

# **The Historical Decline in Real Interest Rates and Its Implications for CBO's Projections**

May 6, 2021

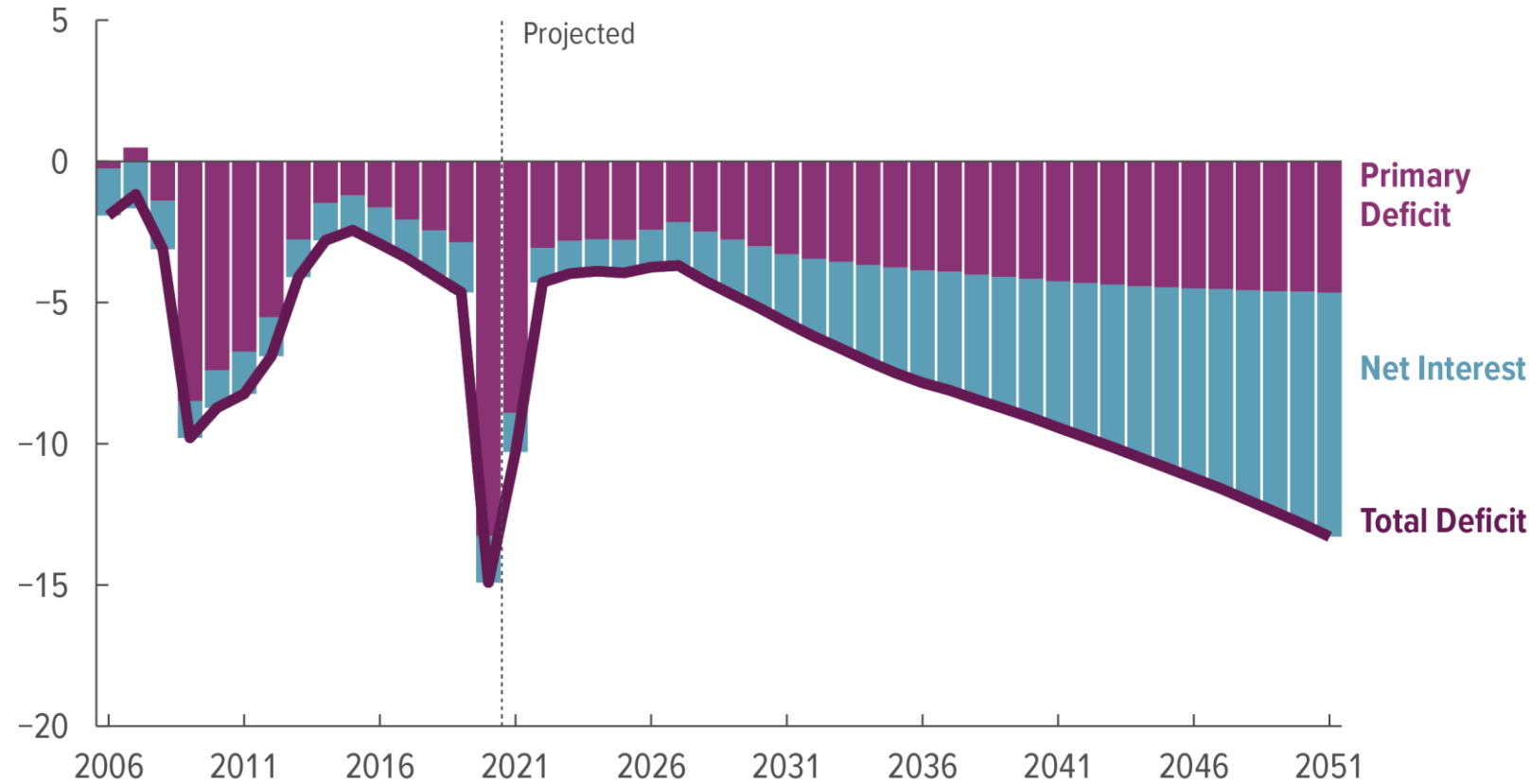
23rd Federal Forecasters Conference

