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CBO

The Economic Effects of the President's 2015 Budget



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Note

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The Economic Effects of the President's 2015 Budget

Summary

Each year, after the President releases his budget request, the Congressional Budget Office (CBO) analyzes the proposals in that request. Using its own economic projections and estimating procedures, CBO projects what the federal budget would look like over the next 10 years if the President's proposals were adopted. CBO usually provides that information in two reports: The first examines the proposals' effects on the budget but generally does not incorporate their effects on the U.S. economy. However, this year's version of that budgetary analysis, which was published on April 17, included some of the macroeconomic effects of the proposals—specifically, some of the effects of the President's proposal to alter laws related to immigration.¹ The second report, which takes more time to prepare, shows the effects that all of the President's proposals would have on the economy and, in turn, the implications of those macroeconomic effects for the budget. CBO has now completed that analysis, and this report describes the results.

With only some of the macroeconomic effects included, CBO estimated in its earlier report that the President's proposals would cause the federal budget deficit to equal about \$500 billion in fiscal years 2014 and 2015 and larger amounts in later years, ranging between about \$700 billion and \$800 billion from 2020 to 2024 (the second half of the 10-year projection period). Starting in 2017, those projected deficits are smaller than the ones that would occur under current law, as estimated in CBO's baseline (a projection of the paths that federal revenues and spending would take over the next decade if current laws generally remained unchanged). Deficits

would total \$6.6 trillion between 2015 and 2024 under the President's proposals—\$1.0 trillion less than the cumulative deficit for that period in CBO's baseline.

Relative to the size of the economy, or gross domestic product (GDP), annual budget deficits would equal about 3.0 percent of GDP throughout the 2015–2024 period if the President's proposals were implemented, according to estimates by CBO and the staff of the Joint Committee on Taxation. That percentage is quite close to the average deficit seen over the past 40 years, 3.1 percent. Under current law, by comparison, deficits would trend upward, from less than 3 percent of GDP in 2015 to about 4 percent of GDP in the later years of the projection period.

Those projected deficits under the President's budget already account for the largest economic effects of the President's proposals: an increase in the number of workers because of the immigration proposal and the taxes that would be paid on those workers' earnings, which would make deficits smaller than they would be otherwise. Other economic consequences of the immigration proposal and the economic effects of the rest of the President's proposals would be smaller and would have mostly offsetting effects on deficits. Thus, considering the total economic effects of the President's proposals does not significantly alter the deficit projections that CBO released in April in its first report on the President's budget.

How Would the President's Proposals Affect the Economy?

CBO estimates that the policies proposed in the President's budget would make the nation's real output (the total amount of good and services produced, adjusted to remove the effects of inflation) larger in each year of the 2015–2024 period than it would be under current

1. See Congressional Budget Office, *An Analysis of the President's 2015 Budget* (April 2014), www.cbo.gov/publication/45230.

law. Almost all of that estimated effect stems from the President's proposal to change immigration laws. That proposal would take an approach similar to the one included in the comprehensive immigration legislation passed by the Senate in 2013, which would substantially increase the number of U.S. residents. The Administration has not specified the details of its immigration proposal, so CBO assumed for this analysis that the economic effects of the changes to immigration laws would be identical to the effects that CBO estimated in its analysis of the Border Security, Economic Opportunity, and Immigration Modernization Act (S. 744).² Those economic effects would be delayed by one year, however, because the President's budget proposes implementing new immigration policies one year later than the Senate bill would. On the basis of its analysis of S. 744, CBO estimates that the President's proposed changes in immigration policies would increase economic output by boosting the supply of labor and, later in the coming decade, by expanding the nation's capital stock and overall productivity.

Together, the other policies proposed in the President's budget would increase real output slightly in 2015, CBO estimates, compared with what would occur under current law. After 2015, however, those policies would reduce real output to a small extent, slightly offsetting the positive effects on output from the proposed changes to immigration laws.

All told, the nation's real gross national product (GNP) would be 0.1 percent to 0.6 percent higher during the 2015–2019 period under the President's proposals than under current law and 0.8 percent to 2.1 percent higher during the 2020–2024 period, CBO estimates (see Figure 1).³ By contrast, GNP per person would be lower after 2015 under the President's proposals than under current law primarily because of the immigration-related increase in the size of the population.⁴ According to CBO's analysis, the President's proposals would decrease per capita GNP by 0.5 percent in 2016, by slightly more in the following few years, and by roughly 1 percent from 2019 through 2024, compared with what would occur otherwise.⁵

2. See Congressional Budget Office, *The Economic Impact of S. 744, the Border Security, Economic Opportunity, and Immigration Modernization Act* (June 2013), www.cbo.gov/publication/44346.

Those estimates of the macroeconomic effects of the President's proposals are uncertain, and their uncertainty increases the farther the estimates extend into the future. CBO has quantified some aspects of that uncertainty (as explained in the appendix). However, the agency did not quantify the significant uncertainty about the effects of changes in immigration policy on the labor supply and productivity in its previous analysis of immigration reform, which serves as the basis for CBO's estimates of the immigration proposal in the President's budget.

What Are the Budgetary Implications of Those Economic Effects?

