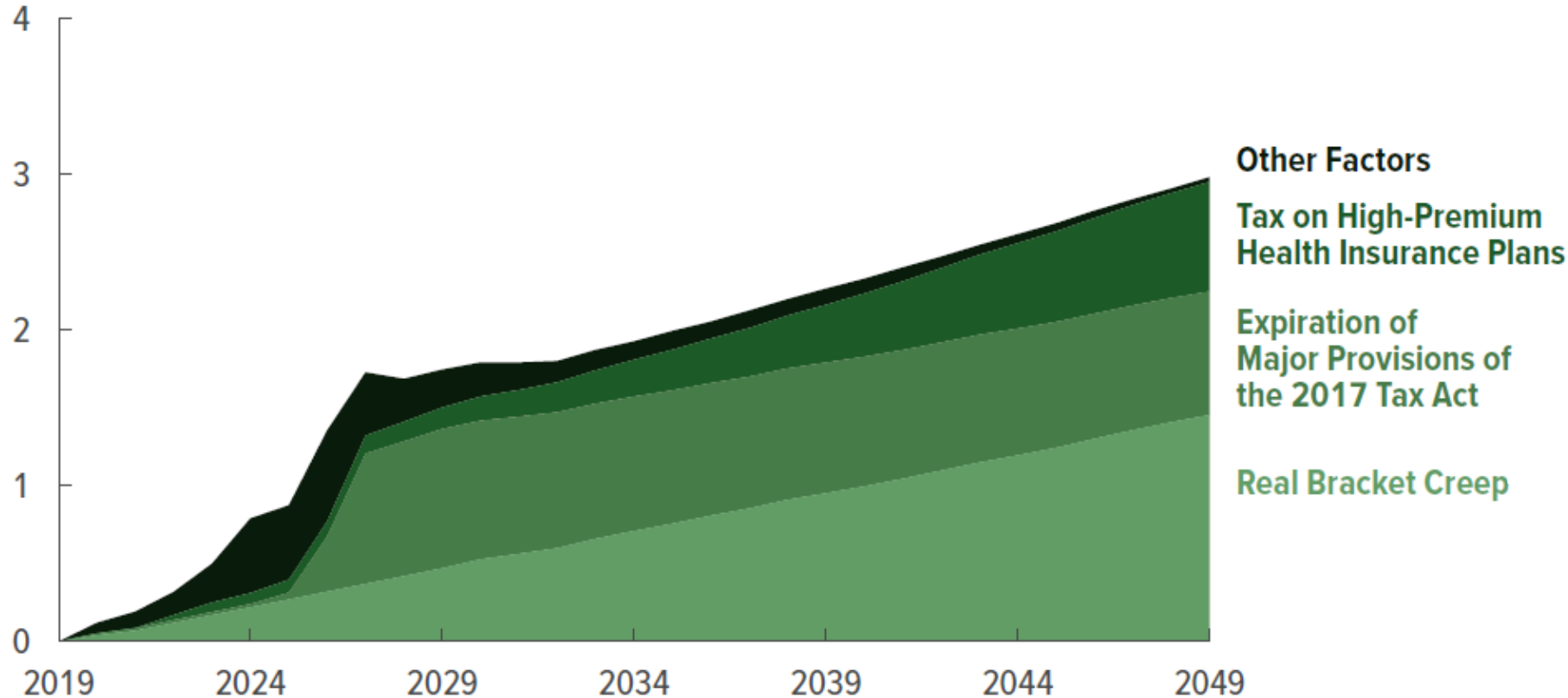CONGRESSIONAL BUDGET OFFICE

# How Income Growth Affects Tax Revenues in CBO's Long-Term Budget Projections

June 2019

# Increases in Federal Revenues

Percentage of Gross Domestic Product



**Other Factors**

**Tax on High-Premium Health Insurance Plans**

**Expiration of Major Provisions of the 2017 Tax Act**

**Real Bracket Creep**

In CBO's long-term projections, federal revenues increase by an amount equal to 3 percent of gross domestic product (GDP) over the next 30 years. Real bracket creep in the individual income tax system accounts for about half of that increase.

Real bracket creep is the change in average tax rates that occurs when people's income rises faster than the tax brackets and other elements of the tax system (which are generally adjusted for inflation), causing them to pay a larger share of their income in taxes.

