3. LONG-TERM BUDGET OUTLOOK

While current Federal budget deficits are down from the string of trillion-dollar deficits that resulted from the 2008-2009 recession, the structural excess of spending over revenue will cause deficits to begin rising again soon and reach the trillion-dollar mark toward the end of the 10-year budget window. The long-term budget projections of current policy in this chapter show that the deficit will continue to rise dramatically beyond the 10-year window and that publicly held debt will exceed the size of the economy by 2036 unless significant reforms are enacted. The Administration is committed to reversing the trend of untenable Federal spending and to charting a path for more efficient, responsible, and sustainable use of taxpayer dollars while promoting economic growth.

While the detailed estimates of receipts and outlays in the President's Budget extend only 10 years, this chapter reviews the longer-term budget outlook, both under a continuation of current policies and under the policies proposed in the Budget. The projections discussed in this chapter are highly uncertain. Small changes in economic or other assumptions can make a large difference to the results. This is even more relevant for projections over longer horizons.

The chapter is organized as follows:

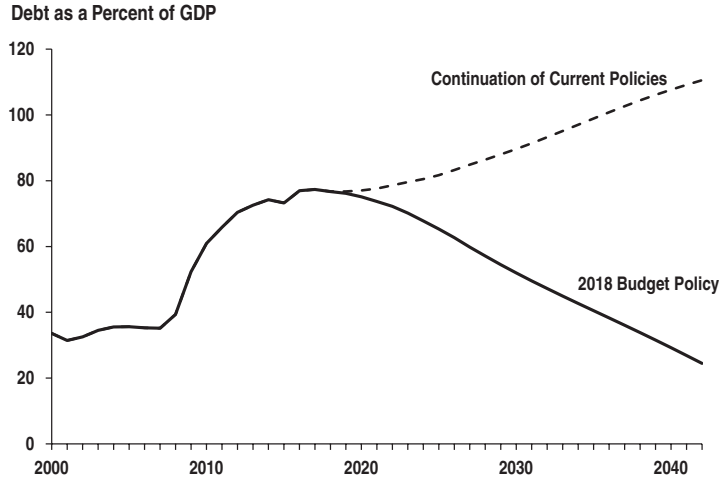
- The first section details the assumptions used to create the baseline projection and analyzes the long-term implications of leaving current policies in place. This forecast serves as a point of comparison against the proposals in the 2018 Budget in the second section.
- The second section demonstrates how the Administration's policies will significantly alter the current trajectory of the Federal budget by balancing the budget by 2027 and reducing the Federal debt. This course-correction will put the Nation on a sustainable path to maintain the financial health of the Federal government for future generations.
- The third section discusses alternative assumptions and uncertainties in the projections.
- The fourth section discusses the actuarial projections for Social Security and Medicare.
- The appendix provides further detail on data sources, assumptions, and other methods for estimation.

Both the Administration and the Congressional Budget Office (CBO) project that, absent any changes in policy, the deficit will increase this year and continue to escalate over the following 10 years. Chart 3-1 shows the path of debt as a percent of GDP under continuation of current policies, *without* the policy changes proposed in the President's Budget, as well as the debt trajectory under the President's policies. Under current policy, the ratio of debt to GDP will rise from 77 percent in 2017 to 85 percent in 2027, an increase of about eight percentage points over that period. In contrast, the debt ratio is projected to be 60 percent in 2027 under the proposed policy changes. By the end of the 25-year horizon, the difference in the debt burden—111 percent of GDP under current policy compared to 25 percent of GDP under Budget policy—is even starker.

Long-Run Projections under Continuation of Current Policies

For the 10-year budget window, the Administration produces both baseline projections, which show how deficits

Chart 3-1. Comparison of Publicly Held Debt



and debt would evolve under current policies, and projections showing the impact of proposed policy changes. Like the budget baseline more generally, long-term projections should provide policymakers with information about the Nation's expected fiscal trajectory in the absence of spending and tax changes. For this reason, the baseline projections in this chapter are based on a set of economic assumptions that remove the growth-increasing effects of the Administration's fiscal policies. In past Budgets, the baseline and policy projections used the same set of economic assumptions, but this approach would understate the severity of the current-law fiscal problem and fail to illustrate the full impact of the 2018 Budget policies.

