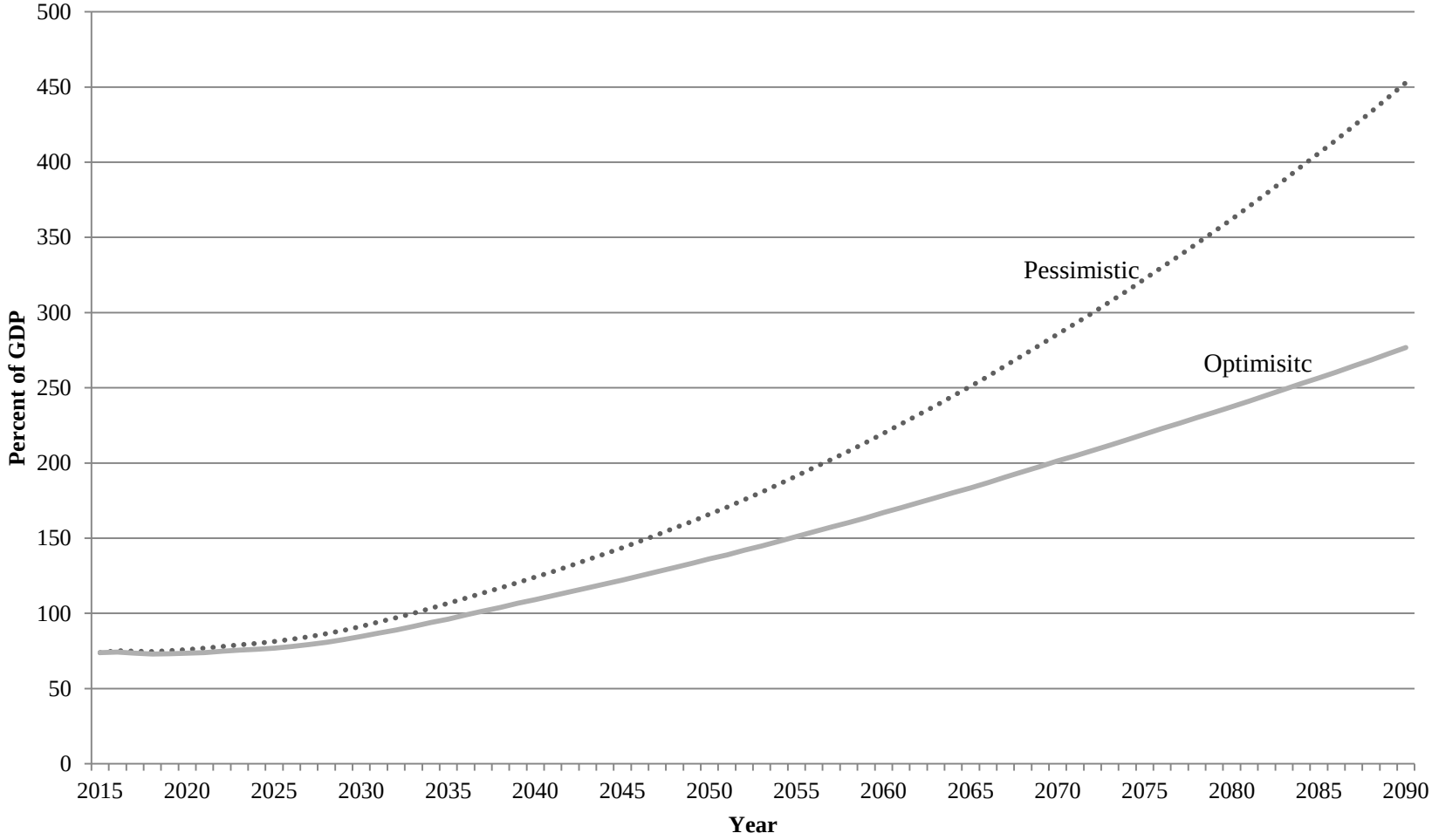