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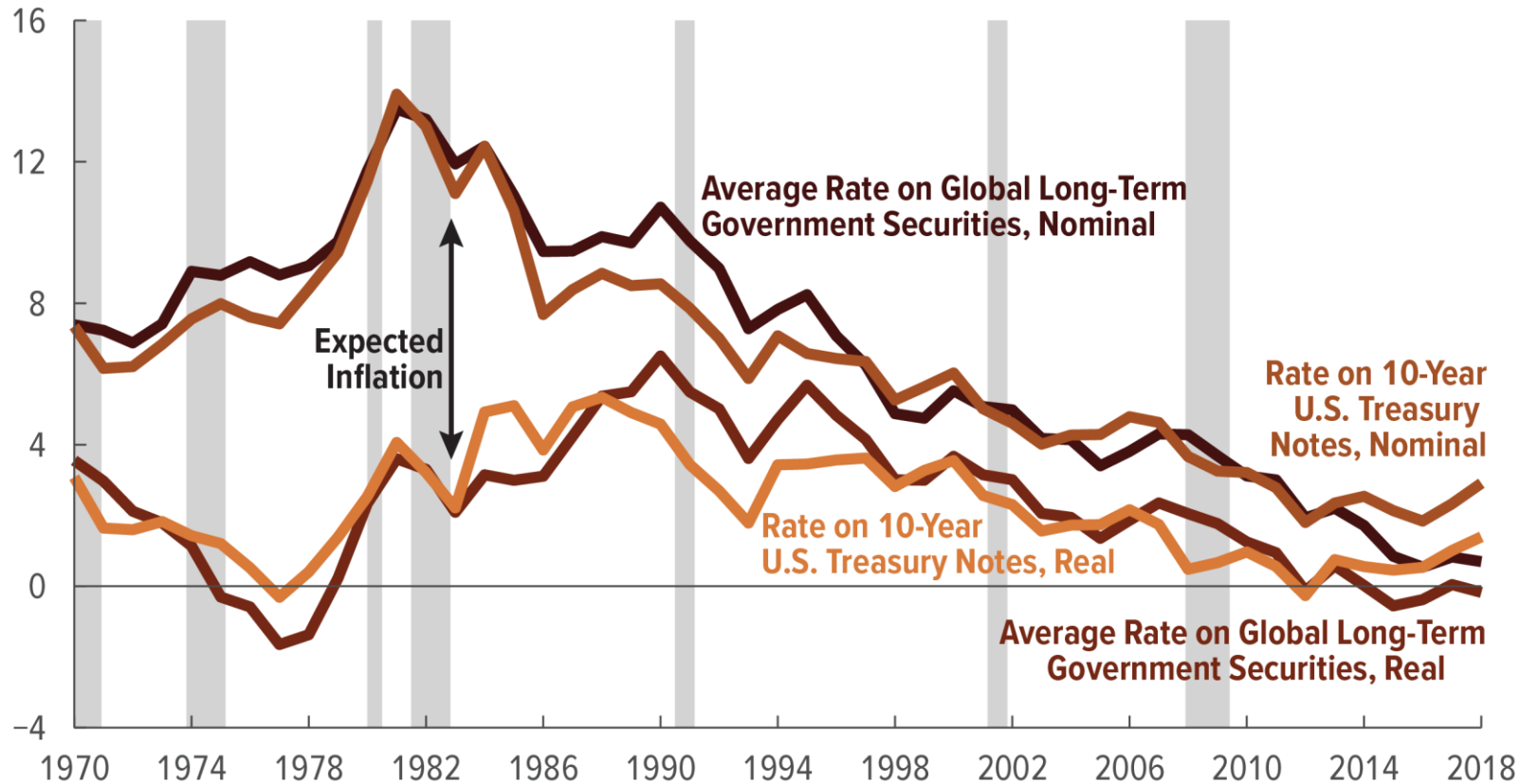
# Interest Costs Are an Important Component of CBO's Budget Projections