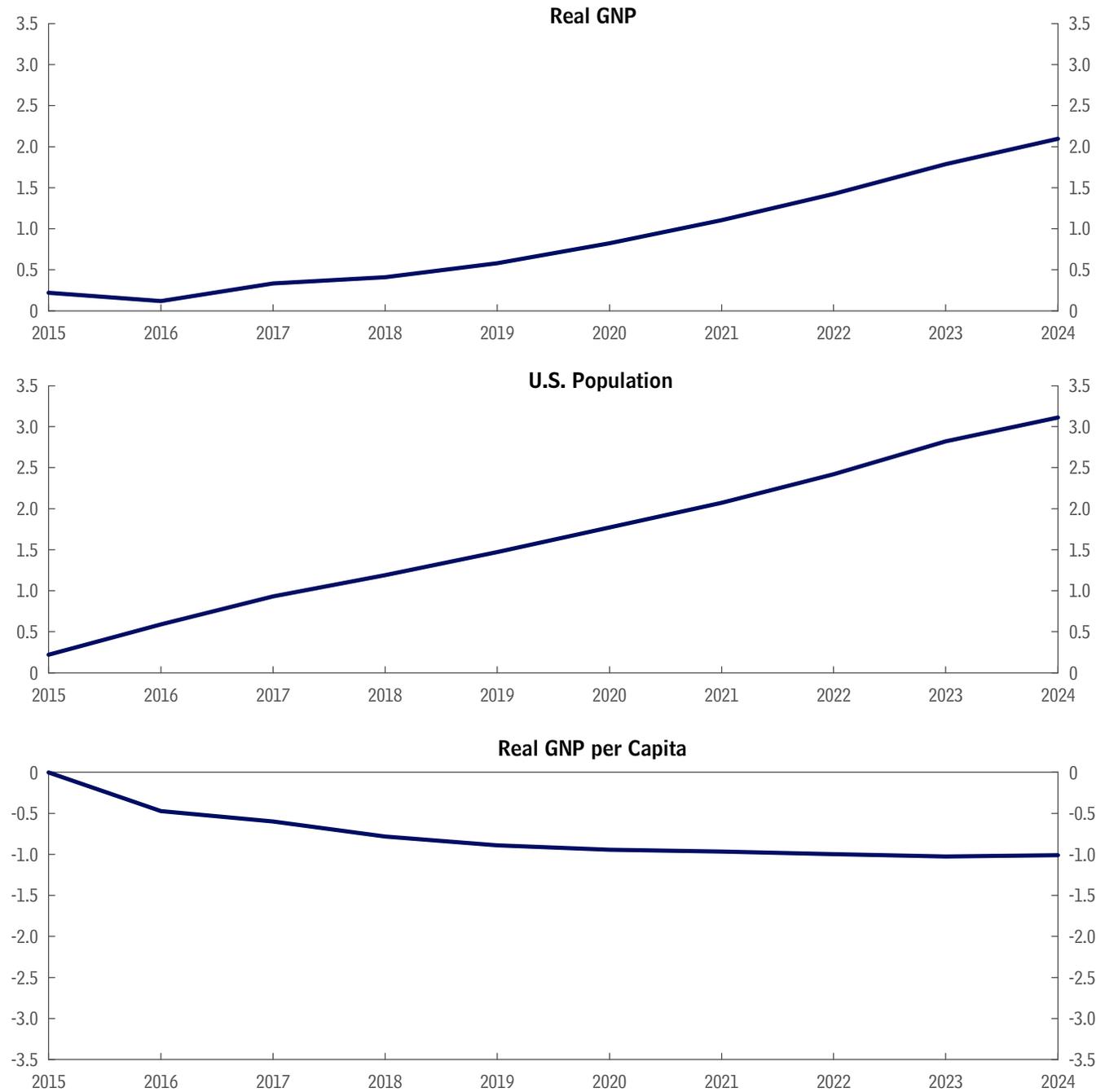
The economic effects of the President's proposals would feed back into the budget by affecting federal revenues and spending in ways that, on net, would reduce deficits, CBO estimates. The budgetary feedback with the greatest impact on deficits would be additional collections of income and payroll taxes stemming from an increase in the size of the U.S. labor force and from changes in the legal status of some current workers because of the immigration proposal. Those feedback effects on the budget

3. For this analysis, CBO focuses on effects on GNP—the total market value of goods and services produced in a given period by the labor and capital supplied by a country's residents, regardless of where the labor and capital are located—instead of the more commonly cited gross domestic product. Changes in GNP exclude foreigners' earnings on investments in the domestic economy but include the earnings of domestic residents; thus, in an open economy like that of the United States, changes in GNP are a better measure of changes in domestic residents' income than are changes in GDP. CBO's budget calculations for this analysis reflect the fact that features of U.S. tax laws cause some foreign income of U.S. residents to effectively be untaxed.
4. The estimated reduction in per capita GNP does not necessarily imply that current U.S. residents would be worse off under the President's proposals than under current law. That reduction represents the difference between average GNP for all U.S. residents under the proposals (including people who would be residents under current law and the additional people who would come to the country under the immigration proposal) and average GNP for people who would be residents under current law. As CBO explained in its analysis of S. 744, the additional people who would become residents would have lower income, on average, than other residents, which would pull down average income. CBO has not analyzed the effects of the President's immigration proposal on the income of people who would be U.S. residents under current law.
5. CBO estimates that the President's proposals would leave per capita GNP essentially unchanged in 2015 because the increase in GNP would be almost exactly offset by the increase in population in that year.

Figure 1.

CBO's Estimates of How the President's Budget Would Affect Total and per Capita GNP and the Size of the U.S. Population

Percentage Difference From CBO's Baseline, by Calendar Year



Source: Congressional Budget Office.

Note: GNP = gross national product. Real GNP has been adjusted to remove the effects of inflation.

Table 1.

Projected Five-Year Deficits Under CBO's April 2014 Baseline and Under CBO's Estimate of the President's Budget

Trillions of Dollars, by Fiscal Year

	2015– 2019	2020– 2024
Total Deficit Under CBO's April 2014 Baseline	-2.9	-4.7
Total Deficit Under CBO's Estimate of the President's Budget		
With some macroeconomic effects of the President's immigration proposal ^a	-2.8	-3.8
With macroeconomic effects of all of the proposals in the President's budget ^b	-2.8	-3.8

Source: Congressional Budget Office.

- These estimates were published in Congressional Budget Office, *An Analysis of the President's 2015 Budget* (April 2014), www.cbo.gov/publication/45230, and reflect the effects of the President's immigration proposal on the size of the labor force.
- These estimates reflect additional economic effects not included in CBO's April analysis—specifically, changes in the productivity of labor and capital, the income earned by capital, and the rate of return on capital (which affects interest rates on government debt).

were already included in CBO's April analysis of the President's proposals.⁶

The President's proposals would also alter the economy in other ways, and those economic changes would influence the budget through such factors as the amount of tax revenues collected, the amount of federal spending on unemployment insurance and other programs that are sensitive to changes in the strength of the economy, and the size of interest payments on federal debt. In particular, CBO estimates that higher tax rates under the President's budget would reduce the supply of labor—offsetting some of the direct increase in revenues from those higher tax rates—and that higher interest rates would increase federal spending on interest payments. However, those and other feedback effects not included

6. Although that analysis incorporated those feedback effects, it used projections of GDP from CBO's February 2014 baseline to calculate values as a percentage of GDP. Those projections of GDP did not reflect any effects of the immigration proposal. For details of the February baseline projections, see Congressional Budget Office, *The Budget and Economic Outlook: 2014 to 2024* (February 2014), www.cbo.gov/publication/45010.

in CBO's earlier analysis would not have a significant net effect on the deficits projected for the 2015–2024 period under the President's budget (see Table 1).