# How the Individual Income Tax System Changes Over Time

Many elements of the tax system are adjusted (or indexed) each year for changes in inflation, which is measured by the chained version of the consumer price index (C-CPI-U). Those elements include:

- The amounts of the standard deduction and personal exemption,

- The income threshold for each tax bracket, and

- The amount of the earned income tax credit.

Other elements of the tax system are unindexed and do not change from year to year:

- The amount of the child tax credit and the income threshold at which that credit phases out,

- Thresholds for the net investment income tax, and

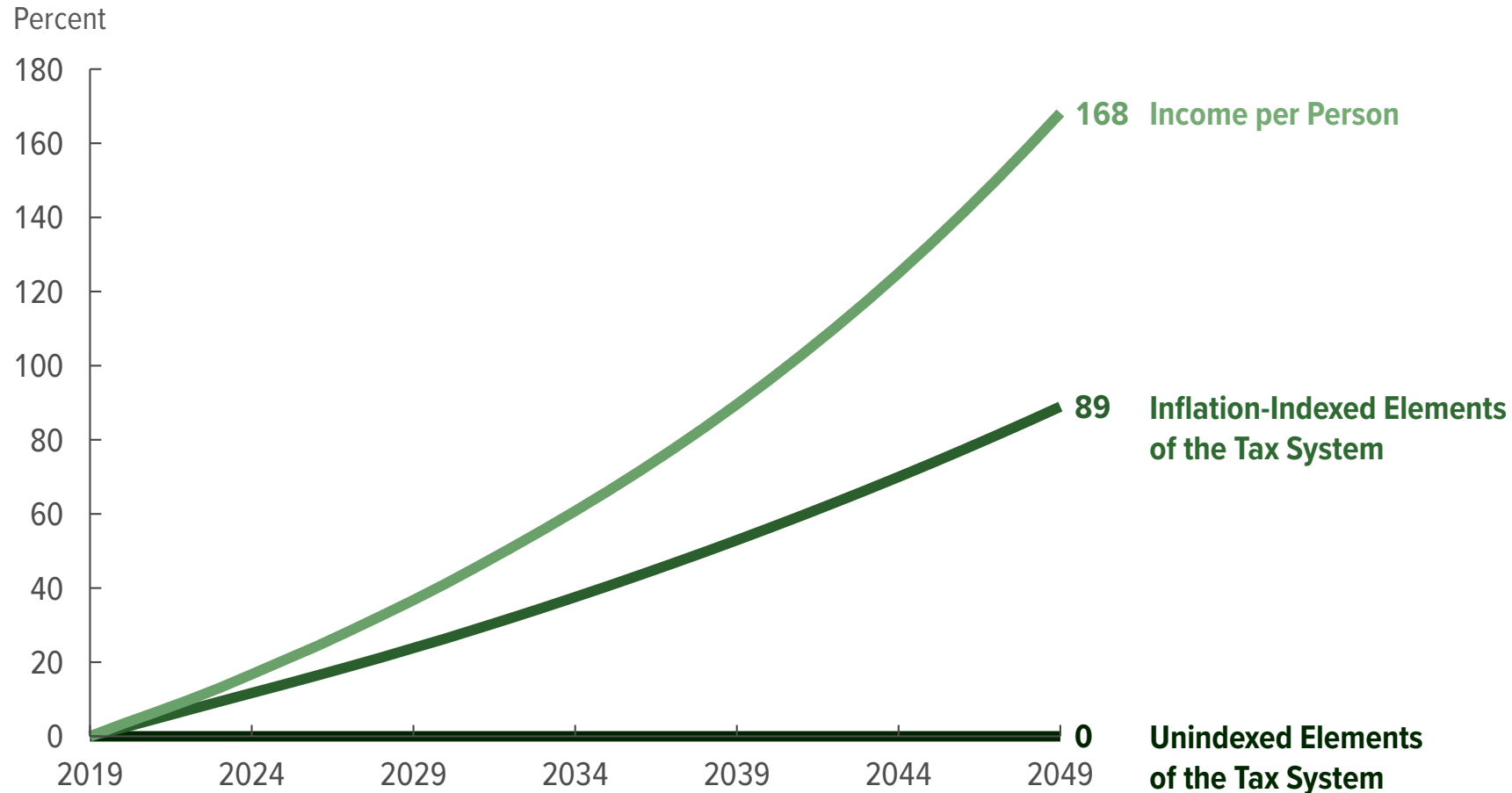- Thresholds for taxing Social Security benefits.