The baseline long-term projections assume that current policy continues for Social Security, Medicare, Medicaid, other mandatory programs, and revenues.[1] For discretionary spending, it is less clear how to project a continuation of current policy. After the expiration of the statutory caps in 2021, both the Administration's and CBO's 10-year baselines assume that discretionary funding levels generally grow slightly above the rate of inflation (about 2.5 percent per year). Thereafter, the baseline long-run projections assume that per-person discretionary funding remains constant, which implies an annual growth rate of about three percent.

Over the next 10 years, debt rises from 77 percent of GDP last year to 85 percent of GDP in 2027. Beyond the 10-year horizon, debt increases more sharply, reaching 111 percent of GDP by 2042, the end of the 25-year projection window. The key drivers of that increase are an aging population and rapid health care cost growth, which combine to outpace growth in Federal revenues. Without policy changes, the public debt will continue to grow, increasing the burden on future generations.

Aging population.—Over the next 10 years, an aging population will put significant pressure on the budget. In 2008, when the oldest members of the baby boom generation became eligible for early retirement under Social Security, the ratio of workers to Social Security beneficiaries was 3.2. By the end of the 10-year budget window, that ratio will fall to 2.4, and it will reach about 2.2 in the early 2030s, at which point most of the baby boomers will have retired.

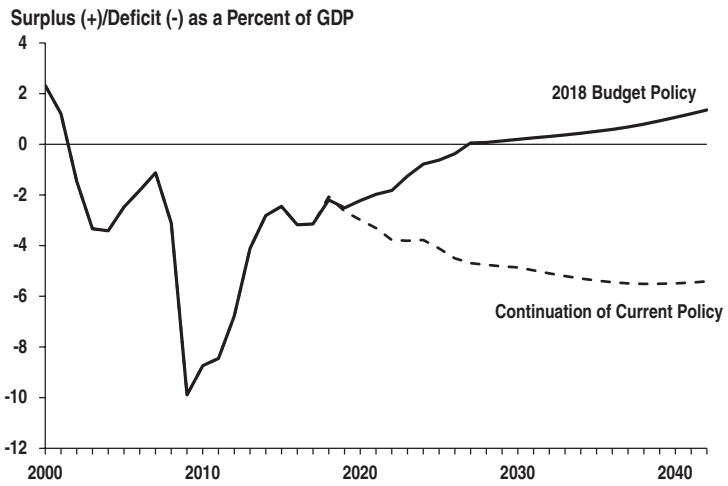
With fewer active workers paying taxes and more retired workers eligible for Social Security, Medicare, and Medicaid (including long-term care), budgetary pressures will increase. Social Security program costs will grow from 4.9 percent of GDP today to 6.6 percent of GDP by 2042, with most of that growth occurring within the 10-year budget window. Likewise, even if per-beneficiary health care costs grew at the same rate as GDP per capita, Medicare and Medicaid costs would still increase substantially as a percent of GDP, due solely to the aging population.

Health costs.—Health care costs per capita have risen much faster than per-capita GDP growth for decades, leading both public and private spending on health care to increase as a share of the economy. While spending per enrollee has grown roughly in line with or more slowly than per-capita GDP in both the public and private sectors in recent years, slower per-enrollee growth is not projected to continue. Trends in per-enrollee costs, together with the demographic trends discussed above, are the primary drivers of long-term fiscal projections.

Based on projections of Medicare enrollment and expenditures included in the 2016 Medicare Trustees Report, the projections here assume that Medicare per-beneficiary spending growth will accelerate over the next few years, with the growth rate averaging about 0.8 percentage points above the growth rate of per-capita GDP over the next 25 years. (This average growth rate is still below the historical average for the last 25 years.) Under these assumptions, Medicare and Medicaid costs increase by a total of 2.6 percentage points as a percent of GDP by 2042.