How Government Policies Can Influence the Economy

The federal government's tax and spending policies can affect the economy in both the short term and the long term. In the short term, changes in fiscal policies primarily affect the amount of economic output by changing the demand for goods and services by consumers, businesses, and governments. In the long run, changes in fiscal policies mainly affect output by altering potential output (the economy's maximum sustainable level of production) through changes in the incentives for people to work, save, and invest and in the amount of government investment.

CBO employs different methods for estimating those short-term and long-term effects, gradually shifting from one type of analysis to the other in estimates for successive years. (Those estimating methods are described in more detail in the appendix.) For the first two years of a proposed policy change, CBO's estimates reflect only the short-term analysis. For the next three years, the estimated effects on output place increasing weight on the long-term analysis. For the period after those first five years, CBO's estimates are based entirely on the long-term effects on potential output.⁷

Comprehensive changes to immigration laws can increase the economy's actual output and potential output in both the short and the long term. Those increases result mainly from expansions of the population and the supply of labor (the number of hours of labor that workers provide). CBO estimates the effects of comprehensive changes to immigration laws using a variety of modeling approaches.

7. Specifically, in this analysis, CBO's estimates for 2014 and 2015 are based only on short-term effects (driven largely by demand); estimates for 2016, 2017, and 2018 are weighted averages of the short-term effects and long-term effects on potential output, with the weights on the short-term effects equal to 0.75, 0.50, and 0.25, respectively; and estimates for 2019 and beyond are based entirely on effects on potential output. For further discussion, see Congressional Budget Office, *Macroeconomic Effects of Alternative Budgetary Paths* (February 2013), www.cbo.gov/publication/43769.

Tax and Spending Policies in the Short Term

Changes in fiscal policies affect the economy in the short term largely by influencing the overall demand for goods and services. For example, cuts in taxes and increases in government transfer payments boost demand by raising the amount of money that people have available to spend; increases in the government's purchases of goods and services also add to overall demand. Such a rise in demand encourages businesses to boost production and hire more workers than they would otherwise. Conversely, increases in taxes and cuts in government spending reduce demand, with the opposite effects. In addition, changes in the supply of labor can alter economic output in the short term if the labor market is sufficiently tight—that is, if the demand for workers is high relative to the number of people available for work.⁸

The effect that a proposed change in fiscal policies would have on overall demand for goods and services depends on several factors: the specific policy being considered; its implications for the federal budget; the state of the economy when the change would occur; and, as a result, ways in which the Federal Reserve, which sets monetary policy, would react to the change. For example, when output is well below its potential level and inflation is low, prompting the Federal Reserve to keep short-term interest rates near zero—as has been the case in recent years—tax cuts and increases in government spending would generate a larger boost in demand than the same policy changes would when interest rates were well above zero.

Fiscal policies that aim to increase demand in the short term are likely to have adverse economic effects in the long term (unless other policy changes are made as well). In general, such policies, by raising spending or reducing revenues, directly increase deficits. In the short term, the boost to demand from such policies tends to increase output and taxable income—and thus revenues—but generally not by enough to offset the direct increase in

deficits. As a result, such policies tend to raise the total amount of government borrowing, which in turn causes the nation's saving and capital stock to be smaller in the long term than they would be otherwise. In that way, policies that boost demand often involve a trade-off between increasing economic output in the short term and reducing it in the long term.

Some researchers have reached a different conclusion, maintaining that policies that raise overall demand in the short term can have positive economic and budgetary effects in the long term as well, because the increase in demand raises long-term potential output by enough to outweigh the negative effects of greater federal borrowing.⁹ If, for example, a short-term increase in overall demand lowered the natural rate of unemployment in the longer term, that effect would increase labor income and tax revenues in the longer term.¹⁰ How significant that effect might be is unclear, however. Given the uncertainty about the channels through which a short-term increase in demand could raise potential output in the long term, CBO does not incorporate such an effect in its analyses, although the agency continues to investigate the issue.

In addition to effects on demand, policies that influence the supply of labor can affect output in the short term, although the size of that effect depends on the state of the economy.¹¹ For instance, when unemployment is high and actual output is much lower than its potential—that is, when the economy has considerable unused labor and capital resources—a policy that leads some workers to

8. For examples of analyses of the short-term economic effects of fiscal policies, see Congressional Budget Office, *Budgetary and Economic Outcomes Under Paths for Federal Revenues and Noninterest Spending Specified by Chairman Ryan, April 2014* (April 2014), www.cbo.gov/publication/45211, *Estimated Impact of the American Recovery and Reinvestment Act on Employment and Economic Output in 2013* (February 2014), www.cbo.gov/publication/45122, and letter to the Honorable Chris Van Hollen about how eliminating the automatic spending reductions specified by the Budget Control Act would affect the U.S. economy in 2014 (July 25, 2013), www.cbo.gov/publication/44445.

9. See, for example, Dave Reifschneider, William Wascher, and David Wilcox, *Aggregate Supply in the United States: Recent Developments and Implications for the Conduct of Monetary Policy*, Finance and Economics Discussion Series Paper 2013-77 (Board of Governors of the Federal Reserve System, November 2013), <http://go.usa.gov/5rZP>; and J. Bradford DeLong and Lawrence H. Summers, "Fiscal Policy in a Depressed Economy," *Brookings Papers on Economic Activity* (Spring 2012), pp. 233–290, www.brookings.edu/about/projects/bpea/past-editions.

10. The natural rate of unemployment is the rate that results from all sources other than fluctuations in overall demand related to the business cycle—for example, from differences between the skills of people who are looking for work and the skills that employers consider necessary to fill vacant positions.

11. For an analysis incorporating such effects, see Congressional Budget Office, letter to the Honorable Chris Van Hollen about how extending certain unemployment benefits would affect output and employment in 2014 (December 3, 2013), www.cbo.gov/publication/44929.

leave the labor force may simply cause otherwise-unemployed workers to take their place. However, when unemployment is low and actual output is close to its potential, the same policy might reduce the total number of people who are working.

Tax and Spending Policies in the Long Term

The nation's potential to produce goods and services is the key determinant of economic output over the long term. That potential depends on the size and quality of the labor force, on the stock of productive capital (such as factories, vehicles, and computers), and on total factor productivity (the efficiency with which labor and capital are used to produce goods and services).¹² Lasting changes in those factors can have an enduring influence on the economy's ability to supply goods and services. The government's budget policies affect potential output mainly by affecting the total amount of saving, the incentives for individuals and businesses to work and save, and public investment.

