

Economic Analysis

Debt sustainability: time to splurge or time to save

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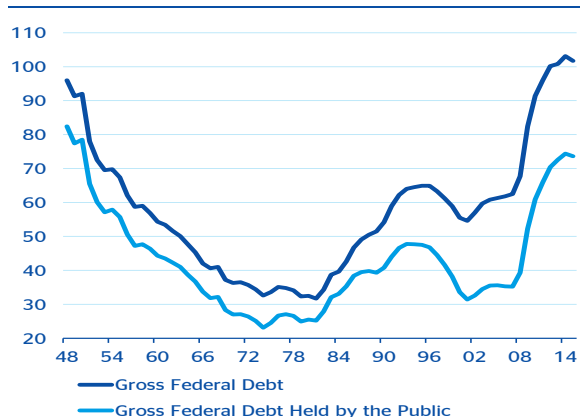
- **The absence of an identifiable debt sustainability threshold for the U.S. does not safeguard against the possibility of a fiscal crisis unfolding**
- **Persistently low long-term borrowing rates imply that we should borrow to invest in a higher living standard and growth**
- **The failure to implement timely fiscal belt-tightening will reduce U.S. economic vitality and resilience during the subsequent recession**

The federal budget deficit as a percentage of nominal Gross Domestic Product (GDP) has declined to 2.5% - the lowest share since the Great Recession. However, the cost of the recession remains high. The ratio of U.S. public debt-to-GDP saw a sharp increase from an average of 34% during the 2000-2007 timeframe to 52% in 2009 before peaking at 74% in 2014. Subsequently there has been a steady rise in the gross debt-to-GDP ratio to 102% in 2015, which is the highest level the U.S. has seen since the post - World War II period.

Is the U.S. debt sustainability a concern?

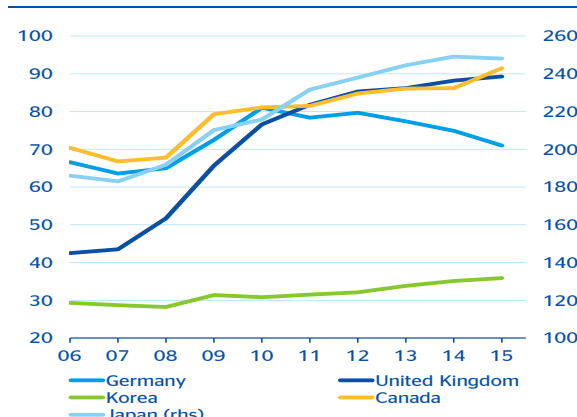
Economists agree that crossing the 80% threshold of gross debt-to-GDP ratio is worrisome. Crossing that threshold often triggers an adverse feedback loop wherein creditors begin to doubt the government's ability to repay interest on the debt and then impose higher borrowing rates to compensate for the possibility of default or a rise in inflation. The increased borrowing rates then further strain the fiscal situation and thereby hinder economic growth. However, the gross debt-to-GDP ratio threshold may range from 70% to 100% depending on the type of economy involved.¹ Emerging economies generally have a lower tolerance for rising sovereign debt due to having a history of high inflation, vulnerability to foreign capital flows, and large current account deficits.² At the same time, even at the highest threshold level not all countries would face sustainability concerns.

Chart 1
Gross and Public Debt as Percentage of GDP
%



Source: BBVA Research & CBO

Chart 2
Advanced Economies Government Gross Debt as Percentage of GDP, %



Source: BBVA Research & IMF

¹ Greenlaw, Hamilton, Hooper, and Mishkin (2013), Cecchetti, Mohanty, and Zampolli (2011), Checharita, Rother (2010), International Monetary Fund (2012)

² Reinhart and Rogoff (2010)

The future holds no definite answer on the sustainability of U.S. debt or on the exact threshold ratio. One might argue that the reported thresholds do not apply to the U.S. After all, the U.S. holds “safe haven” status on capital flows, has more than two decades of low inflation, and has long-term rates under downward pressure due to global economic trends. Yet, the risk of fiscal crisis can intensify because it does matter how long the country remains over the threshold and whether the country’s debt has been increasing or decreasing over that time period.³