[1] The long-run baseline projections are consistent with the Budget's baseline concept, which is explained in more detail in Chapter 22, "Current Services Estimates," in this volume. The projections assume full payment of scheduled Social Security and Medicare benefits without regard to the projected depletion of the trust funds for these programs. Additional baseline assumptions beyond the 10-year window are detailed in the appendix to this chapter.

Chart 3-2. Comparison of Annual Surplus/Deficit



Revenues.—Without any further changes in tax laws, revenues will grow slightly faster than GDP over the long run, but not fast enough to keep pace with the increase in social insurance costs that results from an aging population. The increase in revenues as a percent of GDP occurs primarily because individuals' real, inflation-adjusted incomes grow over time, and so a portion of their income falls into higher tax brackets. (Bracket thresholds are indexed for inflation but do not grow in real terms.)

The Impact of 2018 Budget Policies on the Long-Term Fiscal Outlook

To show the long-term effects of implementing new policies, expenditures and revenues are extended through the 25-year timeframe. The President's 2018 Budget proposal reduces deficits while continuing to invest in national security and other critical priorities that promote economic growth and ultimately balances the budget by decreasing non-defense discretionary and mandatory spending over the next 10 years. Beyond the 10-year window, most categories of mandatory spending grow at the same long-run rates as under the baseline projection, discretionary spending keeps up with inflation, and revenues continue as a fixed percentage of GDP based on their level in 2027. Details about the assumptions are available in the appendix.

As shown in Chart 3-2, 2018 Budget policies will reduce the deficit to below two percent of GDP by 2022 and ultimately lead to a balanced budget by 2027. Over the next decade and a half, the debt-to-GDP ratio reaches 47 percent of GDP and subsequently decreases. At the end of the 25-year horizon, the debt ratio would be the lowest since the start of the 1980s, representing significant progress in reducing the Federal debt burden.

One way to quantify the size of the Nation's long-term fiscal challenges is to determine the size of the increase in taxes or reduction in non-interest spending needed to reach a target debt-to-GDP ratio over a given period. There is no one optimal debt ratio, but two illustrative targets are keeping the debt ratio stable and reaching the average postwar debt ratio of 45 percent. Policy adjustments of about 1.4 percent of GDP would be needed each year to keep the debt ratio stable at 77 percent. Alternatively, policy adjustments of about 2.7 percent of GDP would steer the debt ratio to the postwar average by the end of the 25-year horizon. In comparison, the President's Budget policies are projected to decrease the debt ratio within 10 years and reduce it by 53 percentage points by 2042, more than satisfying the definition of fiscal sustainability.

The Budget achieves these fiscal goals through prioritizing expenditures that promote economic growth and security while improving the efficiency of the Federal government. For example, the President's Budget includes $200 billion to improve the Nation's crumbling infrastructure and an increase of $54 billion to defense spending for 2018. Reducing the regulatory burden will promote job creation, and tax reform will allow families to keep more of their earnings. At the same time, the Budget eliminates ineffective or duplicative programs and identifies ways to make Federal programs more efficient. Despite all the progress the Budget proposals make towards fiscal goals, some long-term challenges remain, particularly in Social Security and Medicare.

Uncertainty and Alternative Assumptions

Future budget outcomes depend on a host of unknowns: changing economic conditions, unforeseen international developments, unexpected demographic shifts, and unpredictable technological advances. The longer budget projections are extended, the more the uncertainties increase. These uncertainties make even short-run budget forecasting quite difficult. For example, the budget's projection of the deficit in five years is 1.8 percent of GDP, but a distribution of probable outcomes ranges from a deficit of 7.2 percent of GDP to a surplus of 3.6 percent of GDP, at the 10th and 90th percentiles, respectively.