The amount of saving in the economy—known as national saving—is the sum of public saving (the net effect of budget surpluses or deficits by state and local governments and the federal government) and private saving (by households and businesses). The nation's capital stock, which helps to determine how much output the economy can produce, is financed by national saving, as well as by net borrowing from abroad. An increase in the federal budget deficit, which represents a decrease in public saving, leads to changes in private saving and net borrowing from abroad. In the long run, private saving rises and thereby offsets some of the decline in national saving, which lessens the effects of the higher deficit on investment, output, and income. Net inflows of foreign capital also increase and further offset some of the decline in investment, output, and income; however, some of the income created by the additional net inflows of foreign capital will be paid to foreign investors rather than to U.S. households.

Because the changes in private saving and net inflows of capital only partly offset the decline in public saving, the net effect of higher deficits in the long run is less private domestic investment—which results in a smaller capital stock, lower output, and higher interest rates for both

private borrowers and the government. In its analyses of the long-term effects of changes in deficits, CBO uses ranges of the sizes of those offsets.

Specific tax and spending policies can affect the economy's potential output in various other ways as well. Changes in tax rates alter people's willingness to work and save, affecting the supplies of labor and capital in the long term. Similarly, changes in government spending on goods and services or on transfer payments (such as unemployment insurance or Social Security benefits) can increase or decrease people's willingness to work and to save, thus affecting the size of the labor force and the capital stock.

According to CBO's assessment, an increase in the effective marginal tax rate on labor income (the rate that would apply to an additional dollar of an employee's earnings) causes the supply of labor to be smaller than it would be otherwise.¹³ Specifically, a higher tax rate creates two countervailing pressures on people's willingness to work: a substitution effect and an income effect. An increase in the marginal tax rate reduces the after-tax income from an additional hour of work, making work less valuable relative to other uses of a person's time. By itself, that substitution effect suggests that such a tax increase decreases the number of hours worked. At the same time, however, that increase reduces the after-tax income from a given amount of work, which requires people to work more hours to maintain the same standard of living. That income effect by itself suggests that such a policy change increases the number of hours worked. After reviewing the empirical evidence, CBO has concluded that the substitution effect outweighs the income effect, meaning that an increase in the marginal tax rate on labor income decreases the total supply of labor that workers provide. When analyzing the effects of changes in the marginal tax rate on labor income, CBO uses a range of estimates of the size of the change in the labor supply.

Similarly, an increase in the marginal tax rate on income from capital (such as stock dividends, realized capital gains, and owners' profits from businesses) has countervailing effects on saving. Higher tax rates on capital

12. That efficiency in turn depends on such things as production technology, the ways in which businesses are organized, and the regulatory environment.

13. For details about how changes in the government's tax and spending policies affect the labor supply, see Congressional Budget Office, *How the Supply of Labor Responds to Changes in Fiscal Policy* (October 2012), www.cbo.gov/publication/43674.

income reduce the returns that people earn on their savings (which tends to discourage saving) while also increasing the amount of savings that people need to achieve a given future income (which encourages saving). In CBO's assessment, an increase in the marginal tax rate on capital income causes private saving to be lower, on balance, than it would be otherwise.

In addition to changes in tax rates, changes in federal spending on certain types of public investment can affect potential output. For instance, spending on education can help develop a skilled workforce; spending on research and development can prompt innovation; and spending on infrastructure such as roads and airports can facilitate commerce.¹⁴ Federal spending of those types can boost potential output by making investments that the private sector would not have made on its own or would have made in smaller amounts than their broad public benefits might justify.

Considerable uncertainty exists, however, about the size and timing of the increase in potential output that results from an additional dollar of federal investment. Some past federal investments have generated much higher returns than others. For example, in a previous study of transportation and water infrastructure, CBO concluded that the average return varied significantly between projects at different periods of time as well as between different projects at the same point in time.¹⁵ Moreover, federal investment can discourage investment by private entities or state and local governments by raising the price of investment goods and by allowing those governments to redirect their own funds to other purposes. For analyses of changes in overall federal investment, CBO's central estimate is that additional federal investment yields half of the typical return on investment completed by the private sector, with an average delay of five years.

Immigration Policies in the Short and the Long Term

Changes in immigration policies can alter the size and quality of the nation's labor supply, which is a major determinant of both actual and potential output. If a

change in immigration policies led to an increase in the supply of labor (and everything else stayed the same), the amount of employment and output in the economy would eventually rise. Growth in the workforce would reduce the amount of productive capital available per worker—at least in the first several years—rendering the existing stock of capital relatively scarce (compared with the supply of labor) and more productive (because existing capital would be used more intensively). As a result, the rate of return on capital would increase over time and spur additional investment, which in turn would expand the stock of capital and further increase output. In addition, policies that encouraged the immigration of highly skilled workers would lead to a more skilled labor force and would raise the overall productivity of labor and capital.

Channels Through Which the Proposals in the President's Budget Would Affect the Economy

If enacted, the policies proposed in the President's 2015 budget would affect the economy in six main ways:

- Increasing the size of the U.S. population, thus raising the number of workers;
- Increasing federal budget deficits in the short term, mainly through higher government spending, which would boost aggregate demand and the use of labor and capital;
- Reducing federal budget deficits in the long term, which would increase national saving and private investment;
- Raising the marginal tax rate on labor income, thereby discouraging work;
- Raising the marginal tax rate on capital income, thereby discouraging saving; and
- Increasing federal investment in ways that would increase productivity and the skill level of the workforce.¹⁶

14. See Congressional Budget Office, *Federal Investment* (December 2013), www.cbo.gov/publication/44974.

15. See Congressional Budget Office, *Public Spending on Transportation and Water Infrastructure* (November 2010), p. 14, www.cbo.gov/publication/21902.

16. For discussion of the main policy proposals in the President's budget, see Congressional Budget Office, *An Analysis of the President's 2015 Budget* (April 2014), www.cbo.gov/publication/45230.

The Size of the U.S. Population

The President's budget would alter laws related to immigration, taking an approach similar to the one taken by the Senate in the comprehensive immigration legislation that it passed in 2013. For this analysis, CBO used its analysis of that legislation as a placeholder because the Administration did not specify the details of its proposal; however, the proposal in the President's budget would take effect one year later than the Senate bill envisioned.¹⁷ On the basis of that analysis, CBO estimates that by 2024, the President's proposal would lead to a net increase of 11 million (or about 3 percent) in the total number of people residing in the United States, compared with the number of people projected under current law (see Figure 1 on page 3).