The cost of fiscal consolidation

Fiscal consolidation requires the confluence of low long-term interest rates environment, moderate-to-high real economic growth rates, and primary surpluses. A sufficient gap between the GDP growth rate and low interest rates can provide the same benefit as primary surpluses. The structural changes, such as lower marginal product of capital, higher institutional demand for Treasuries, and higher savings, can lead to persistently low Treasury interest rates. Persistently low borrowing rates imply that federal debt should remain high with allocations towards federal non-financial investment. If interest-rates are persistently low, that alone can improve the sustainability of the debt.⁴

However, the same structural changes that imply persistently low Treasury interest rates also lead to low productivity and growth rates. Thus the gap between GDP growth rate and low interest rates can fall short as a force for maintaining debt sustainability. The International Monetary Fund’s (IMF) case study reinforces the stance that successful debt reduction requires a shift to primary surpluses, as fiscal consolidation takes a long time and requires fiscal austerity to be permanent and structural.⁵

Consequently, fiscal debt sustainability can take different paths, such as maintaining the current public debt-to-GDP ratio or making an effort to decrease the debt-to-GDP ratio to pre-Great Recession levels. Based on debt accumulation mechanics, maintaining the 2015 prime deficit-to-GDP ratio of 1.2% should be sufficient to keep the public debt-to-GDP ratio unchanged in the coming years. However, this assumes the continuation of the current economic environment of low borrowing costs, moderate 2.5% real growth, and near 2% inflation. Alternatively, if the cost of borrowing were to increase by 100 basis points or if real growth were to decline by 100 basis points, the prime deficit-to-GDP ratio would have to be lowered by 80 basis points to 0.4% in order to maintain a constant public debt-to-GDP ratio.

Putting public debt growth in lower gear relative to GDP growth is more challenging. Under the same current economic environment assumptions, higher fiscal discipline would be required to decrease public debt. The 2016 prime deficit-to-GDP ratio would need to drop to near zero in order to see a mere 1% decline in the public debt-to-GDP ratio. Meanwhile, the same 1% decline in the public debt-to-GDP ratio could be also achieved if the economy’s real growth rate were to climb to 3.5%.

How big is the structural deficit?

During periods when the economy is operating at its full employment and potential GDP level, structural deficit-to-GDP ratios highlight a shift to higher budget deficits during macroeconomic equilibrium years. A structural break test identifies a break in the dynamics of the Federal budget surplus/deficit ratio in 1976 when the shift occurred.⁶

³ International Monetary Fund (2012)

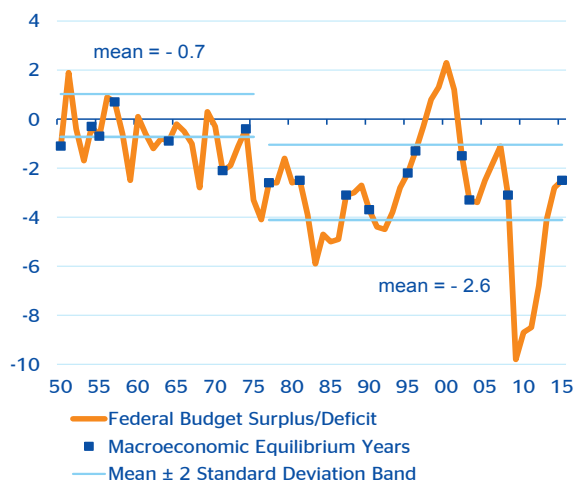
⁴ Elmendorf, and Sheiner (2016)

⁵ International Monetary Fund (2012)

⁶ Bai and Perron (2003)