Productivity and interest rates.— The rate of future productivity growth has a major effect on the long-run budget outlook (see Chart 3–3). Higher productivity growth improves the budget outlook, because it adds di-

Chart 3-3. Alternative Productivity and Interest Assumptions

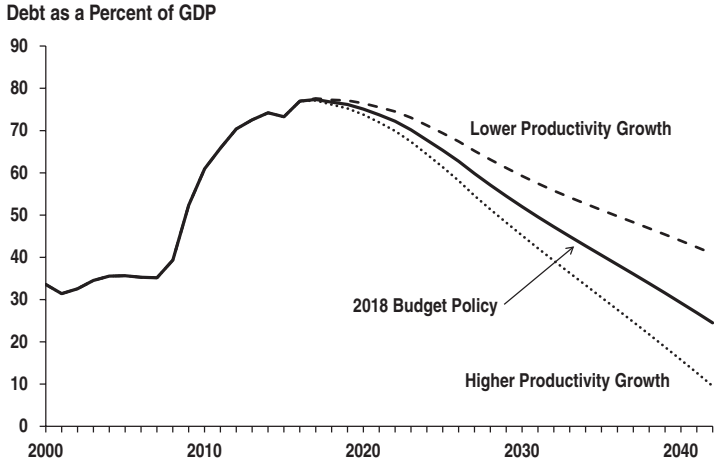


Table 3–1. DEBT PROJECTIONS IN 25 YEARS UNDER ALTERNATIVE BUDGET SCENARIOS
(Percent of GDP)

2018 Budget Policy	24.5
Health:	
Excess cost growth averages 1.5%	36.8
Zero excess cost growth	16.6
Discretionary Outlays:	
Grow with inflation and population	26.8
Grow with GDP	32.0
Revenues:	
Revenues rise as as a share of GDP, with bracket creep	20.2
Productivity and Interest:[1]	
Productivity grows by 0.25 percentage point per year faster than the base case	10.5
Productivity grows by 0.25 percentage point per year slower than the base case	39.7

[1] Interest rates adjust commensurately with increases or decreases in productivity.

rectly to the growth of the major tax bases while having a smaller effect on outlay growth. Meanwhile, productivity and interest rates tend to move together, but have opposite effects on the budget. Economic growth theory suggests that a 0.1 percentage point increase in productivity should be associated with a roughly equal increase in interest rates.

Productivity growth is also highly uncertain. For much of the last century, output per hour in nonfarm business grew at an average rate of around 2.1 percent per year, but there were long periods of sustained output growth at notably higher and lower rates than the long-term average. The base case long-run projections assume that real GDP per hour worked will grow at an average annual rate of 2.0 percent per year and assume interest rates on 10-year Treasury securities of 3.8 percent. The alternative scenarios illustrate the effect of raising and lowering the projected productivity growth rate by 0.25 percentage point and changing interest rates commensurately. At the end of the 25-year horizon, the public debt ranges from almost 11 percent of GDP in the high productivity scenario to 40 percent of GDP in the low productivity scenario. This variation highlights the importance of investment and smarter tax policy, which can contribute to higher productivity.

Health spending.—Health care cost growth represents another large source of uncertainty in the long-term budget projections. As noted above, the baseline projections follow the Medicare Trustees in assuming that Medicare per-beneficiary costs grow an average of about 0.8 percentage points faster than per-capita GDP growth over the next 25 years. But historically, especially prior to 1990, health care costs grew even more rapidly. Conversely, over the last few years, per-enrollee health care costs have grown roughly in line with or more slowly than GDP per capita, with particularly slow growth in Medicare and Medicaid.

Chart 3-4 shows the large impact that either slower or faster health care cost growth would have on the budget. If health care cost growth averaged 1.5 percentage points faster than per-capita GDP growth, the debt ratio in 25 years would increase from 25 percent of GDP under the base case Budget policy to 37 percent of GDP. If health care costs grew with GDP per capita, the debt ratio in 25 years would be 17 percent of GDP.

Policy assumptions.—As evident from the discussion of the 2018 Budget proposals, policy choices will also have a large impact on long-term budget deficits and debt. The base case policy projection for discretionary spending assumes that after 2027, discretionary spending grows with inflation (see Chart 3–5). Alternative assumptions are to grow discretionary spending with GDP or inflation and population. At the end of the 25-year horizon, the debt ratio ranges from 25 percent of GDP in the base case to 27 percent of GDP if discretionary spending grows with inflation and population and 32 percent of GDP if discretionary spending grows with GDP.