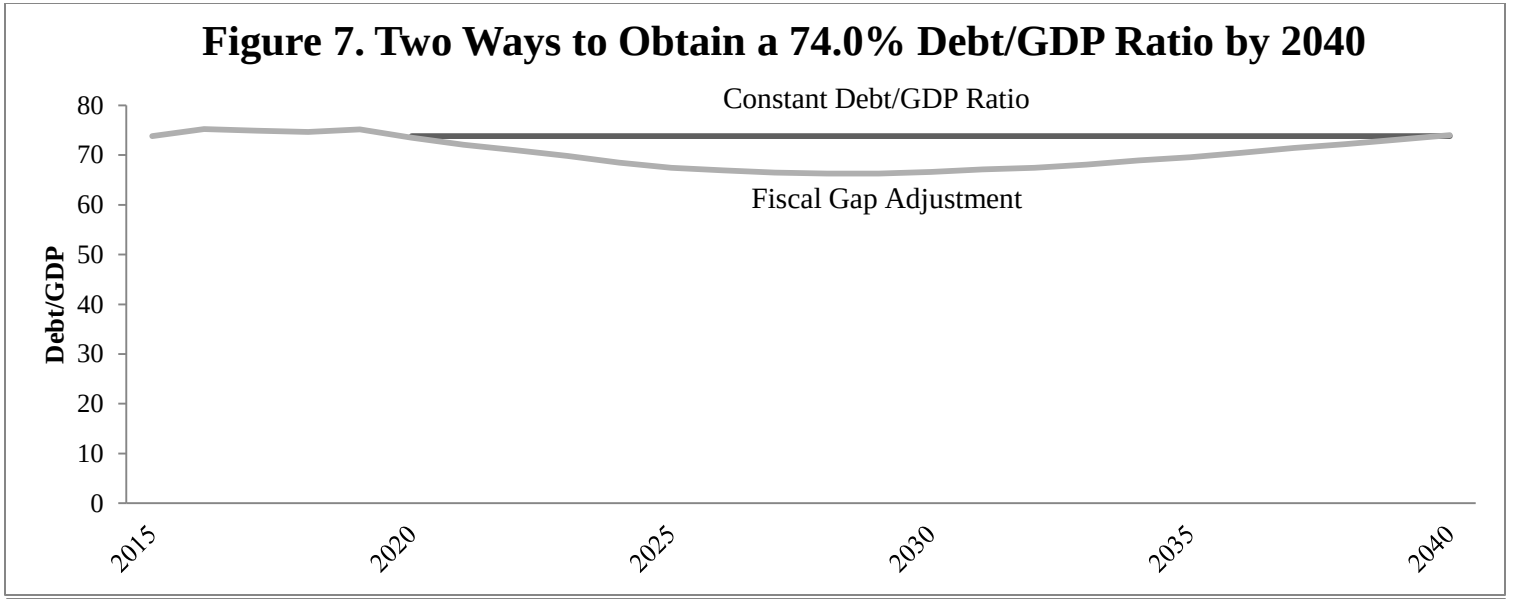


