3. LONG-TERM BUDGET OUTLOOK

The 2020 President's Budget improves the Federal Government's long-term fiscal picture by responsibly controlling spending and increasing efficiencies Government-wide. This chapter demonstrates the positive impact of the Administration's policies by comparing long-term budget forecasts under current policy (baseline projections) with forecasts based on the 2020 Budget proposals (policy projections). Baseline projections indicate that the deficit and debt held by the public will continue at elevated levels beyond the 10-year window. Conversely, policy projections indicate that enacting the Budget's proposed reforms could reduce deficits and publicly held debt as a percentage of GDP.

Chart 3-1 shows the path of debt as a percent of GDP under continuation of current policy, *without* the proposed changes 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 is about the same in 2019 (80.3 percent) as in 2029 (80.4 percent). In contrast, the debt ratio is projected to be 72.1 percent in 2029 under the proposed policy changes. By the end of the 25-year horizon, there is a notable difference in the debt burden—57.6 percent of GDP under current policy compared to 26.5 percent of GDP under Budget policy. The savings proposed by the administration from 2020-2029 are a significant down payment toward reducing the debt and reaching a balanced budget by 2034.

The projections in this chapter are highly uncertain. Small changes in economic or other assumptions can cause large differences to the results especially 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 2020 Budget in the second section.

- The second section demonstrates how the Administration's policies will alter the current trajectory of the Federal budget by reducing deficits and debt, and balancing the budget by 2034 under a long-term term extension of the Budget's policies.

- The third section discusses alternative assumptions about the evolution of key variables and uncertainties in the resulting 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.

Long-Run Projections under Continuation of Current Policies

For the 10-year budget window, the Administration produces both baseline projections, which show how deficits 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. The FY 2018 and FY 2019 Budgets included separate economic assumptions for baseline and policy projections to ensure the policy projections accounted for the anticipated economic feedback resulting from proposed Administration policies. Due to the implementation of some of the major growth-enhancing policies, including the adoption of the Tax Cuts and Jobs

Chart 3-1. Comparison of Publicly Held Debt

Debt as a percent of GDP
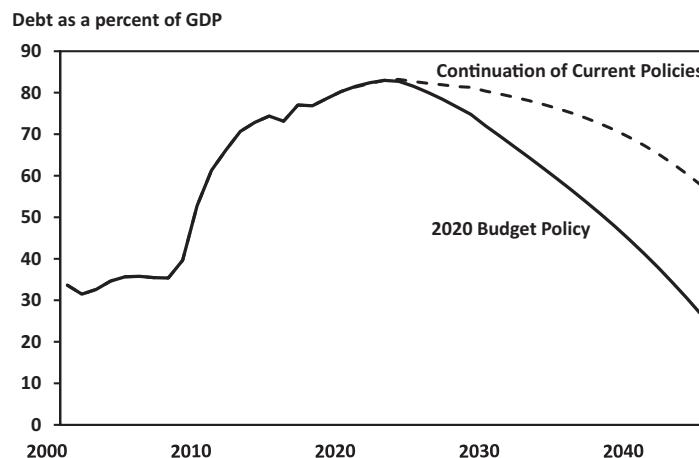
Act (TCJA), there is less need to incorporate separate economic assumptions for baseline and policy projections. For this reason, we have returned to our previous methodology of using the same economic assumptions to underlie both the policy and baseline projections.

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) per statutory baseline rules. Thereafter, the baseline long-run projections assume that per-person discretionary funding remains constant, which implies an annual nominal growth rate of about 2.9 percent.

Over the next 10 years, debt in the baseline projection rises from 80.3 percent of GDP in 2019 to 82.7 percent of GDP in 2024 and then falls back to 80.4 percent of GDP in 2029. Beyond the 10-year horizon, debt continues to decrease slowly, reaching 57.6 percent of GDP by 2044, the end of the 25-year projection window. Key drivers of this decrease include the implementation of the TCJA and a slowing of the growth in the elderly as a share of the population.

Implementation of TCJA and other Administration policies.—The baseline reflects the implementation of the TCJA and other Administration policies which improve the economic outlook in the 25-year window. Reductions of regulatory burden and permanent corporate income tax cuts have promoted job creation and will help offset the effects of rapid healthcare cost growth.