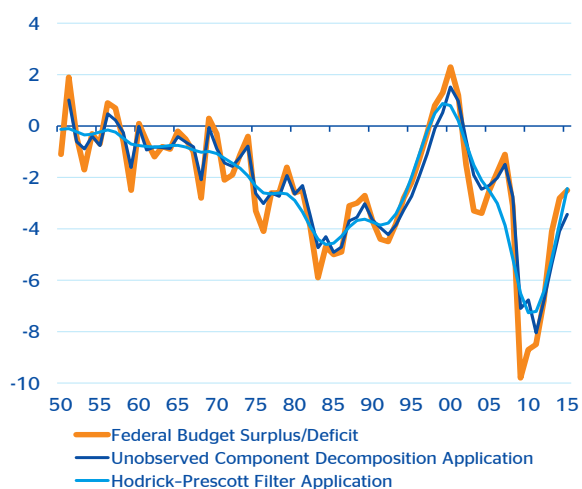
Similarly, decomposition of the Federal surplus/deficit ratio into structural and cyclical components employing two different econometric applications – the Hodrick-Prescott (HP) filter⁷ and an Unobserved Components model⁸ - illustrate strong permanent volatility in the Federal surplus/deficit ratio since 1976. There is also a striking similarity between econometric estimates of the structural deficit ratio and the structural deficit defined as the Federal deficit without automatic stabilizers. However, in contrast to the automatic stabilizers approach, the unobserved components estimation suggests that the permanent/structural deficit ratio is 1% higher than the observed ratio.

Chart 3
Federal Budget Surplus/Deficit as a Percentage of GDP and the Structural Ratios, %



Source: BBVA Research & CBO

Chart 4
Structural and Cyclical Deficit as a Percentage of GDP, %



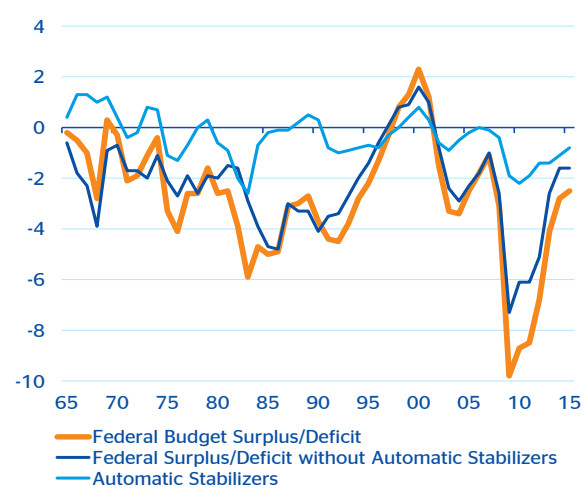
Source: BBVA Research & CBO

Table 1
Indicators of Macroeconomic Equilibrium and the Corresponding Federal Surplus/Deficit Ratio, %

| Macroeconomic Equilibrium Years (Fiscal Year) | Output Gap | Unemployment Rate | Non-Accelerating Inflation Rate of Unemployment (NAIRU) | Federal Budget Surplus/Deficit as a % of GDP |
|---|------------|-------------------|---|--|
| 1950 | -1.8 | 5.9 | 4.2 | -1.1 |
| 1954 | -2.4 | 5.2 | 4.5 | -0.3 |
| 1955 | 0.3 | 4.6 | 4.5 | -0.7 |
| 1957 | 0.3 | 4.1 | 4.3 | 0.6 |
| 1964 | -0.3 | 5.3 | 5.0 | -0.9 |
| 1971 | -0.1 | 5.9 | 6.0 | -2.1 |
| 1974 | 1.7 | 5.2 | 6.4 | -0.4 |
| 1977 | -0.3 | 7.3 | 7.0 | -2.6 |
| 1981 | -0.5 | 7.4 | 7.1 | -2.5 |
| 1987 | 0.2 | 6.4 | 6.4 | -3.1 |
| 1990 | 1.2 | 5.4 | 6.2 | -3.7 |
| 1995 | -0.3 | 5.6 | 5.4 | -2.2 |
| 1996 | -0.3 | 5.5 | 5.3 | -1.3 |
| 2002 | -0.1 | 5.7 | 5.8 | -1.5 |
| 2003 | 0.0 | 6.0 | 6.0 | -3.3 |
| 2008 | 1.6 | 5.3 | 6.5 | -3.1 |
| 2015 | -0.1 | 5.5 | 5.2 | -2.5 |
| Average | 0.0 | 5.7 | 5.6 | -1.8 |

Source: BBVA Research, BLS and CBO

Chart 5
Federal Budget Surplus/Deficit and Automatic Stabilizers as a Percentage of GDP, %



Source: BBVA Research & CBO

⁷ Hodrick and Prescott (1997). Lambda parameter for the filter is chosen in line with Ravn, and Uhlig (2002).