Percentage of Gross Domestic Product



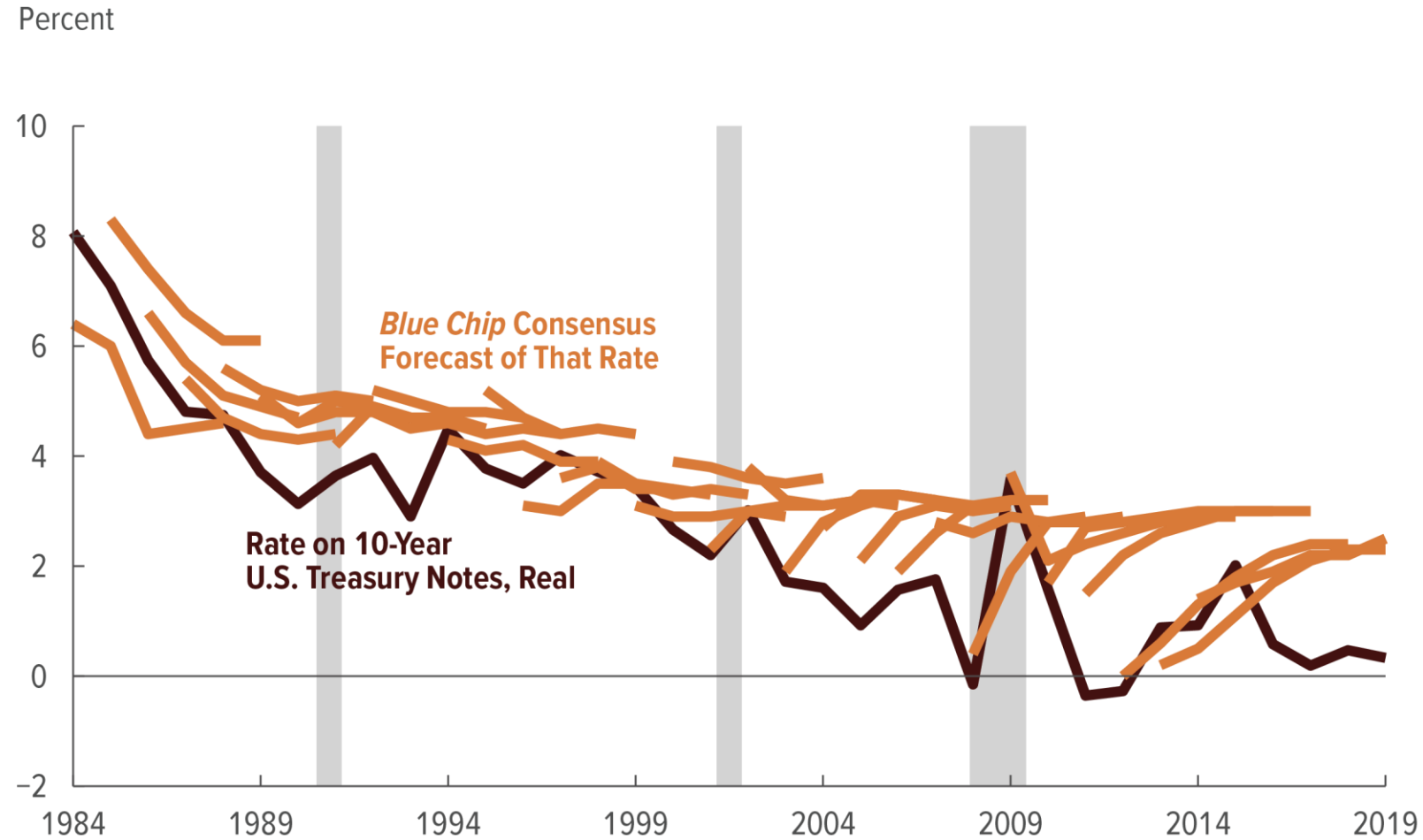
# Real and Nominal Risk-Free Interest Rates Have Trended Downward Since the 1980s

Percent



The shaded vertical bars indicate periods of recession.

# Forecasters Have a Poor Track Record



The shaded vertical bars indicate periods of recession.

# Behind the Decline in Real Interest Rates

Explanations for the decline include:

- A slowdown in the long-term average growth rate of the economy,
- The aging global population,
- A global savings glut, and
- Declining desired investment.

Factors mitigating the decline include:

- A rising share of income paid to owners of capital and
- Rising federal debt relative to gross domestic product (GDP).