In the base case policy projection, tax receipts remain a constant percent of GDP after the budget window. Chart 3–6 shows an alternative receipts assumption. Without changes in law, revenues would gradually increase with

Chart 3-4. Alternative Health Care Costs

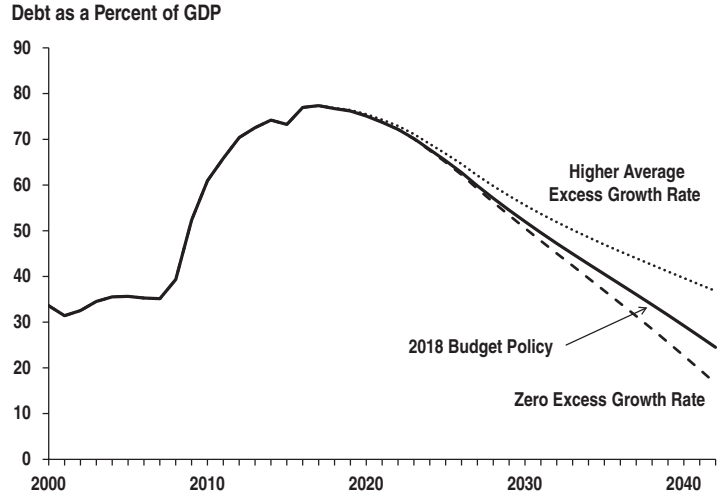
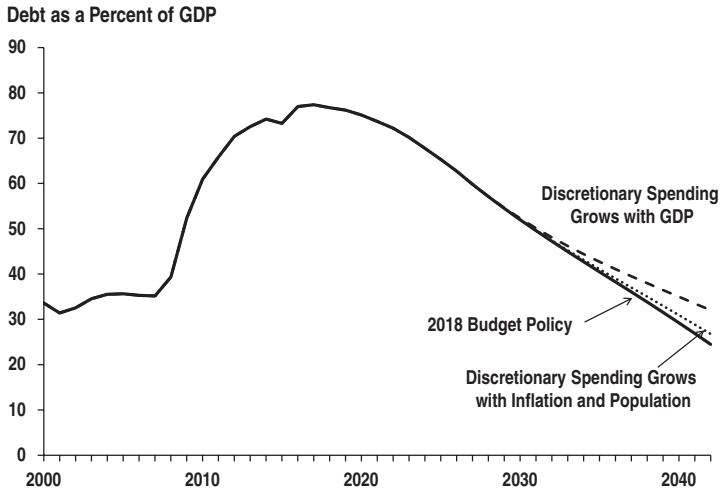


Chart 3-5. Alternative Discretionary Assumptions



rising real incomes adding to budget surpluses that can further improve the debt outlook. At the end of the 25-year horizon, the debt ratio falls from 25 percent of GDP in the base case to 20 percent of GDP in the alternative case where tax brackets are not regularly increased after 2027.

Finally, Chart 3-7 shows how uncertainties compound over the forecast horizon. As the chart shows, under the base case Budget policy projections, debt declines to 25 percent of GDP. Alternatively, assuming a combination of slower productivity growth and higher health care cost growth results in less debt reduction, with debt-to-GDP reaching 53 percent by the end of the window. Meanwhile, assuming a combination of higher productivity growth and slower health care cost growth results in the debt-to-GDP reaching 3 percent in 2042.

Despite the striking uncertainties, long-term projections are helpful in highlighting some of the known budget challenges on the horizon, especially the impact of an aging population. In addition, the projections highlight the need for policy awareness and potential action to address drivers of future budgetary costs.

Actuarial Projections for Social Security and Medicare

While the Administration's long-run projections focus on the unified budget outlook, Social Security and Medicare Hospital Insurance benefits are paid out of trust funds financed by dedicated payroll tax revenue. Projected trust fund revenues fall short of the levels necessary to finance projected benefits over the next 75 years.