# Sources of Real Bracket Creep



Percent

**Other Factors and Interactions**

**Tax Credits**

**Personal Exemption and Standard Deduction**
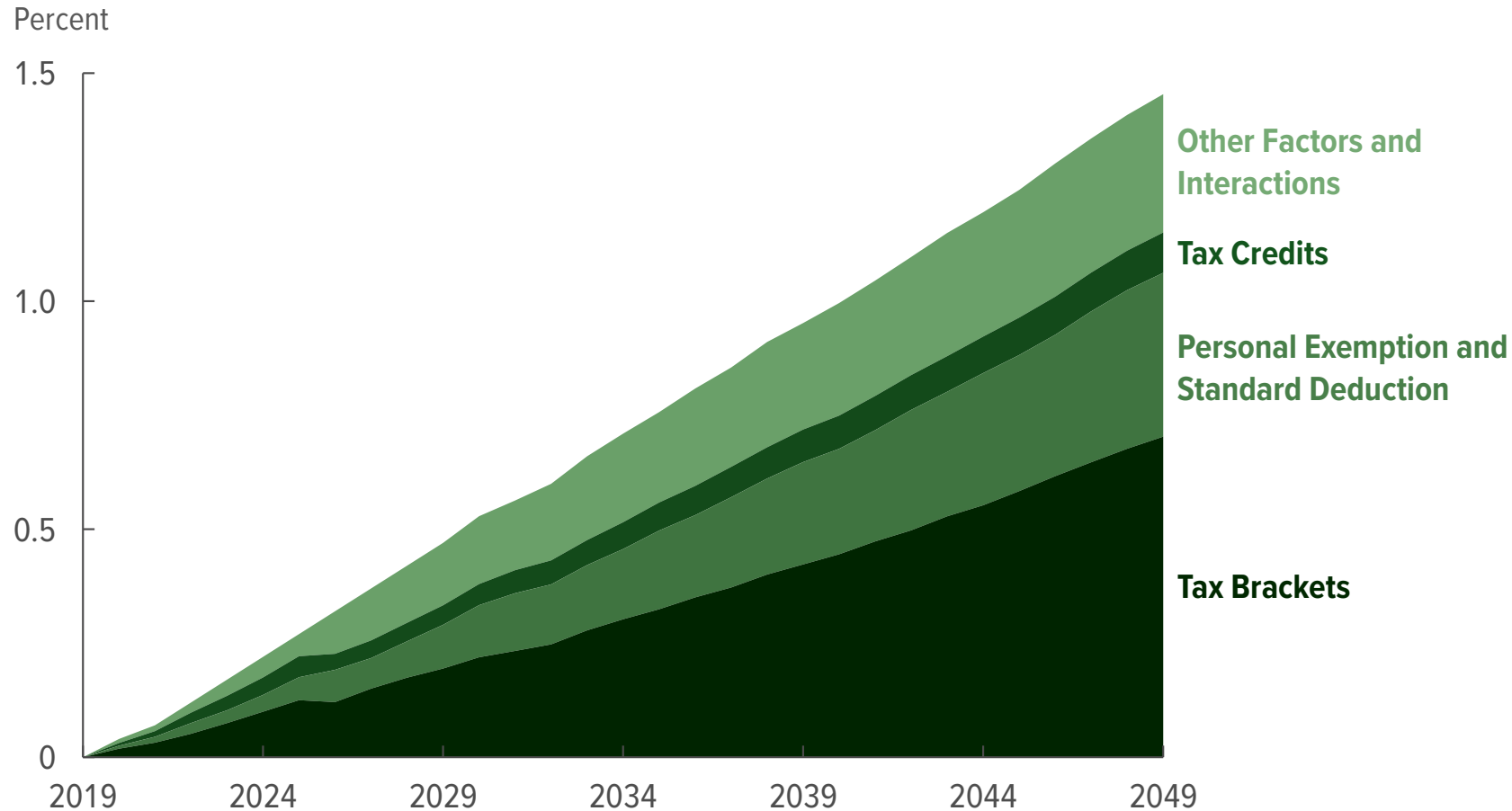
**Tax Brackets**

Real bracket creep causes receipts to grow by 1.5 percent of GDP in CBO's projections.