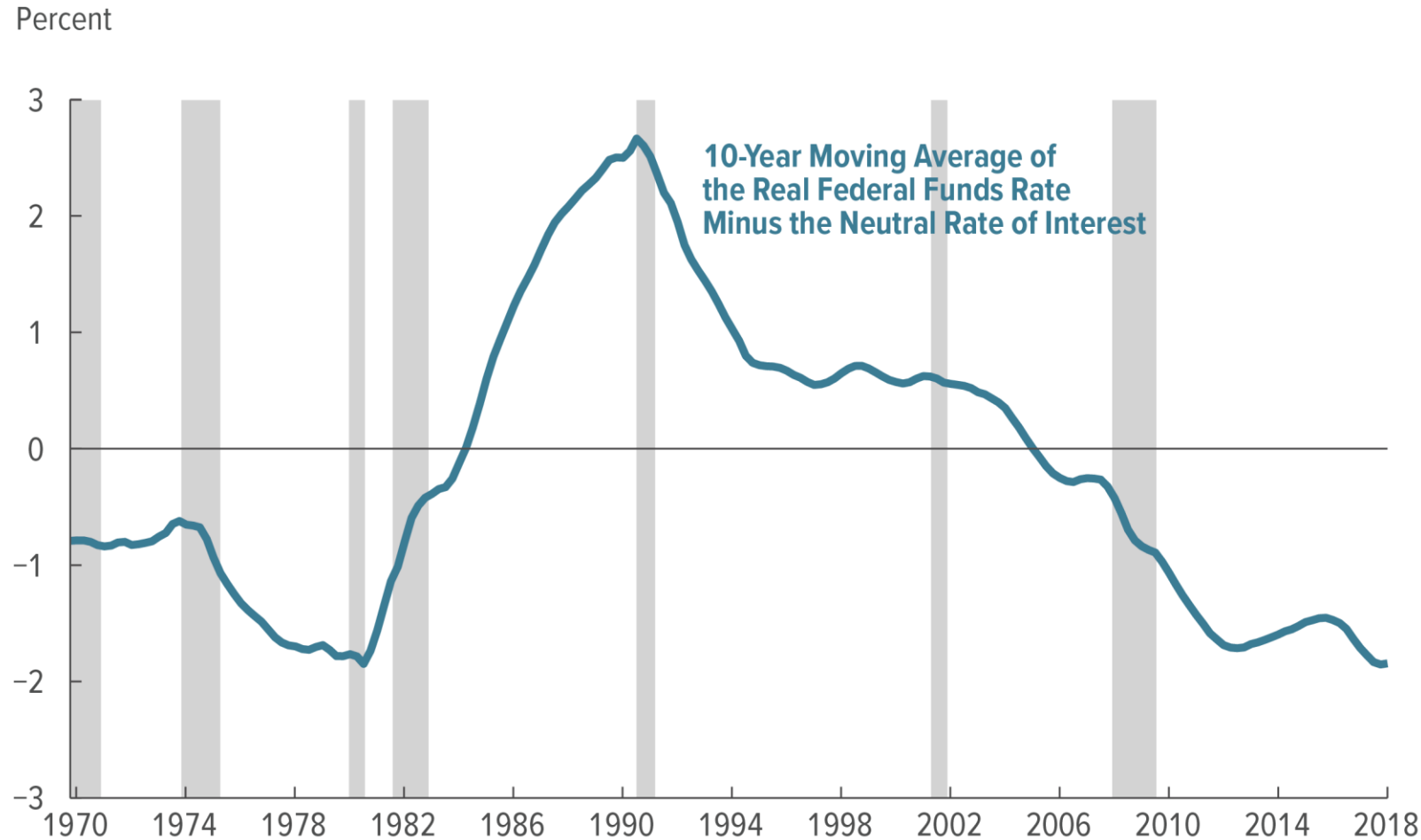
# **CBO's Method for Forecasting Interest Rates Over the Medium and Long Terms**

Identify a set of factors that affect interest rates.

Identify a benchmark historical period. (That period is currently 1995 to 2004.)

Forecast the change in each factor between the benchmark historical period and the forecast period and estimate the effect of those changes on the real interest rate.

# CBO's Benchmark Historical Period



Monetary policy was neutral, on average, during the decade leading up to the two points when the 10-year average of the real federal funds rate minus the neutral rate of interest equaled zero.

CBO chose the period from 1995 to 2004 for its benchmark because that was also a period when inflation expectations were well anchored and the U.S. economy experienced relatively mild business cycles.