Aging Population.—In the past several years, an aging population has put significant pressure on the Budget. Consistent with the demographic assumptions in the 2018 Medicare and Social Security Trustees' reports, U.S. population growth slows during 25-year window while baby boomers retire through the mid-2030s. This slowdown drove baseline projections in past Budgets, as Social Security costs relative to GDP grew. Social Security costs relative to GDP have plateaued in this year's baseline projections, and no longer contribute significantly to changes in the debt-to-GDP ratio over the 25-year window.

Health Costs.—Healthcare costs per capita have risen much faster than per-capita GDP growth for decades, thus requiring both public and private spending on healthcare to increase as a share of the economy. While in recent years spending per enrollee has grown roughly in line with, or more slowly than, per-capita GDP in both the public and private sectors, this slower per-enrollee growth is not projected to continue.

Based on projections of Medicare enrollment and expenditures included in the 2018 Medicare Trustees Report, the projections here assume that Medicare per-beneficiary spending growth will increase, with the growth rate averaging about 1.0 percentage point 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.)

Revenues and Discretionary Spending.—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.) This restrains deficits relative to GDP, partially offsetting the pressure from increases in spending for health programs.

## The Impact of 2020 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 2020 Budget proposals reduce deficits by decreasing non-defense discretionary and mandatory spending over the next 10 years while protecting or increasing funding for border security, addressing the opioid crisis, law enforcement, childcare, veterans' healthcare, infrastructure, and workforce development. Beyond the 10-year window, most categories of mandatory spending grow at the same rates as under the baseline projection, discretionary spending keeps up with inflation and population, and revenues continue to rise as the result of a growing economy. Details about the assumptions are available in the appendix.

As shown in Chart 3-2, 2020 Budget policies reduce the deficit to 0.6 percent of GDP by 2029 and ultimately lead to a balanced budget by 2034. At the end of the 25-year horizon, the debt ratio would be the lowest since before 1981, 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 one illustrative target is reaching the average postwar debt ratio of 45 percent. Policy adjustments of about 0.5 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 the 10-year window and reduce it to the postwar average by 2039, more than satisfying the definition of fiscal sustainability.

The Budget achieves these fiscal goals through promoting economic growth and security while improving the efficiency of the Federal government. For example, the President's Budget includes a $200 billion initiative to improve the Nation's crumbling infrastructure and an

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[1] The long-run baseline projections are consistent with the Budget's baseline concept, which is explained in more detail in Chapter 26, "Current Services Estimates," in this volume. The projections assume extension of the individual income tax and estate tax provisions of the Tax Cuts and Jobs Act beyond their expiration in 2025, and also 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

Surplus (+)/Deficit (-) as a percent of GDP
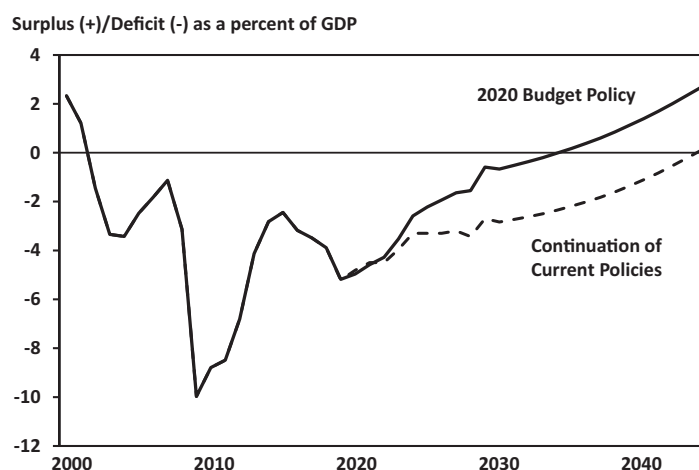
increase of $52 billion to defense outlays for 2020, while continuing reductions of regulatory burden to promote job creation and extending tax reform will allow families to keep more of their earnings. In addition, the Budget proposes streamlining Medicare to make it a better deal for seniors and the Government. Eliminating fraud, waste, and abuse from Medicare contributes to a lower debt and deficit in the long run.