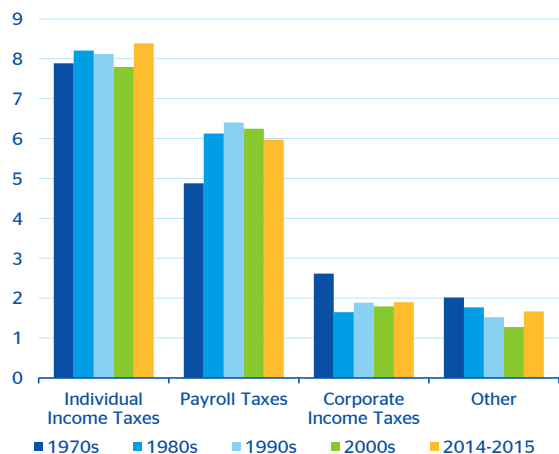
⁸ UC model is estimated in line with Clark (1987) specification.

The long-term outlook for the structural deficit reveals possibly another shift to even higher budget deficit ratios going forward. The ongoing demographic changes in the U.S. – namely an aging population and lower mortality rates - prompt a continuous increase in the share of Federal outlays to Social Security and major health care programs. As the share of the population receiving benefits from these programs increases, spending on Social Security as a percentage of GDP is also projected to rise. The Congressional Budget Office (CBO) projects that mandatory spending will continue to increase from 4.9% in 2015 to 5.7% in 2025. The CBO also estimates that by 2025, 62% of the growth in spending for Social Security and the major health care programs as a share of GDP will stem from the aging population, while the rest will be divided between excess medical care cost growth (17%) and an increased number of recipients of exchange subsidies under the Affordable Care Act (21%).⁹

However, not all of the effects on the deficit of the retiring cohort of baby-boomers are negative. As the baby-boom generation continues to retire, they will withdraw money from retirement accounts, which will boost income tax revenues as a share of GDP. Thus, significant tax revenue that has been deferred for years can soften the impact of the rising federal cost of aging.

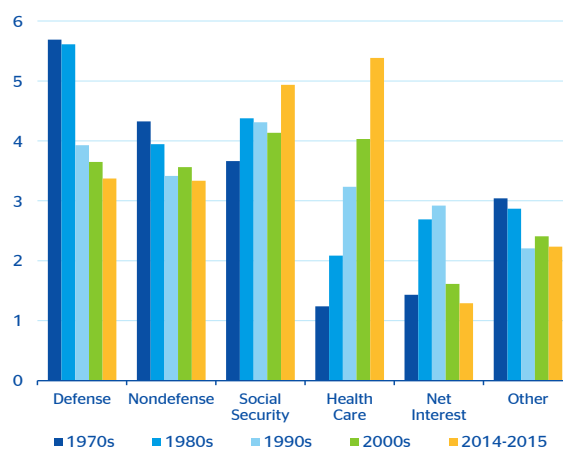
Additional long-term trends that should mitigate the fiscal effects of the increase in spending on Social Security and Health Care are the expected decline in defense spending and an increase in individual income tax revenue due retired individuals paying higher marginal tax rates because of retirement income pushing them into higher tax brackets.