# **Factors Affecting Interest Rates in CBO's Medium- to Long-Term Forecast**

- Labor force growth
- Domestic private and foreign saving
- Total factor productivity growth
- Ratio of debt to GDP
- Risk premium
- Share of income paid to capital



# Estimating the Effect of Changes in Factors on Interest Rates

| Factor                              | Source of Estimate                         |
|-------------------------------------|--|
| Labor force growth                  | Aggregate production function              |
| Domestic private and foreign saving | Aggregate production function              |
| Total factor productivity growth    | Aggregate production function              |
| Ratio of debt to GDP                | Research literature and empirical estimate |
| Risk premium                        | Identity                                   |
| Share of income paid to capital     | Aggregate production function              |

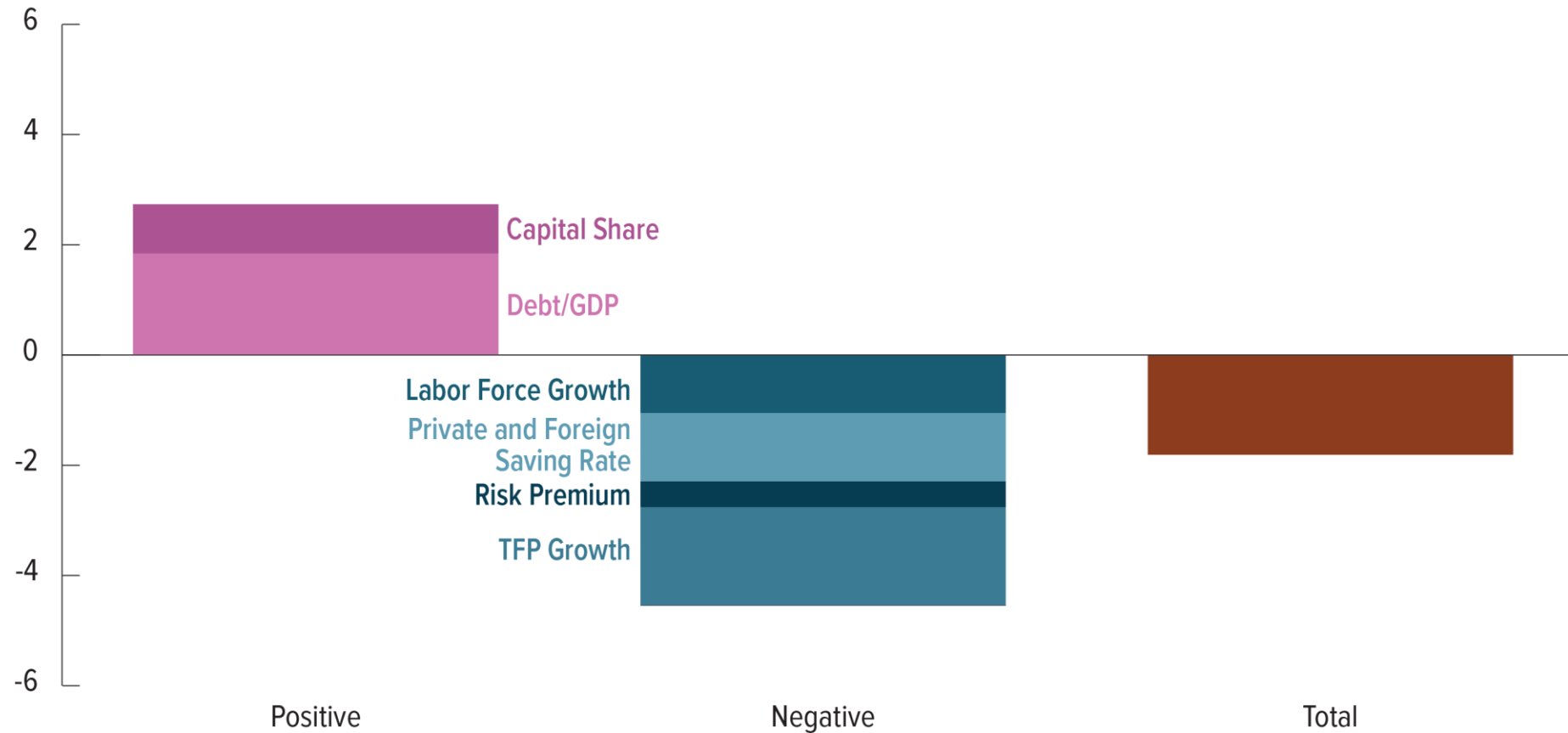
# Parsing of CBO's Medium-Term Forecast of the Interest Rate on 10-Year Treasury Notes