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 accurate short-run budget forecasting quite difficult. For example, the Budget's projection of the deficit in five years is 2.6 percent of GDP, but a distribution of probable outcomes ranges from a deficit of 7.8 percent of GDP to a surplus of 2.7 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 directly to the growth of the major tax bases while having a smaller effect on outlay growth. 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 2.2 percent per year, but there were long periods of sustained productivity 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 2.2 percent per year and assume interest rates on 10-year Treasury securities of 3.7 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 19.6 percent of GDP in the high productivity scenario to 33.9 percent of GDP in the low productivity scenario. This variation highlights the importance of investment and smart tax policy, which can contribute to higher productivity.

Health Spending.—Healthcare cost growth represents another major 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 1.0 percentage points faster than per-capita GDP growth over the next 25 years. However, in the past, especially prior to 1990, healthcare costs grew even more rapidly. Over the last few years, per-enrollee healthcare 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 impacts that either slower or faster healthcare cost growth would have on the budget. If healthcare cost growth averaged 1.5 percentage points faster than per-capita GDP growth, the debt ratio in 25 years would increase from 25.6 percent of GDP under the

Table 3–1.   25–YEAR DEBT PROJECTIONS UNDER ALTERNATIVE BUDGET SCENARIOS

(Percent of GDP)

2019 Budget Policy	26.5
Health:	
Excess cost growth averages 1.5%	39.7
Zero excess cost growth	22.5
Discretionary Outlays:	
Grow with inflation	25.1
Grow with GDP	33.0
Revenues:	
Revenues steady as a share of GDP, with bracket creep	33.6
Productivity and Interest:[1]	
Productivity grows by 0.25 percentage point per year faster than the base case	19.6
Productivity grows by 0.25 percentage point per year slower than the base case	33.9

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

Chart 3-3. Alternative Productivity and Interest Assumptions

Debt as a percent of GDP
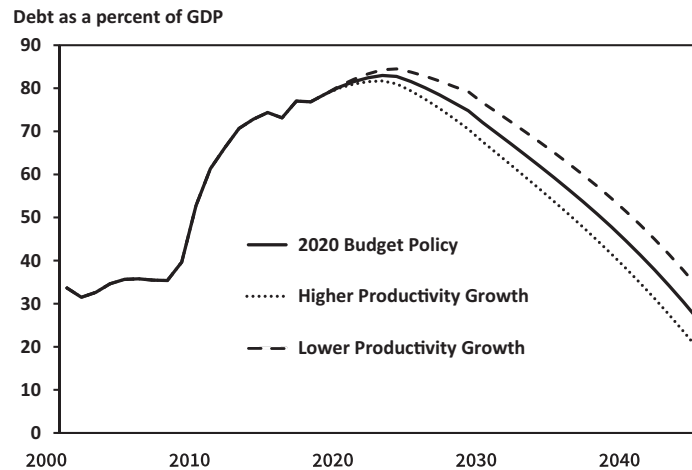
base case Budget policy to 39.7 percent of GDP. If health-care costs grew with GDP per capita, the debt ratio in 25 years would be 22.5 percent of GDP.

Policy Assumptions.—As evident from the discussion of the 2020 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 2029, discretionary spending grows with inflation and population (see Chart 3-5). Alternative assumptions are to grow discretionary spending with GDP or inflation only. At the end of the 25-year horizon, the debt ratio ranges from 25.1 percent of GDP if discretionary spending grows with inflation only to, 26.5 percent of GDP in the base case, and 33.0 percent of GDP if discretionary spending grows with GDP.

In the base case policy projection, revenues gradually increase with rising real incomes. Chart 3-6 shows an alternative receipts assumption in which receipts remain a constant percent of GDP after the budget window.   At the end of the 25-year horizon, the debt ratio increases from 26.5 percent of GDP in the base case to 33.6 percent of GDP in the alternative case.

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 26.5 percent of GDP in 2044. Alternatively, assuming a combination of slower productivity growth and higher healthcare cost growth results in less debt reduction, with the debt ratio reaching 48.0 percent by the end of the window. Meanwhile, assuming a combination of higher productivity growth and slower healthcare cost growth results in the debt ratio reaching 15.9 percent in 2044.

Despite considerable uncertainties, long-term projections are helpful in highlighting some of the budget challenges on the horizon, especially the impact of healthcare costs. In addition, the wide range of the projections highlight the need for policy awareness of key drivers of future budgetary costs and potential action to address them.