Figure 7. Two Ways to Obtain a 74.0% Debt/GDP Ratio by 2040



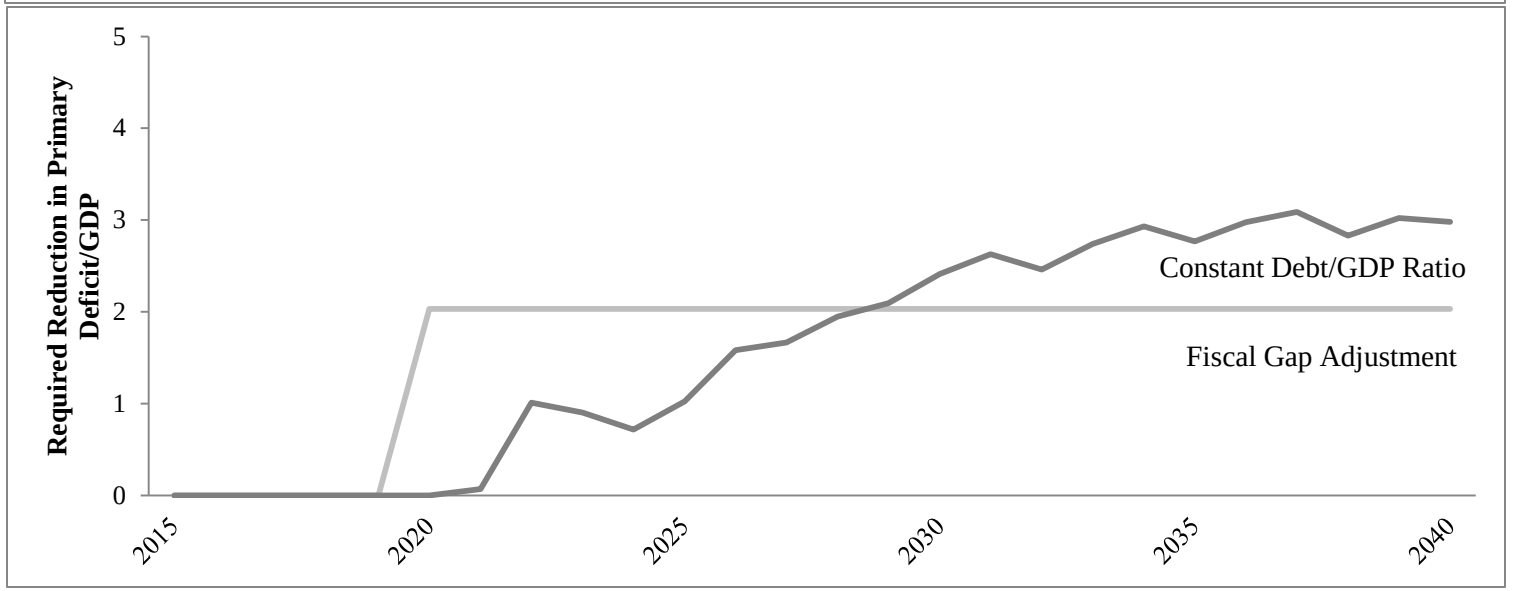
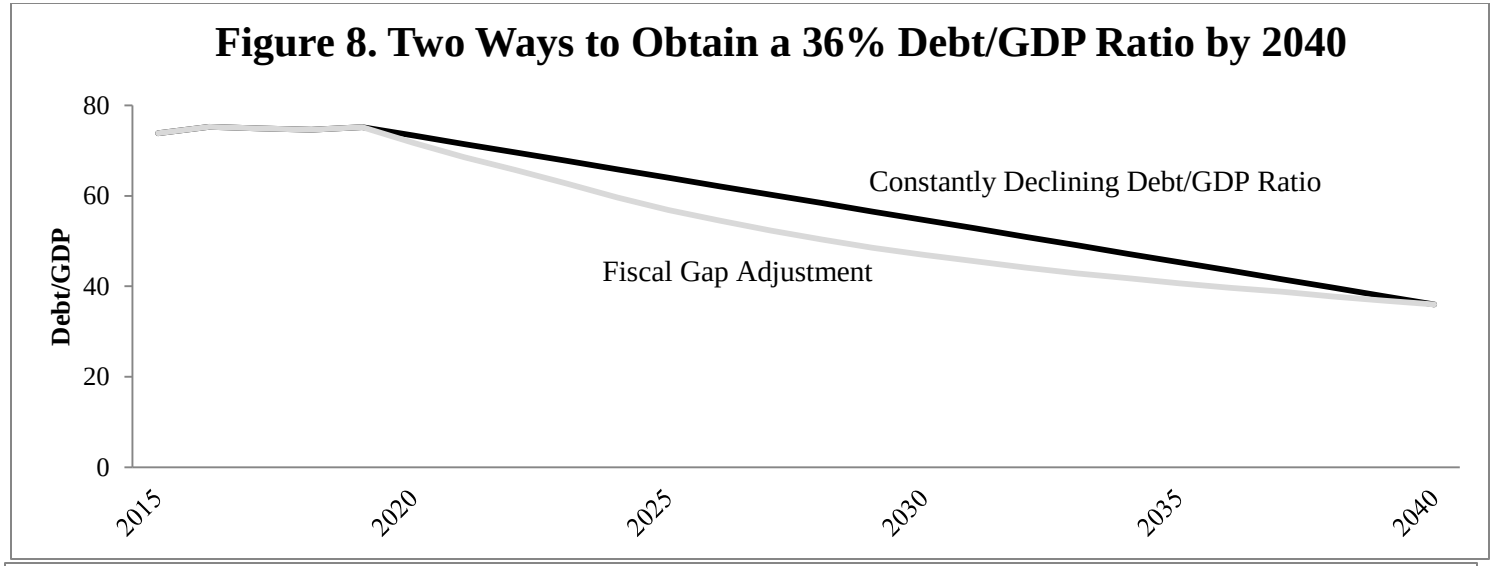