That increase in the population would expand the labor force and boost employment. As employment initially increased, less capital would be available per worker, and thus workers' average output would be lower for a time. In addition, the new workers would be less skilled, on average, than the labor force under current law. Those factors would make average wages lower than under current law through the end of the 10-year period covered by this analysis, although that reduction does not necessarily imply that average wages would be lower for people who would be residents under current law. CBO has not analyzed the effects of the President's immigration proposal on the income of people who would be U.S. residents under current law.

Over time, that increase in the labor force and employment would raise capital investment, primarily because the return that people would earn on a given amount of investment would be higher with the immigration changes than it would be under current law. The rate of return on capital would increase because the larger labor force would make the existing stock of capital scarcer relative to the supply of labor, which would in turn make each unit of capital (such as a single computer) more productive. The increase in the rate of return on investment would moderate over time, however, as the stock of

capital grew. A greater rate of return on investment would also mean that the federal government, which competes with the private sector for investors' money, would have to pay higher interest rates to sell its debt securities than it would under current law.

The President's immigration proposal would lead to slightly higher productivity of labor and capital, CBO anticipates, because the influx of immigrants—particularly highly skilled immigrants—would tend to produce additional technological advancements, such as new inventions and improvements in production processes. That increase in total factor productivity would tend to push up output, wages, and interest rates.

The increase in the size of the population would also boost the demand for goods and services. CBO expects the rise in demand to be roughly equal to the increase in the supply of goods and services resulting from higher employment, capital, and productivity; thus, CBO does not expect the increase in demand to have a significant additional effect on output.

Federal Deficits in the Short Term

The President's proposals would increase deficits slightly in 2015 and 2016, mainly by raising federal spending on purchases of goods and services and transfers to households. Those proposals include altering the limits on discretionary spending established by the Budget Control Act of 2011 and subsequent amendments, a change that would increase the government's purchases of goods and services and thereby directly raise aggregate demand at a time when output is well below its potential level, according to CBO's estimates. Similarly, the President's proposals to increase transfers for education and job training and a variety of tax credits for low-income people would boost people's disposable income and thus their demand for goods and services. Those increases in aggregate demand would be partly offset by decreases in demand stemming from other proposals: cuts in spending for overseas military operations, reductions in Medicare's net payments, and tax increases for people with high income.

The net change in aggregate demand in the short term depends not only on the relative sizes of the changes in spending and revenues (as reflected in the change in deficits) but also on the per-dollar effects of the President's proposals on government and household spending. For example, although increases or decreases in federal

17. CBO's analysis of that legislation is summarized in Congressional Budget Office, letter to the Honorable Patrick J. Leahy providing an estimate for S. 744, the Border Security, Economic Opportunity, and Immigration Modernization Act (July 3, 2013), www.cbo.gov/publication/44397, and *The Economic Impact of S. 744, the Border Security, Economic Opportunity, and Immigration Modernization Act* (June 2013), www.cbo.gov/publication/44346.

purchases alter government spending dollar for dollar, taxpayers and recipients of government transfers tend to adjust their spending by less than \$1 for each \$1 change in their income.

Federal Deficits in the Long Term

In its April analysis, CBO estimated that the proposals in the President's budget would raise revenues by \$1,388 billion and outlays by \$338 billion over the 2015–2024 period relative to amounts under current law (without incorporating the effects of economic feedback, other than certain effects of the immigration proposal). Thus, CBO estimated, the President's proposals would reduce the cumulative deficit for that 10-year period by roughly \$1 trillion. All of that deficit reduction would occur in 2017 and later years, when the economy is projected to have recovered from the recent recession. The decrease in federal deficits would represent an increase in public saving and thus in national saving, which in turn would increase domestic investment and the nation's capital stock in the long term.

Marginal Tax Rates on Labor Income

CBO estimates that the President's proposed changes to the taxation of labor income would cause the effective tax rate on an additional dollar of a taxpayer's earnings to be higher throughout the 2015–2024 period than it would be under current law (see Table 2). In CBO's baseline, the effective marginal tax rate on labor income is projected to rise from 29.4 percent this year to 32.2 percent in 2024 as people's income grows faster than inflation and as the provisions of the Affordable Care Act are fully implemented.¹⁸ The President's proposals would increase the marginal tax rate on labor income by amounts ranging from 0.4 percentage points to 0.7 percentage points between 2015 and 2024, CBO estimates, which would cause the supply of labor to be smaller than it would be otherwise.

Most of that increase in marginal rates stems from a proposal to limit the tax savings from certain income exclusions and itemized deductions. Specifically, the proposal would cap the reductions in a taxpayer's income tax liability at 28 percent of those exclusions and deductions. That change would raise marginal rates for taxpayers who

reached the cap, because, under the proposal, earning additional income would lead to additional reductions in the value of exclusions and deductions. The President's proposal for a new minimum tax on high-income taxpayers would also raise the overall marginal tax rate on labor income. That proposal would replace the existing schedule of marginal rates with a flat 30 percent marginal rate for people subject to the new minimum tax, which would increase marginal rates for some taxpayers while decreasing them for others; on net, CBO estimates, that proposal would increase the marginal tax rate on labor income.

Marginal Tax Rates on Capital Income

The President's budget contains some policy proposals that would raise the tax rate on an additional dollar of a taxpayer's investment income and other proposals that would lower that rate. Taken together, those proposals would increase the effective marginal tax rate on capital income by 1.1 percentage points in 2015, CBO estimates, and by slightly larger amounts thereafter, ranging from 1.3 percentage points to 1.5 percentage points (see Table 2).¹⁹ In CBO's estimation, those increases would cause private saving—and thus eventually investment—to be lower than it would be otherwise.

Among the provisions that would raise that rate, the President's proposal to cap at 28 percent the extent to which itemized deductions and certain exclusions from income can reduce a taxpayer's income tax liability would produce the largest increase in the marginal tax rate on capital income. Most of the increase from that proposal would result from reducing the tax benefits of deducting mortgage interest and property taxes, thus raising the very low tax rate on income from investments in owner-occupied housing. Other proposals that would increase the marginal tax rate on capital income, beginning in 2015, include imposing a new minimum tax on high-income taxpayers, taxing carried interest at the higher rates used for ordinary income rather than at the lower rate used for capital gains, limiting the accrual of assets in tax-favored retirement accounts, and reinstating a tax on corporate income that helps finance the Superfund program (for cleaning up abandoned hazardous waste

18. For CBO's estimates of the effects of the Affordable Care Act on labor markets, see Congressional Budget Office, *The Budget and Economic Outlook: 2014 to 2024* (February 2014), Appendix C, www.cbo.gov/publication/45010.