Most of the effect occurs because the tax brackets' thresholds, the standard deduction, and the personal exemption grow more slowly than income. The rest of the effect occurs because other elements (including credits, thresholds for surtaxes, and other phaseouts) grow more slowly than income does and because of the way the effects interact with each other.

Real bracket creep also reduces outlays for refundable tax credits, an effect about twice as large as the increase in revenues from tax credits shown here.

# Growth of Income and Growth of Elements of the Individual Income Tax System

Percent



**168** Income per Person

**89** Inflation-Indexed Elements of the Tax System

**0** Unindexed Elements of the Tax System

In CBO's projections, income per person grows at 3.3 percent per year, on average. But the C-CPI-U grows at just 2.1 percent per year.

Therefore, over time, income growth substantially exceeds the growth not only of the unindexed elements of the tax system but also of the indexed elements.

# The Measure of Inflation Used to Adjust Elements of the Tax System

The 2017 tax act changed the measure of inflation used to adjust elements of the tax system from the consumer price index for urban consumers (CPI-U) to the C-CPI-U, which grows more slowly.

For two reasons, the C-CPI-U is generally believed to be a better measure of inflation than the traditional CPI-U:
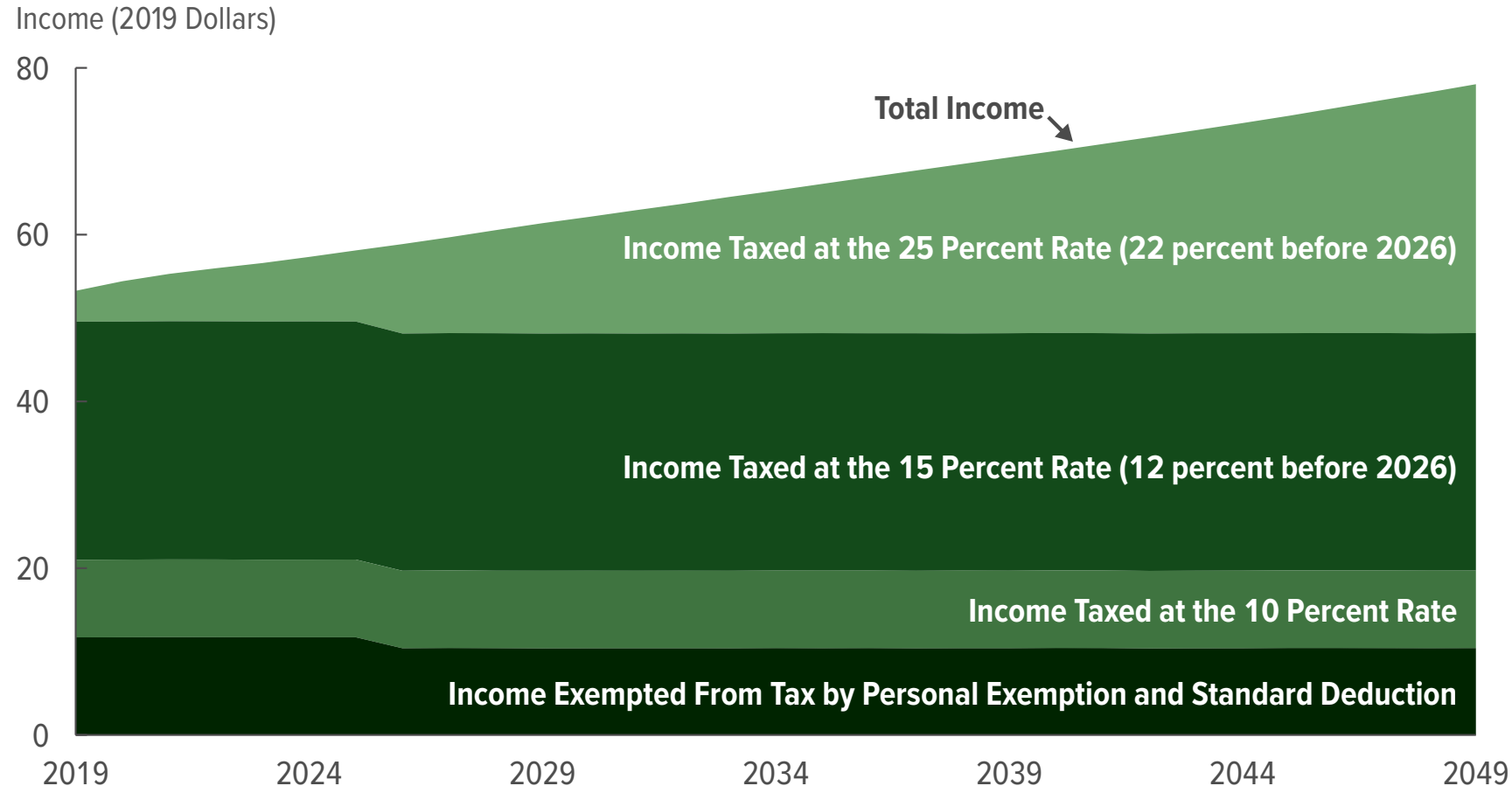
- It better accounts for how consumers change their purchases in response to price changes, and