Figure 8. Two Ways to Obtain a 36% Debt/GDP Ratio by 2040



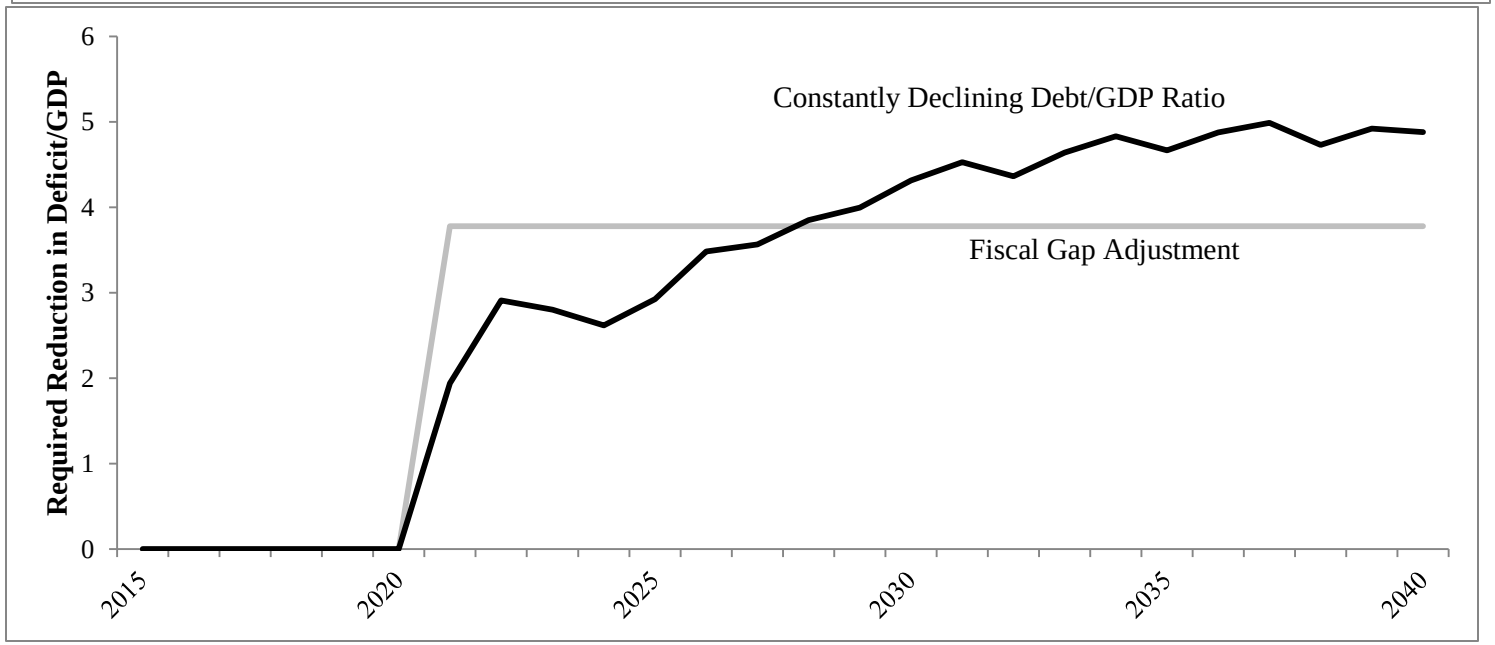


Table 1
Fiscal Gaps (Percent of GDP)

	Through 2040	Through 2090	Permanent
Health Spending Assumptions			
Medicare Trustees	1.59	2.99	4.25
CMS Actuary	1.74	4.28	7.39
CBO Alternative Scenario	1.75	4.87	9.10
Alternative Policy Options (Incremental Effects)[1]			
Discretionary and Other Mandatory Outlays Grow at Real Per Capita Rates	-0.33	-2.12	-4.34
Revenues Grow with Bracket Creep and Retirement Withdrawals	-0.22	-2.26	-5.95
Use CBO's Estimates of Social Security Benefit Spending	0.04	-0.03	0.15

Source: Authors' calculations

[1]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
Current Policy

	Through 2040	Through 2090
Start Date: 2015		
Debt Target		
Current	1.59	2.99
60	2.06	3.15
36	3.02	3.47
Start Date: 2020		
Debt Target		
Current	2.03	3.21
60	2.60	3.38
36	3.78	3.73

Appendix Table 1
Federal Budget Deficit
CBO Baseline and Extended Policy 2015-2025[1, 2]

Deficit ($ billions)

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2016-25
CBO Baseline	426	414	416	454	596	687	767	885	895	886	1008	**7,007**
as percent of nominal GDP	**2.4**	**2.2**	**2.1**	**2.2**	**2.8**	**3.1**	**3.3**	**3.7**	**3.6**	**3.4**	**3.7**	**3.1**
Adjustments for tax policy												
Extend expiring tax provisions	0	152	81	76	73	69	69	70	73	77	80	821
Subtotal	0	152	81	76	73	69	69	70	73	77	80	821