19. For a description of CBO's method for estimating that tax rate, see Congressional Budget Office, *Computing Effective Tax Rates on Capital Income* (December 2006), www.cbo.gov/publication/18259.

Table 2.**CBO's Estimates of Marginal Tax Rates Under Current Law and Under the President's Budget**

By Calendar Year

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Effective Federal Marginal Tax Rate on Labor Income											
Rate Under Current Law (Percent)	29.4	30.0	30.8	30.9	31.1	31.2	31.4	31.5	31.8	32.0	32.2
Rate Under the President's Budget (Percent)	29.4	30.5	31.3	31.4	31.7	31.9	32.1	32.1	32.5	32.8	33.0
Difference Between Rates Under the President's Budget and Under Current Law											
Percentage points	0	0.4	0.5	0.5	0.6	0.6	0.7	0.6	0.7	0.7	0.7
Percent	0	1.5	1.7	1.5	2.0	2.1	2.3	2.0	2.3	2.2	2.2
Effective Federal Marginal Tax Rate on Capital Income											
Rate Under Current Law (Percent)	17.8	17.9	18.1	18.2	18.1	18.3	18.3	18.3	18.3	18.3	18.3
Rate Under the President's Budget (Percent)	17.8	19.1	19.6	19.5	19.5	19.7	19.6	19.7	19.7	19.7	19.7
Difference Between Rates Under the President's Budget and Under Current Law											
Percentage points	0	1.1	1.5	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Percent	0	6.4	8.5	7.2	7.5	7.5	7.4	7.5	7.8	7.7	7.6

Source: Congressional Budget Office.

Notes: The effective marginal tax rate on income from labor is the share of an additional dollar of such income that is paid in federal individual income taxes and payroll taxes, averaged across taxpayers using weights proportional to their labor income.

The effective marginal tax rate on income from capital is the share of the return on an additional investment made in a particular year that will be paid in taxes over the life of that investment. Rates are calculated for different types of assets and industries, then averaged over all types of assets and industries using the share of asset values as weights.

sites).²⁰ A proposal to establish a “financial crisis responsibility fee,” assessed on the liabilities of various financial institutions, would also raise that marginal tax rate but would not take effect until 2016.

A few of the President's proposals would decrease the marginal tax rate on capital income relative to the rate under current law. The largest such proposal would allow employers to automatically enroll their workers in individual retirement accounts and would enact or expand tax credits to encourage small businesses to do that. Other proposals would create or expand tax credits for producing advanced-technology vehicles and energy-efficient homes, broaden the types of projects eligible to be financed with tax-exempt bonds, and simplify the rules governing how small businesses can deduct the costs of purchasing certain equipment.

20. Carried interest is a type of compensation typically received by a general partner in a private equity or hedge fund. It usually consists of a share of the profits on the assets under management.

Economic activity is affected not only by the average of the effective marginal rates at which capital investments are taxed but also by how uniformly such investments are taxed. If some capital investments receive more favorable tax treatment than others, additional resources will be directed to those types of investment even if other types would be more productive. The only one of the President's proposals that would significantly affect the uniformity of capital taxation is the limit on itemized deductions for mortgage interest and property taxes, which would raise the effective tax on owner-occupied housing to a rate closer to that on business investments. CBO estimates that the President's proposals as a whole would increase the uniformity of capital taxation slightly.

Investment by the Federal Government

The President's proposals would increase federal investment by boosting spending on surface transportation, education, and job-training programs and by enhancing and permanently extending the tax credit for companies' research and experimentation costs. Those policies would

increase the economy's potential output by raising productivity and the skill level of the workforce, CBO estimates.

The Economic and Budgetary Effects of the President's Proposals

If the policy changes proposed in the President's budget were implemented, economic output would be higher throughout the 2015–2024 period than it would be otherwise, CBO estimates. Those policy changes would influence the economy in different ways over time, however. The comprehensive changes to immigration laws would raise total GNP throughout that 10-year period, whereas the President's other proposals, taken together, would increase GNP in 2015 but reduce it thereafter. Unlike total GNP, per capita GNP would be lower between 2016 and 2024 under the President's budget than it would be under current law.

CBO used several different approaches (described in the appendix) to estimate the macroeconomic effects of the President's budget, generating a range of possible outcomes. That range reflects uncertainty about a particular set of factors, including the effect of deficits on the capital stock owned by U.S. residents, the effect of marginal tax rates on the supply of labor, and the role of households' expectations about future policies. For some types of analyses that CBO does, that set of factors captures the major sources of uncertainty involved. However, for the policy in the President's budget with the largest economic impact—proposed changes to immigration laws, which affect the size of the labor force and productivity—major sources of uncertainty exist about the policy's effects on the economy that are not significantly influenced by that particular set of factors. As a result, the range of estimates based on CBO's usual methodology substantially understates the uncertainty of estimates of the economic effects of the President's budget this year. Because of that understatement, this report does not highlight those ranges (although they are presented in the appendix). Instead, it focuses on CBO's central estimates, which use values at the midpoints of the estimated ranges for those particular factors.

The economic effects of the President's proposals would feed back into the budget and reduce deficits, on balance.²¹ The most important impact on the deficit because of such budgetary feedback comes from taxes paid on the wages earned by the additional people who would be

working in the United States under the immigration proposal. That impact was included in the estimates of the budgetary effects of the President's proposals that CBO published in April.²² The other feedback effects of the President's proposals would be small and essentially offsetting, so they would not have a significant effect on the deficits projected for the 2015–2024 period under the President's budget (see Table 1 on page 4).

Effects Through 2019

CBO estimates that the President's proposed policies would increase real GNP by between 0.1 percent and 0.6 percent a year from 2015 through 2019 (see Figure 1 on page 3). During that period, the President's proposals would boost economic output mainly by expanding the workforce in each year through changes to immigration laws. A larger supply of workers would cause the capital stock and output to be greater in those years than projected in CBO's current-law baseline.