Actuarial Projections for Social Security and Medicare

While the Administration's long-run projections focus on the unified budget outlook, Social Security and
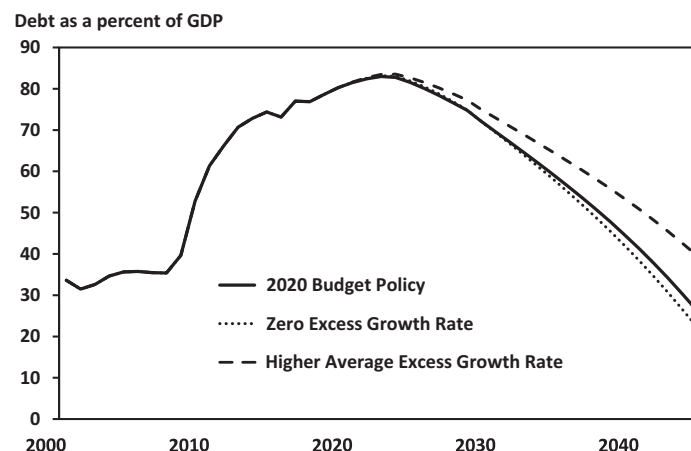
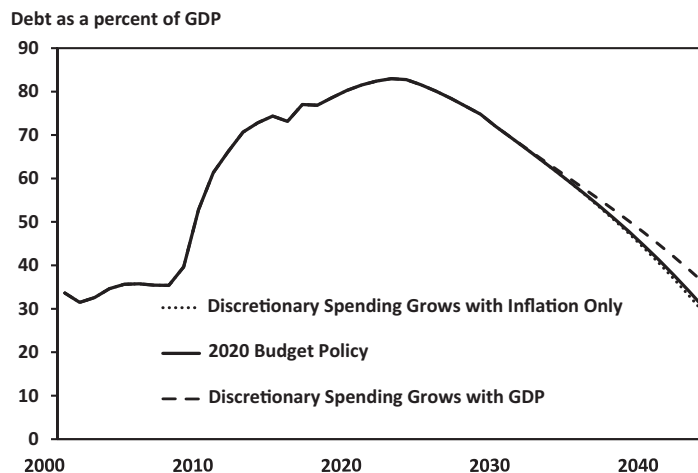## Chart 3-4. Alternative Health Care Costs

Debt as a percent of GDP

Chart 3-5. Alternative Discretionary Assumptions

Debt as a percent of GDP

...... Discretionary Spending Grows with Inflation Only

—— 2020 Budget Policy

– – Discretionary Spending Grows with GDP

Medicare Hospital Insurance benefits are paid out of trust funds financed by dedicated payroll tax revenues. 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 period. The estimates cover periods ranging in length from 25 to 75 years.

Under the Medicare Modernization Act (MMA) of 2003, the Medicare Trustees must issue a "warning" when two consecutive Trustees' reports project that the share of Medicare funded by general revenues will exceed 45 percent in the current year or any of the subsequent six years. Like the 2017 Trustees' Report, the 2018 Trustees' Report made a determination of excess revenues and therefore issued a Medicare funding warning. The MMA requires that, because a Medicare funding warning has been issued, the President submit proposed legislation re-

sponding to that warning, within 15 days of submitting the Budget. In accordance with the Recommendations Clause of the Constitution and as the Executive Branch has noted in prior years, the Executive Branch considers a requirement to propose specific legislation to be advisory.

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 2018 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 2026.