Net interest[3]	0	2	4	7	9	12	15	19	23	27	31	149
Total adjustments for tax policy	0	154	84	83	82	81	85	89	96	104	112	970
as percent of nominal GDP	0.0	0.8	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Adjustments for spending policy												
Drawdown in defense spending	0	-12	-28	-39	-46	-51	-53	-55	-56	-57	-58	-456
Increase Remaining Discretionary Appropriations at Inflation	0	22	33	38	42	47	52	56	60	63	67	479
Mandatory adjustment from tax extenders	0	0	0	0	22	22	22	23	23	23	23	158
Subtotal	0	10	4	-1	19	19	21	23	26	29	32	182
Net interest[3]	0	0	0	0	3	4	5	6	7	8	10	79
Total adjustments for spending policy	0	10	5	-1	22	23	26	29	34	37	41	226
as percent of nominal GDP	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1
Current Policy	**426**	**578**	**505**	**537**	**699**	**790**	**877**	**1,004**	**1,025**	**1,027**	**1,160**	**8,202**
as a percent of nominal GDP	**2.4**	**3.1**	**2.6**	**2.6**	**3.3**	**3.6**	**3.8**	**4.2**	**4.1**	**3.9**	**4.2**	**3.6**
GDP	17,847	18,587	19,482	20,359	21,234	22,158	23,121	24,115	25,144	26,210	27,317	227,727

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

[2]The source of these estimates is CBO (August 2015) "The Budget and Economic Outlook: 2015 to 2015."

[3]Net interest from tax adjustments is proportionally split into spending and tax policy by the primary deficit effects of tax extender revenue changes and tax credit outlays.