The President's proposals other than the one related to immigration would increase real GNP in 2015 but decrease it slightly over the 2016–2019 period, according to CBO's analysis. Those effects would result from a combination of factors. The nonimmigration proposals would increase aggregate demand, on balance, in the next few years (both federal spending and revenues would be higher than under current law, but the effects of higher spending would boost aggregate demand more than the effects of higher revenues would dampen it). However, the proposals would also decrease potential output slightly, on balance: The increases in marginal tax rates on labor and capital income stemming from those proposals would discourage work and saving, but that change would be partly offset by the effects of lower deficits, which would increase private investment during the 2015–2019 period, and by the effects of greater federal investment, which would increase productivity by small but growing amounts over time.

Real GNP per capita would be an average of 0.5 percent lower between 2015 and 2019 under the President's

21. CBO estimated those budgetary effects through a simplified analysis that accounted for changes in taxable income, interest rates, and prices, among other things. However, CBO did not incorporate a detailed, program-by-program analysis of the effects on the budget, as it does in its regular budget estimates.

22. See Congressional Budget Office, *An Analysis of the President's 2015 Budget* (April 2014), www.cbo.gov/publication/45230.

budget than under current law, CBO estimates. Although the President's proposals would boost total GNP, they would have the opposite effect on per capita GNP mainly because the number of new workers (stemming from the changes to immigration laws) would increase more rapidly than the additional amount of capital available to workers, and because the new workers would be less skilled and have lower wages, on average, than the labor force under current law.

The increases in total GNP between 2015 and 2019 caused by the President's policies would affect federal revenues and spending in ways that would result in greater deficit reduction than those policies would produce directly. Those feedback effects on the budget fall into two categories:

- The largest such effect over the 2015–2019 period—from the increase in the workforce under the immigration proposal—was incorporated in CBO's April estimates of the President's budget.
- The additional feedback effects of the President's budget that were not incorporated in those earlier estimates—such as the effects stemming from changes in the productivity of labor and capital, the income earned by capital, the rate of return on capital (and therefore the interest rates on government debt), and the differences in wages for workers with different skills—would be small and mostly offsetting. Feedback effects of the immigration proposal that were not included in the previous estimates would slightly increase the total deficit for the 2015–2019

period. In addition, a reduction in the labor supply stemming from higher marginal income tax rates would reduce revenues, also leading to an increase in deficits. However, a slight reduction in interest rates because of the overall decrease in deficits would reduce the federal government's borrowing costs, lowering deficits. On net, the feedback effects not incorporated in the earlier estimates would shrink the projected deficit reduction from the President's proposals by a total of about \$50 billion over the 2015–2019 period.

Effects After 2019

The President's budgetary proposals would have the same types of economic effects in the second half of the 10-year projection period as they would have toward the end of the first half, for the same reasons described above. Those effects would be larger, however, during the 2020–2024 period. The President's proposals would increase total real GNP by amounts ranging from 0.8 percent in 2020 to 2.1 percent in 2024 but would reduce per capita GNP by about 1.0 percent a year throughout that period.

The budgetary feedback effects from the increase in total GNP after 2019 would also resemble those before 2019. The taxes paid on the wages earned by additional workers under the immigration proposal would be the largest feedback effect in this period as well. The budgetary feedback from the other economic effects of the President's proposals—the effects not included in CBO's April analysis—would, on net, trim about \$50 billion from the total deficit reduction projected to result from the President's proposals over the 2020–2024 period, CBO estimates.



Appendix: CBO's Modeling Approaches

The Congressional Budget Office (CBO) used multiple economic models to estimate how the proposals in the President's budget would cause the economy to perform differently than projected in CBO's current-law baseline.¹ The models focus on different aspects of the economy and reflect distinct ways of thinking about it. Each model represents people's economic decisions in a simplified manner while capturing some important aspects of behavior. The estimates that CBO produces with those models reflect a broad range of economists' views about relevant economic relationships.

One of the models is used only to estimate short-term effects. It reflects a combination of macroeconomic forecasting models and the short-term relationships between various economic variables that have been observed in the past. CBO estimates the short-term economic effects of changes in tax and spending policies by focusing primarily on their effects on the overall demand for goods and services.² Those effects are a combination of a policy's direct effects (the immediate or "first-round" effects on

the economy) and its indirect effects (which either offset or enhance the direct effects). In its estimating approach, CBO takes into account the state of the economy when the policy change occurs and the adjustments that the Federal Reserve is likely to make to monetary policy—which will affect interest rates and the availability of credit—in response to the change in fiscal policy. Given the uncertainty of those various factors, CBO uses a range of estimates for the effects on the demand for goods and services. In addition, CBO estimates a policy's short-term effects on the labor supply by looking at the policy's effects on people's incentive to work, and it estimates the effects of changes in the labor supply on output by looking at the state of the labor market.³

To analyze the longer-term effects of the President's proposals, CBO used two models—a Solow-type growth model and a life-cycle growth model—as well as a variety of estimating approaches that reflect uncertainty about a particular set of factors, including the effect of deficits on the stock of capital owned by U.S. residents, the effect of marginal tax rates on the supply of labor, and the role of households' expectations about future policies. For the Solow-type model, CBO followed its usual method of using alternative estimates of the effect that deficits have on investment and the extent to which people adjust their work hours in response to changes in marginal tax rates

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1. For a detailed discussion of those models, see Congressional Budget Office, *How CBO Analyzes the Effects of Federal Fiscal Policies on the Economy* (forthcoming).
 2. For examples of such analyses, see Congressional Budget Office, *Estimated Impact of the American Recovery and Reinvestment Act on Employment and Economic Output in 2013* (February 2014), www.cbo.gov/publication/45122, *Macroeconomic Effects of Alternative Budgetary Paths* (February 2013), pp. 6–10, www.cbo.gov/publication/43769, *Economic Effects of Policies Contributing to Fiscal Tightening in 2013* (November 2012), pp. 2–12, www.cbo.gov/publication/43694, and *The Economic Impact of the President's 2013 Budget* (April 2012), pp. 8–9, www.cbo.gov/publication/42972.

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3. For more information about CBO's approach to estimating the influence of policy changes on the economy over the short term, see Felix Reichling and Charles Whalen, *Assessing the Short-Term Effects on Output of Changes in Federal Fiscal Policies*, Working Paper 2012-08 (Congressional Budget Office, May 2012), www.cbo.gov/publication/43278.

on labor income.⁴ For the life-cycle model, CBO used alternative perspectives about how interest rates are determined and what people believe will happen to the government's tax and spending policies in the future.