The Social Security and Medicare Trustees' reports feature the actuarial balance of the trust funds as a summary measure of their financial status. For each trust fund, the balance is calculated as the change in receipts or program benefits (expressed as a percentage of taxable payroll) that would be needed to preserve a small positive balance in the trust fund at the end of a specified time pe-

Chart 3-6. Alternative Revenue Assumptions

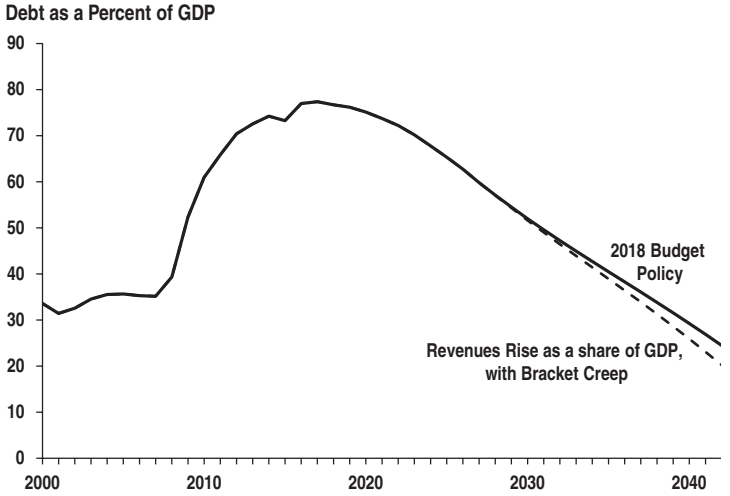
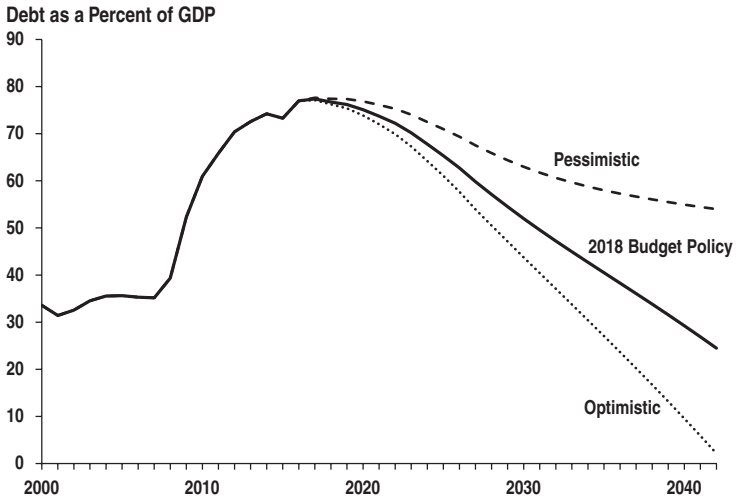


Chart 3-7. Long-Term Uncertainties



riod. The estimates cover periods ranging in length from 25 to 75 years.

Table 3–2 shows the projected income rate, cost rate, and annual balance for the Medicare HI and combined OASDI trust funds at selected dates under the Trustees' intermediate assumptions in the 2016 reports. There is a continued imbalance in the long-run projections of the HI program due to demographic trends and continued high per-person costs. The HI trust fund is projected to become insolvent in 2028.

As a result of reforms legislated in 1983, Social Security had been running a cash surplus with taxes exceeding costs up until 2009. This surplus in the Social Security trust fund helped to hold down the unified budget deficit. The cash surplus ended in 2009, when the trust fund began using a portion of its interest earnings to cover benefit payments. The 2016 Social Security Trustees' report projects that the trust fund will not return to cash surplus, but the program will continue to experience an overall surplus for several more years because of the interest earnings. After that, however, Social Security will begin to draw on its trust fund balances to cover current expenditures. Over time, as the ratio of workers to retirees falls, costs are projected to rise further while revenues excluding interest are projected to rise slightly. In the process, the Social Security trust fund, which was built up since 1983, would be drawn down and eventually be exhausted in 2034. These projections assume that benefits would continue to be paid in full despite the projected exhaustion of the trust fund to show the long-run implications of current benefit formulas. Under current law, not all scheduled benefits could be paid after the trust funds are exhausted. However, benefits could still be partially funded from current revenues. According to