Percentage Points

| CBO's Forecast, June 2020   | 2031 to 2035 |
|---|--------------|
| Real Interest Rate on 10-Year Treasury Notes Over the Historical Benchmark Period, 1995 to 2004 | 2.96         |
| Change in Real Rate   | -1.81        |
| Real Interest Rate (Benchmark rate + change in real rate)                                       | 1.15         |
| CPI-U Inflation Rate  | 2.2          |
| Nominal Rate on 10-Year Treasury Notes (Real interest rate + CPI-U inflation rate)              | 3.4          |

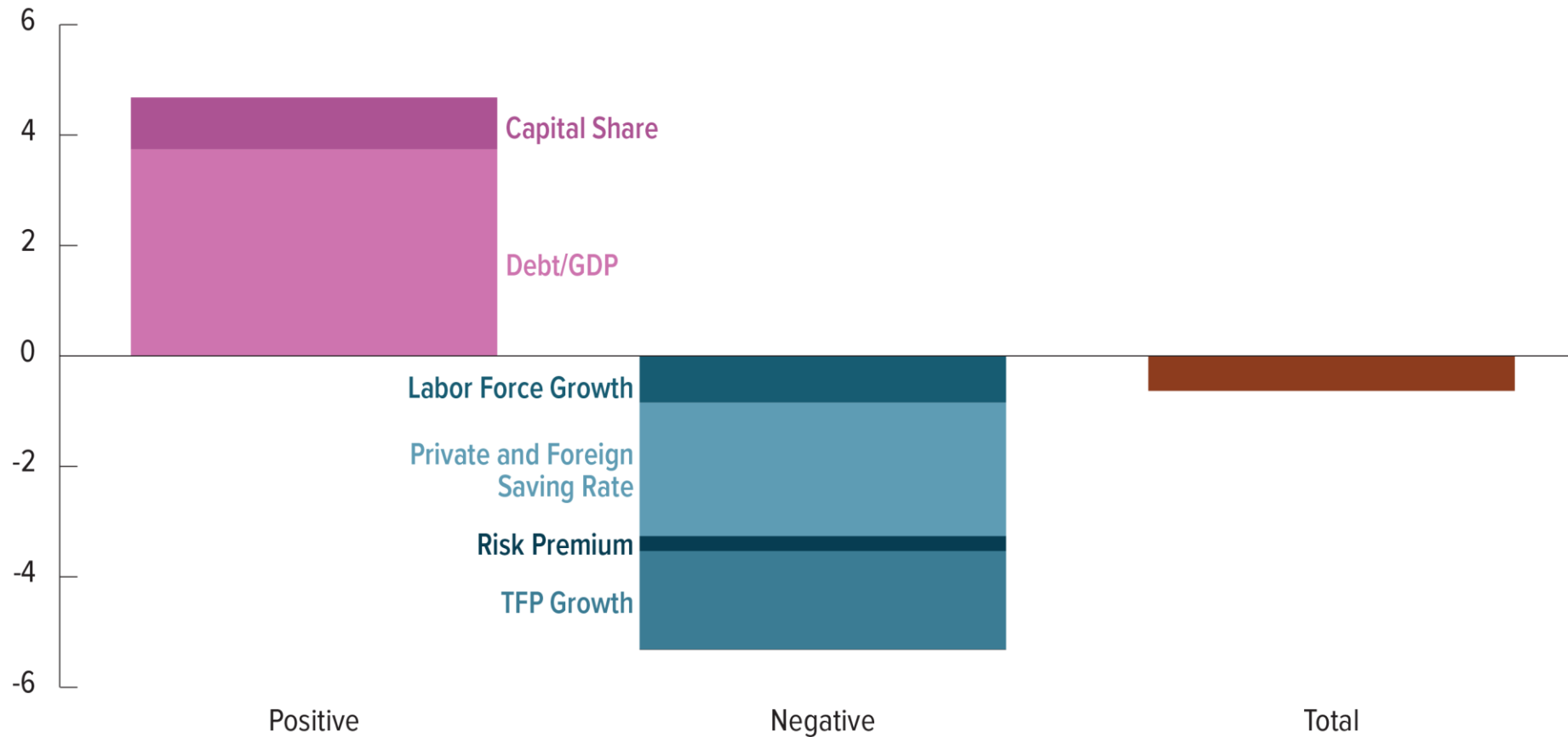
# Factors Affecting Projected Interest Rates Over the 2031–2035 Period Measured Relative to the 1995–2004 Period