Chart 6
Federal Budget Revenues by Major Source as a Percentage of GDP, %



Source: BBVA Research & CBO

Chart 7
Federal Budget Outlays by Major Category as a Percentage of GDP, %



Source: BBVA Research & CBO

The cost of large federal debt

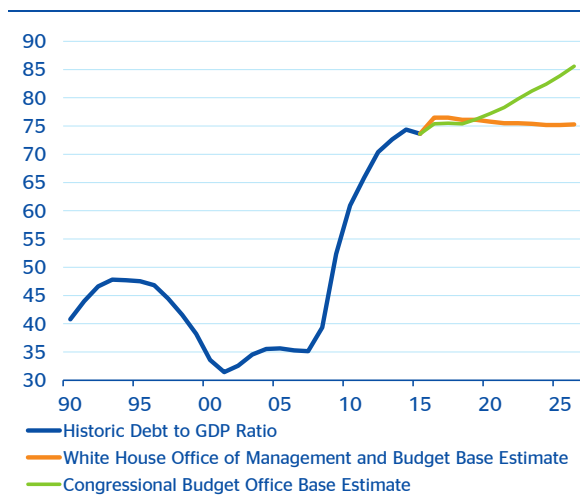
The consequences of large federal debt entail: 1) crowding out of private investment in productive capital, which over the long run should result in lower output and income, 2) rising federal spending on interest payments, which should ultimately require fiscal austerity, and 3) policymakers’ restricted ability to use fiscal policy to respond to unexpected economic downturns or financial crises, which should deepen the negative effects of recessions. Thus, the CBO advocates for policy action sooner rather than later to reduce the deficit and to ensure the sustainability of debt.

⁹ Congressional Budget Office (2015)

The sooner implementation of deficit reduction implies smaller government debt accumulation and therefore requires smaller policy changes to achieve the same long-term goal – meaning a smaller drag on output, employment and income in the long term. For example, the CBO estimates that to reduce the public debt ratio to its historic average of 38% by 2040 would require the combination of increases in revenues and reductions in noninterest spending to sum to 2.6% of GDP if implemented in 2016, 3.2% if implemented in 2021, and 4.2% if implemented in 2026. Moreover, a sooner rather than later decision on deficit reduction policies would reduce - uncertainty on the type of policies that might be adopted, thus enhancing the confidence of consumers, businesses, and creditors, and preventing a rise in longer-term interest rates.¹⁰

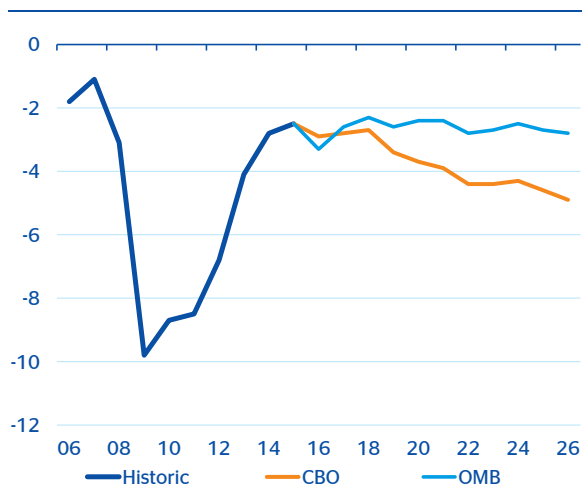
Both the CBO's and our analysis conclude that some level of fiscal austerity is necessary to warrant long term debt sustainability. If the current law remains generally unchanged, the CBO has estimated that the public debt-to-GDP ratio will grow from 73.6% in 2015, to 86% in 2026, and would likely surpass 103% in 2040. The CBO's assumptions on long-term economic trends are in line with the Federal Reserve's long-term projections of 2% average real GDP growth, 2% inflation, and the long-term unemployment rate upper bound of 5%.¹¹ The government's spending for major health care programs and Social Security is a critical factor in the rising public debt. In contrast to the CBO's projection, the Office of Management and Budget's (OMB) estimate of the budget has a more sustainable path for public debt due to a lower deficit ratio assumption. However, the OMB projections are a result of both current law extensions and policy changes proposed in the President's budget.

Chart 8
Federal Debt Held by the Public as a Percentage of GDP, %



Source: BBVA Research, CBO & OMB

Chart 9
Federal Budget Surplus/Deficit as a Percentage of GDP, %



Source: BBVA Research CBO & OMB

The three alternative scenarios illustrate that the long-term sustainability of public debt is feasible only under the assumption of expansionary growth rates over the entire projected time period. The debt ratio growth acceleration would be inevitable in case of an economic downturn and recession. If current law remains unchanged, another Great-Recession like crisis would result in an increase in the public debt ratio to 120% in 2026.