- It is less affected by statistical bias related to the sample sizes that the Bureau of Labor Statistics uses in computing the two indexes.

# How the Measure of Inflation Affects Real Bracket Creep

Switching to the slower-growing measure of inflation reduces the growth of inflation-adjusted elements of the tax system. The result is more real bracket creep.

In CBO's revenue projections, the switch has a small effect at first, but that effect grows. In the projections for 2049, real bracket creep causes revenues to grow by 1.5 percent of GDP; if the old measure of inflation had been used, real bracket creep would have caused revenues to grow by 1.2 percent of GDP.

# Illustrative Example of Real Bracket Creep:
# A Single Filer With Average Earnings

Income (2019 Dollars)



Total Income

Income Taxed at the 25 Percent Rate (22 percent before 2026)

Income Taxed at the 15 Percent Rate (12 percent before 2026)

Income Taxed at the 10 Percent Rate

Income Exempted From Tax by Personal Exemption and Standard Deduction

The individual income tax is progressive; that is, tax rates rise with income.

As a typical taxpayer's real income slowly grows, a greater portion of that income is taxed at higher rates. Therefore, the share of that taxpayer's income that is paid in taxes grows.

Many parameters of the tax system change in 2026 with the expiration of most individual income tax provisions of Public Law 115-97 (generally called the 2017 tax act in CBO's publications). In this example, all income shown is from earnings and is adjusted for inflation with the C-CPI-U.

# Illustrative Example of Real Bracket Creep: A Four-Person Family With Average Earnings

Nominal Dollars

| | 2026 | 2049 | Percentage Change |
|---|---|---|---|
| Income | 72,000 | 154,000 | 114 |
| – Standard deduction | 15,400 | 25,100 | 63 |
| – Personal exemptions | 19,800 | 32,200 | 63 |
| = Taxable Income | 36,800 | 96,700 | 163 |
| | | | |
| Tax Before Credits | 4,390 | 12,668 | 189 |
| – Child credit | 2,000 | 0 | –100 |
| = Tax After Credits | 2,390 | 12,668 | 430 |