CBO used the Solow-type model with three different estimates (weak, medium, and strong) of the effect that deficits have on investment, which in turn influences interest rates, and three different estimates (also weak, medium, and strong) of how changes in marginal tax rates on labor income affect the supply of labor.⁵ Those various alternative cases resulted in nine possible outcomes for the longer-term period (2020–2024), with the estimated changes in real output over that period ranging from 1.6 percent to 1.8 percent (see Table A-1). That range is small mainly because most of the increase in output comes from the President's immigration proposal, and CBO has not estimated the uncertainty associated with that proposal (as discussed below).

For the life-cycle model, CBO used two different estimating approaches for what people believe will happen to fiscal policy in the future: that federal debt will be

4. For an example of CBO's work using that method of analysis, see Congressional Budget Office, *Budgetary and Economic Outcomes Under Paths for Federal Revenues and Noninterest Spending Specified by Chairman Ryan, April 2014* (April 2014), www.cbo.gov/publication/45211. Like that work, the analysis in this report placed partial weight on estimates from the Solow-type model for the 2016–2018 period and full weight on those estimates in later years. Unlike that work, this analysis incorporated an additional effect of government investment on productivity and output, because of the greater specificity of the President's proposals. CBO's central estimate is that additional federal investment yields half of the typical return on investment completed by the private sector, with an average delay of five years. The actual rate of return for a particular investment could be much higher or lower than that amount, and the timing of the return could be earlier or later.
5. For an in-depth discussion of CBO's estimates of the effect of deficits on investment, see Jonathan Huntley, *The Long-Run Effects of Federal Budget Deficits on National Saving and Private Domestic Investment*, Working Paper 2014-02 (Congressional Budget Office, February 2014), www.cbo.gov/publication/45140. For a detailed discussion of CBO's estimates of the effects that changes in fiscal policy have on the labor supply, see Congressional Budget Office, *How the Supply of Labor Responds to Changes in Fiscal Policy* (October 2012), www.cbo.gov/publication/43674. The lower and higher ends of the range of labor supply responses discussed in that report correspond to the weak and strong estimates used in this analysis, and the central estimate in that range corresponds to the medium estimate used here.

Table A-1.

CBO's Estimates of How the President's Budget Would Affect GNP From 2020 to 2024 Under Various Models and Estimating Approaches

Average Percentage Difference From CBO's Baseline, by Calendar Year	Percentage Difference in Real GNP Over the 2020–2024 Period Under the President's Budget
Solow-Type Model	
Weak Effect of Deficits on Investment	
Weak labor supply response	1.8
Medium labor supply response	1.7
Strong labor supply response	1.6
Medium Effect of Deficits on Investment	
Weak labor supply response	1.8
Medium labor supply response	1.7
Strong labor supply response	1.6
Strong Effect of Deficits on Investment	
Weak labor supply response	1.7
Medium labor supply response	1.7
Strong labor supply response	1.6
Life-Cycle Model^a	
Federal Debt Stabilized by Reducing Government Spending After 2029	1.2
Federal Debt Stabilized by Increasing Tax Revenues After 2029	1.1

Source: Congressional Budget Office.

Notes: CBO's Solow-type growth model is an enhanced version of a model developed by Robert Solow. CBO's life-cycle growth model is an overlapping-generations general-equilibrium model that is based on a standard model of the economy in which people are forward-looking in their behavior.

The range of estimates shown here significantly understates the uncertainty of estimates of the economic effects of the President's budget, because CBO has not quantified the uncertainty surrounding important aspects of the President's immigration proposal, which is the proposal that would have the largest effect on the economy.

GNP = gross national product. Real GNP has been adjusted to remove the effects of inflation.

- a. For the President's budget over the 2020–2024 period, estimates derived from the life-cycle model are the same whether interest rates are assumed to be determined entirely by the domestic economy or by the world economy.

stabilized either by reducing government spending (with equal cuts in the government's transfer payments and purchases of goods and services) or by raising revenues (with equal amounts collected from higher effective marginal tax rates and from other sources that do not imply an increase in marginal tax rates). CBO also used two different approaches for how interest rates are determined: within the domestic economy or within the world economy. Applying the model under those alternative cases resulted in four possible outcomes for the 2020–2024 period, with estimated changes in real output over that period ranging from 1.1 percent to 1.2 percent (see Table A-1). That range is small for the same reasons cited for the Solow-type model.

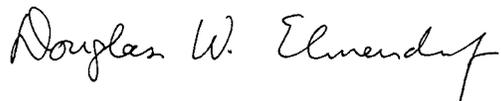
For some types of analyses that CBO does, the factors that were varied in those estimates capture the major sources of uncertainty involved. However, the policy in the President's budget with the largest economic effects—the proposal to alter laws related to immigration, which affects the size of the labor force and productivity—has uncertain effects on the economy that are not significantly influenced by that particular set of factors. CBO has not quantified the uncertainty of those effects; as a result, the range of estimates reported here, which is based on CBO's usual methodology, significantly understates how uncertain estimates of the economic effects of the President's proposals actually are.

About This Document

This report is the second of two analyses—both conducted at the request of the Senate Committee on Appropriations—that the Congressional Budget Office (CBO) has done of the President's budget request for fiscal year 2015, which was released on March 4, 2014. The first report, *An Analysis of the President's 2015 Budget*, published in April, used CBO's economic projections and estimating techniques, rather than the Administration's, to project how the proposals in the President's budget would affect federal revenues and outlays. This second analysis projects how the President's proposals would affect the U.S. economy (relative to what would occur under current law) and how those economic effects in turn would affect the federal budget. In keeping with CBO's mandate to provide objective, impartial analysis, this report makes no recommendations.

Felix Reichling of CBO's Macroeconomic Analysis Division wrote the report, with guidance from Wendy Edelberg, Kim Kowalewski, and Benjamin Page. The underlying economic and tax modeling was performed by Paul Burnham, Devrim Demirel, Ed Harris, Jonathan Huntley, Shinichi Nishiyama, Frank Russek, and Kurt Seibert. Leah Loversky provided research assistance. The estimated budgetary effects described in the report were the work of many analysts at CBO and on the staff of the Joint Committee on Taxation.

Jeffrey Kling reviewed the report, and Christian Howlett edited it. Jeanine Rees prepared the report for publication. An electronic version is available on CBO's website (www.cbo.gov/publication/45540).



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