Debt sustainability is attainable under the baseline assumptions that comprise the CBO's projections of a rising share of spending on Social Security and major health care programs, and projections for the discretionary

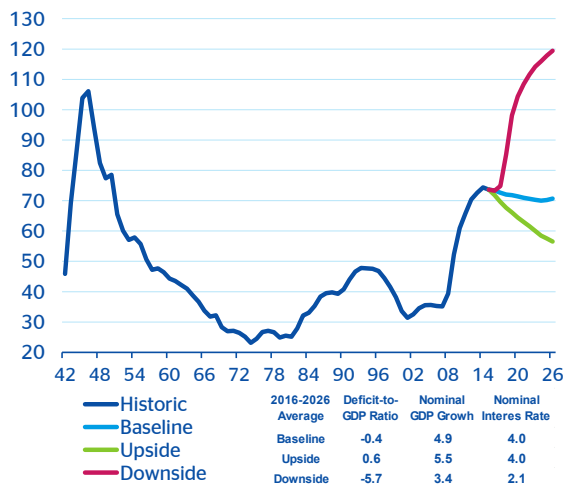
¹⁰ Congressional Budget Office (2015)

¹¹ Congressional Budget Office (2016)

outlays and revenue sources based on recent business cycle dynamics. Within the given 10-year timeline, the baseline projections yield a 3% decline in public debt. On average, the 10-year baseline projections of primary outlays result in a 0.4% lower spending-to-GDP ratio and a 0.7% higher revenue-to-GDP ratio than the CBO's. Additionally, the baseline assumptions incorporate a gap between nominal GDP growth rate and long-term interest rates that is approximately 50 basis points higher than the CBO's.

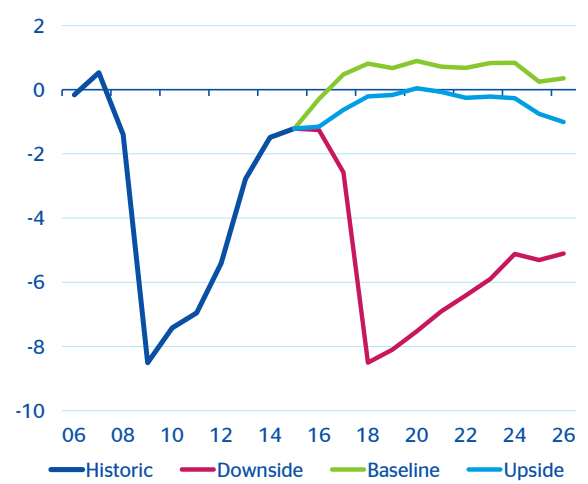
At the same time, a combination of fiscal consolidation and higher economic growth would lead to an upside scenario of a public debt ratio decline of 56.5% in 2026. The upside scenario's assumptions are an initial 1% positive boost to the prime deficit ratio and a 60 basis point lower gap between nominal GDP growth rate and long-term interest rates in comparison to the baseline. However, fiscal consolidation is known to constrain economic growth and most often results in a rising rather than a lowering public debt ratio.¹² Overall, the empirical evidence suggests smaller losses in aggregate demand can be achieved by implementation of spending-based adjustments to the deficit in place of tax-based adjustments.¹³ Additionally, accommodative monetary policy is a necessary condition for successful fiscal consolidation.¹⁴

Chart 10
Federal Debt Held by the Public as a Percentage of GDP, %



Source: BBVA Research & CBO

Chart 11
Federal Budget Prime Surplus/Deficit as a Percentage of GDP, %



Source: BBVA Research & CBO

Bottom line

The U.S. debt sustainability is not an imminent threat but further deterioration of the fiscal position and fiscal policy uncertainty could lead to a downgrade in the nation's credit rating and could spur a fiscal crisis. A credible policy plan to reduce long term growth of the public debt-to-GDP ratio would instill confidence in creditors, financial markets, and foreign and domestic businesses, and would improve the long run economic outlook. Moreover, sooner rather than later decision on deficit reduction policies would entail smaller drag on economic growth. Highly accommodative monetary policy and the renewed persistency of low long term interest rates have helped to curb the growth of public debt ratio, but policies geared towards higher growth rates and positive surplus are necessary to increase the nation's resilience to subsequent recessionary episodes.

¹² Eyraud and Weber (2013)
¹³ Alesina, Favero, and Giavazzi (2015)
¹⁴ International Monetary Fund (2012)

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