Table 3–2. INTERMEDIATE ACTUARIAL PROJECTIONS FOR OASDI AND HI, 2016 TRUSTEES' REPORTS

	2015	2020	2030	2040	2080
	Percent of Payroll				
Medicare Hospital Insurance (HI):					
Income Rate	3.4	3.4	3.6	3.8	4.3
Cost Rate	3.4	3.5	4.2	4.8	5.1
Annual Balance	–0.1	–*	–0.6	–1.0	–0.8
Projection Interval			25 years	50 years	75 years
Actuarial Balance			–0.6	–0.7	–0.7
	Percent of Payroll				
Old Age Survivors and Disability Insurance (OASDI):					
Income Rate	13.0	13.0	13.2	13.2	13.3
Cost Rate	14.1	14.1	16.1	16.6	17.4
Annual Balance	–1.1	–1.2	–2.9	–3.4	–4.1
Projection Interval			25 years	50 years	75 years
Actuarial Balance			–1.5	–2.2	–2.7

* 0.05 percent or less.

the 2016 Trustees' report, beginning in 2034, 79 percent of projected Social Security scheduled benefits would be funded. This percentage would eventually decline to 74 percent by 2090.

TECHNICAL NOTE: SOURCES OF DATA AND METHODS OF ESTIMATING

The long-run budget projections are based on actuarial projections for Social Security and Medicare as well as demographic and economic assumptions. A simplified model of the Federal budget, developed at OMB, is used to compute the budgetary implications of these assumptions.

Demographic and economic assumptions.—For the years 2017-2027, the assumptions are drawn from the Administration's economic projections used for the 2018 Budget. The economic assumptions are extended beyond this interval by holding inflation, interest rates, and the unemployment rate constant at the levels assumed in the final year of the budget forecast. Population growth and labor force growth are extended using the intermediate assumptions from the 2016 Social Security Trustees' report. The projected rate of growth for real GDP is built up from the labor force assumptions and an assumed rate of productivity growth. Productivity growth, measured as real GDP per hour, is assumed to equal its average rate of growth in the Budget's economic assumptions—2.0 percent per year. For the baseline projections, GDP growth is adjusted to remove the growth-increasing effects of the Administration's fiscal policies.

Under Budget policies, CPI inflation holds stable at 2.3 percent per year, the unemployment rate is constant at 4.8 percent, the yield on 10-year Treasury notes is steady at 3.8 percent, and the 91-day Treasury bill rate is 3.0 percent. Consistent with the demographic assumptions in the Trustees' reports, U.S. population growth slows from nearly 1.0 percent per year to about two-thirds that rate by 2035, and slower rates of growth beyond that point. By the end of the 25-year projection period total population growth is slightly above 0.5 percent per year. Real GDP growth is projected to be less than its historical average of around 3.3 percent per year because the slowdown in population growth and the increase in the population over age 65 reduce labor supply growth. In these projections, real GDP growth averages between 2.5 percent and 2.9 percent per year for the period following the end of the 10-year budget window.

The economic and demographic projections described above are set by assumption and do not automatically change in response to changes in the budget outlook. This makes it easier to interpret the comparisons of alternative policies and is a reasonable simplification given the large uncertainties surrounding the long-run outlook.

Budget projections.—For the period through 2027, receipts and outlays in the baseline and policy projections follow the 2018 Budget's baseline and policy estimates respectively. Under Budget policies, total tax receipts are constant relative to GDP after 2027. Discretionary spending grows at the rate of growth in inflation outside the budget window. Long-run Social Security spending is projected by the Social Security actuaries using this chapter's long-run economic and demographic assumptions. Medicare benefits are projected based on a projection of beneficiary growth and excess health care cost growth from the 2016 Medicare Trustees' report current law baseline. Medicaid outlays are based on the economic and demographic projections in the model, which assume average excess cost growth of approximately 1.0 percentage point above growth in GDP per capita after 2027. For the policy projections, these assumptions are adjusted based on the Budget proposal to reform Medicaid funding to States starting in 2020. Other entitlement programs are projected based on rules of thumb linking program spending to elements of the economic and demographic projections such as the poverty rate.