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 2018 Social Security Trustees' report projects that the trust fund will not return to cash surplus and that the program will start to experience an overall deficit starting in 2018. After that, Social Security will
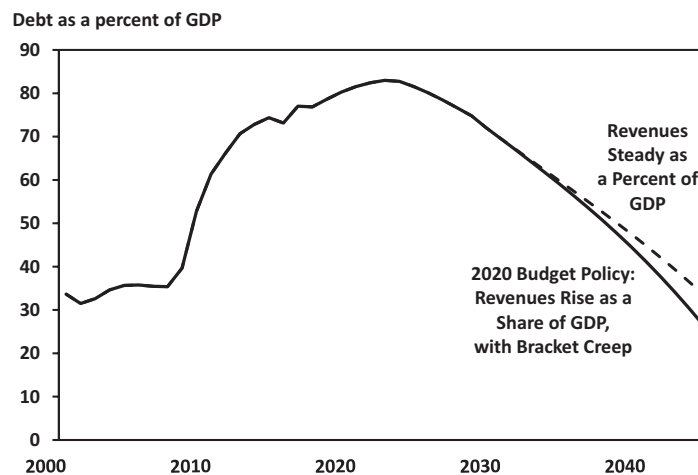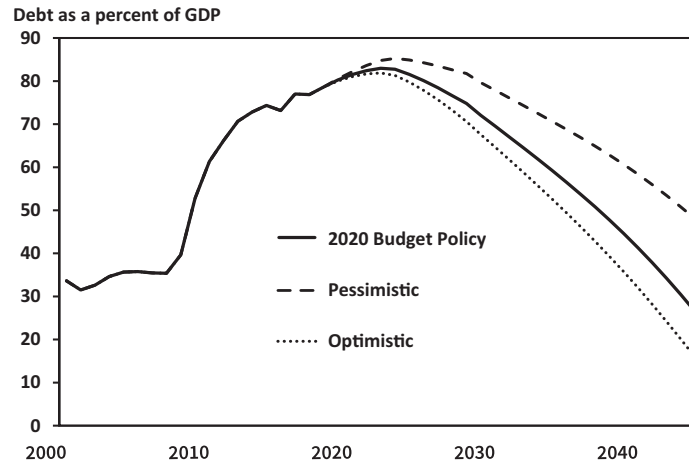
Chart 3-6. Alternative Revenue Assumptions

Debt as a percent of GDP

Revenues Steady as a Percent of GDP

2020 Budget Policy: Revenues Rise as a Share of GDP, with Bracket Creep

Chart 3-7. Long Term Uncertainties

Debt as a percent of GDP

Legend:
- —— 2020 Budget Policy
- – – Pessimistic
- ······ Optimistic

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 the 2018 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 2092.

Table 3–2. INTERMEDIATE ACTUARIAL PROJECTIONS FOR OASDI AND HI, 2018 TRUSTEES' REPORTS

	2017	2020	2030	2040	2090
			Percent of Payroll		
Medicare Hospital Insurance (HI):					
Income Rate	3.4	3.4	3.7	3.8	4.4
Cost Rate	3.5	3.5	4.3	4.9	5.2
Annual Balance	−0.1	−0.1	−0.7	−1.1	−0.8
Projection Interval:			25 years	50 years	75 years
Actuarial Balance			−0.7	−0.8	−0.8
			Percent of Payroll		
Old Age Survivors and Disability Insurance (OASDI):					
Income Rate	13.1	12.9	13.2	13.3	13.4
Cost Rate	13.7	14.1	16.0	16.8	17.6
Annual Balance	−0.6	−1.2	−2.8	−3.6	−4.2
Projection Interval:			25 years	50 years	75 years
Actuarial Balance			−1.8	−2.5	−2.8

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 2019-2029, the assumptions are drawn from the Administration's economic projections used for the 2020 Budget. The economic assumptions are extended beyond this interval by holding the inflation rate, interest rates, and the unemployment rate constant at the levels assumed in the final year (2029) of the budget forecast. Population growth and labor force growth are extended using the intermediate assumptions from the 2018 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 annual rate of growth in the Budget's economic assumptions—2.2 percent per year.

Under Budget policies, the CPI inflation rate is held constant at 2.3 percent per year, the unemployment rate is held constant at 4.2 percent, the yield to maturity on 10-year Treasury notes is constant at 3.7 percent, and the 91-day Treasury bill rate is kept at 3.0 percent. Consistent with the demographic assumptions in the Trustees' reports, U.S. population growth slows from an average of just under 0.8 percent per year during the budget window to about three-quarters of 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 below 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 2.7 percent and 2.8 percent per year for the period following the end of the 10-year budget window.

The economic and demographic projections described above are set exogenously and do not change in response to changes in the budget outlook. This makes it easier to interpret the comparisons of alternative policies.

Budget Projections.—For the period through 2029, receipts and outlays in the baseline and policy projections follow the 2020 Budget's baseline and policy estimates respectively. Discretionary spending grows at the rate of growth in inflation and population 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 healthcare cost growth from the 2018 Medicare Trustees' report current law baseline. For the policy projections, these assumptions are adjusted based on the Budget proposal to streamline Medicare. 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 2029. For the policy projections, these assumptions are adjusted based on the Budget proposals to reform Medicaid funding. 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.