Percentage Points



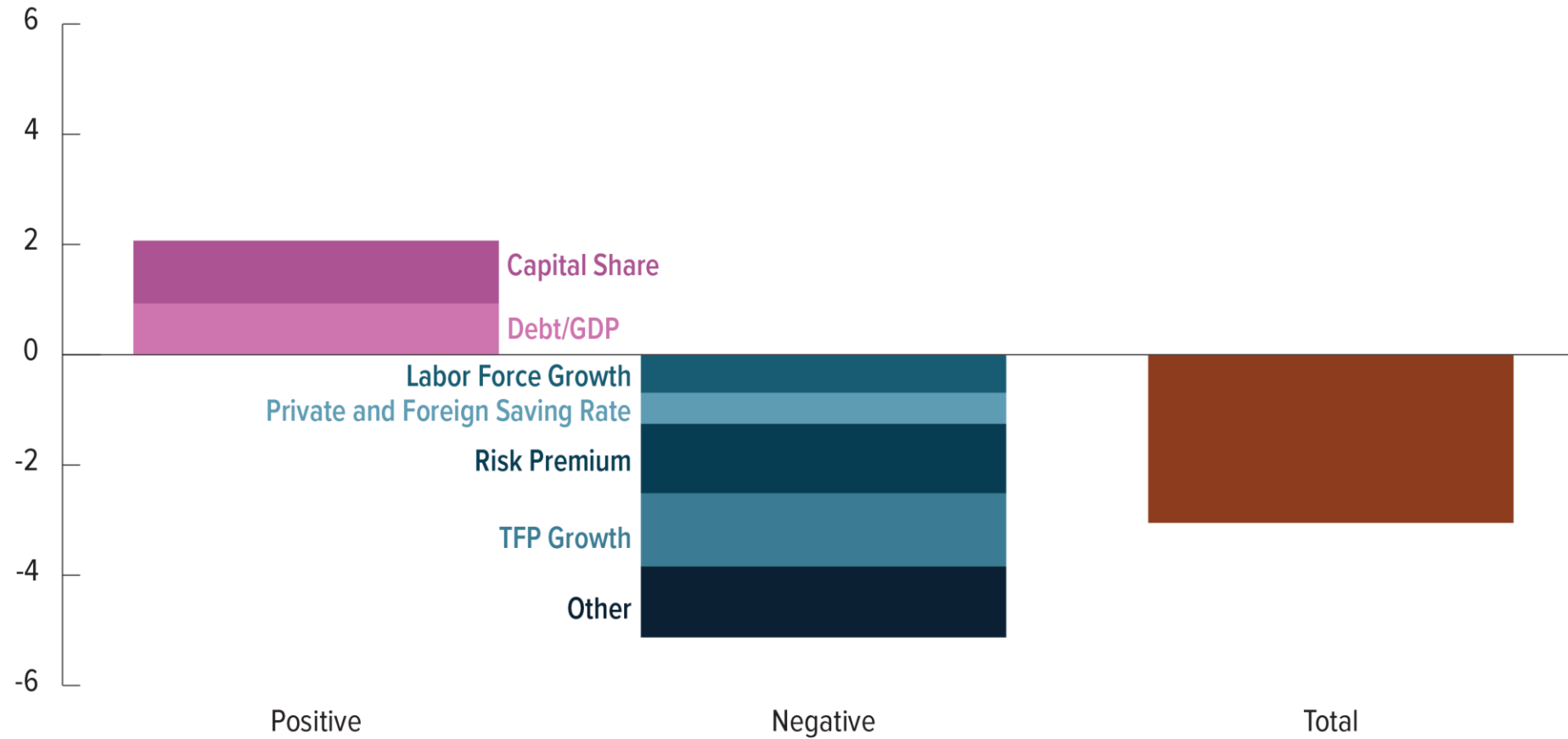
# Factors Affecting Projected Interest Rates Over the 2046–2050 Period Measured Relative to the 1995–2004 Period

Percentage Points



# Factors Affecting Projected Interest Rates Over the 2015–2019 Period Measured Relative to the 1995–2004 Period

Percentage Points



## For More Information

See Edward N. Gamber, *The Historical Decline in Real Interest Rates and Its Implications for CBO's Projections*, Working Paper 2020-09 (Congressional Budget Office, December 2020), [www.cbo.gov/publication/56891](https://www.cbo.gov/publication/56891).