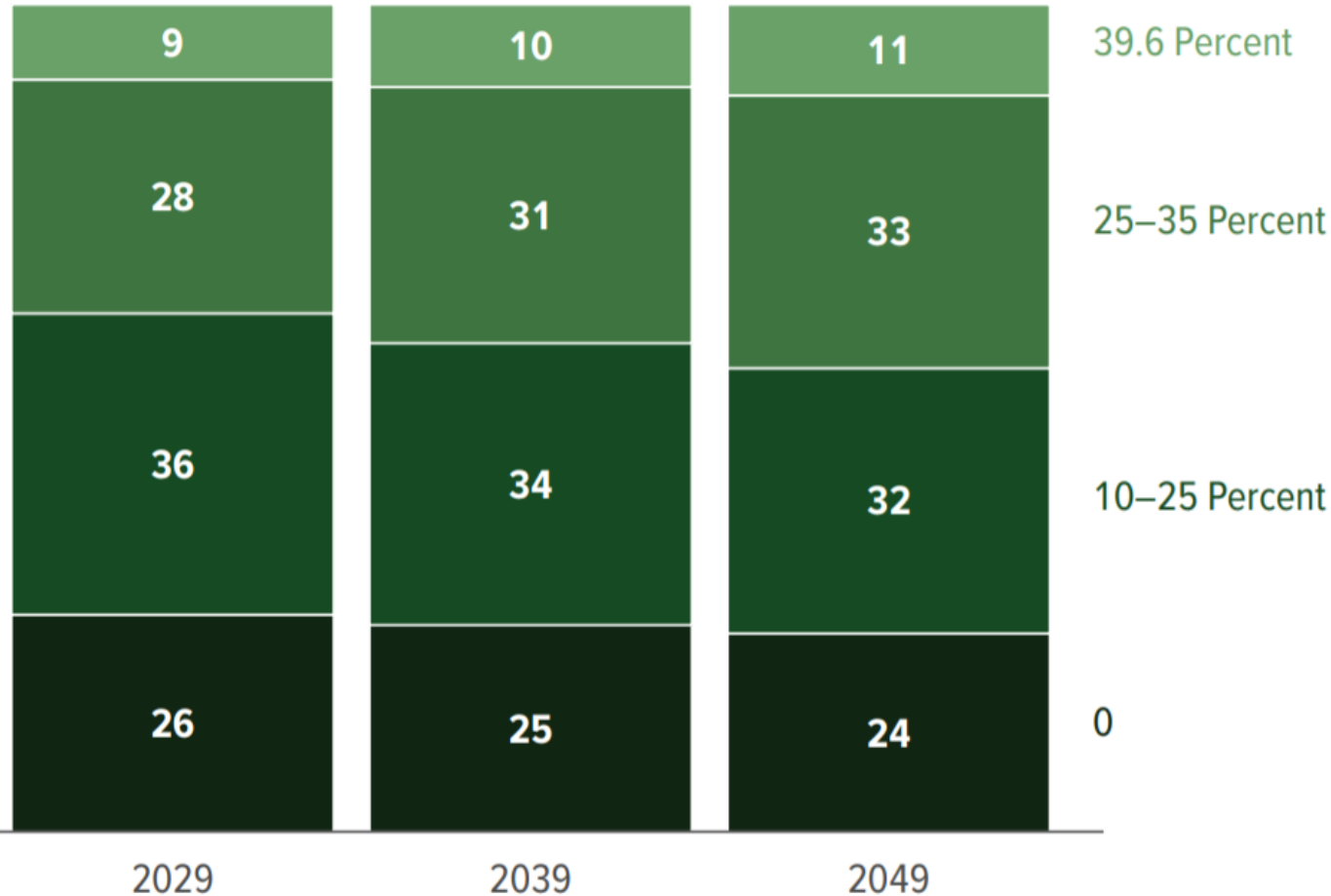| | 2026 | 2049 | Difference |
|---|---|---|---|
| Average Tax Rate (Percent) | 3.3 | 8.2 | 4.9 |

This family—a married couple (including one worker with average earnings) with two children—would see its tax rate rise 5 percentage points between 2026 and 2049. Several factors would account for the increase:

- The family's taxable income would grow more rapidly than its total income because the standard deduction and personal exemption would grow only at the rate of inflation.

- The taxes owed on taxable income would rise more quickly than taxable income as more income fell into higher tax brackets.

- The family would become ineligible for the child credit as its income grew past the upper income limit for that credit (which is not inflation-adjusted).

To illustrate changes caused by real bracket creep, rather than changes caused by tax law, this example begins in 2026, after the expiration of most provisions of the 2017 tax act.

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# About This Document

This document was prepared to enhance the transparency of CBO's work and to encourage external review of that work. In keeping with CBO's mandate to provide objective, impartial analysis, the document makes no recommendations.

Kathleen Burke and Edward Harris prepared the document with guidance from John McClelland. Jeffrey Kling reviewed the document, and Benjamin Plotinsky edited it. An electronic version is available on CBO's website (www.cbo.gov/publication/55368).