

# ISSUE BRIEF

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## High Debt Is a Real Drag

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Three teams of economists have separately shown that high government debt has a negative effect on long-term economic growth. When government debt grows, private investment shrinks, lowering future growth and future wages.

Estimates across advanced economies show that debt drag reaches large and statistically significant levels as debt grows, with the worst effects occurring after debt reaches 90 percent of gross domestic product (GDP). With U.S. federal, state, and local government debt at 84 percent of GDP and rising, policymakers should begin taking debt drag into account when considering new deficit spending.

**Descriptive Statistics.** Two studies—one by Manmohan Kumar and Jaejoon Woo of the International Monetary Fund (IMF)<sup>1</sup> and one by Carmen Reinhart, Vincent Reinhart,

and Kenneth Rogoff published by the National Bureau of Economic Research<sup>2</sup>—illustrate that once countries reached higher-debt status, they tended to suffer lower subsequent growth. Looking at annual data, Reinhart, Reinhart, and Rogoff show that annual growth after inflation averaged 3.5 percent among countries with central government debt below 90 percent of GDP in the previous year and 2.3 percent among countries with debt above 90 percent of GDP. Kumar and Woo look at five-year averages and report that high-debt advanced economies grew 1.3 percentage points slower annually than their low-debt (below 30 percent) counterparts. Kumar and Woo note that the negative effects of debt build steadily as debt grows from 30 percent to 90 percent. At intermediate debt levels, debt drag is already substantial.<sup>3</sup>

Another study—by Stephen Cecchetti, Madhusudan Mohanty, and Fabrizio Zampolli of the Bank for International Settlements<sup>4</sup>—shows that total public debt in 18 advanced economies almost doubled as a share of GDP from 1980 to 2010. In addition, public, household, and corporate debt all increased by about the same degree. These authors found about the same negative

effects on economic growth from high debt levels.

**Different Methods, Similar Results.** What makes these results especially compelling is that the different author groups used different statistical and methodological approaches yet found very similar results.

Kumar and Woo use growth regressions to find that “on average, a 10 percentage point increase in the initial debt-to-GDP ratio is associated with a slowdown in annual real per capita GDP growth” of 0.19 percentage points per year in advanced economies with debt greater than 90 percent of GDP.

Cecchetti, Mohanty, and Zampolli use a different econometric approach but arrive at substantially the same conclusion: At high debt levels, a 10 percentage point increase in initial debt-to-GDP ratio is associated with 0.18 percentage points less GDP growth over the next five years. They also use an econometric technique to find the best cutoff level above which debt is harmful: They find that 84 percent of GDP is the best cutoff.

At debt levels less than 84 percent of GDP, the evidence is less clear, and neither study can make statistically significant conclusions. Kumar and Woo estimate that at debt levels

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between 60 percent and 90 percent of GDP, the effect of 10 percentage points of debt on GDP growth is around  $-0.16$  percentage point per year.

### Confirming Economic Theory.

Reinhart, Reinhart, and Rogoff take a descriptive approach, detailing each of 26 episodes of extended “debt overhang.”<sup>5</sup> They find that government debt overhang tends to last a long time—20 of the episodes they study lasted more than a decade. And many debt-overhang episodes featured slow growth despite low interest rates on government debt, suggesting that high government debt hurts growth even in the absence of a crisis.

Kumar and Woo use growth accounting to show that “the adverse effects on growth of initial debt largely reflect a slowdown in labor productivity growth mainly due to reduced investment,”<sup>6</sup> which leads to “slower growth of capital per worker.” This confirms economic theory: When savings are invested in government bonds, they cannot also be invested in productive capital.

One of the principal determinants of wages is average capital per worker. Production uses both capital and labor, and deepening capital investment makes labor relatively scarcer and more productive. A scarcer, more productive factor of production commands a higher wage. Thus, when government borrowing crowds out private investment, the economy invests in less capital per worker, causing workers to be less productive and earn lower wages.

**Policy Implications.** To put these economists’ estimates in context, a 0.2 percentage point drop in annual GDP growth over the next 10 years would cost Americans \$1.9 trillion in income.<sup>7</sup>

In the United States, total government debt has risen dangerously close to the threshold level above which debt consistently hurts growth. The IMF estimates that U.S. general government debt reached 84 percent of GDP in 2012.<sup>8</sup> With large federal deficits projected into the future and many state governments in poor fiscal shape, the U.S. is blowing past the threshold estimated by

Cecchetti, Mohanty, and Zampolli and into the danger zone.

Kumar and Woo estimate the debt drag between 60 percent and 90 percent at 0.16 percentage points in lost GDP. If this estimate is accurate, then the large deficits of the past few years have been very costly for Americans. From 2007 to 2012, general government debt leapt from 48 percent of GDP to 84 percent.

- Debt added from 2009 to 2011 has already cost Americans \$200 billion in foregone growth.<sup>9</sup>
- Higher debt will cost Americans \$2.4 trillion over the next five years.
- Higher debt will cost Americans \$9 trillion over the next ten years.

### A Moment on the Lips...

Policymakers should take the long-term contractionary effects of debt into account when calculating the costs and benefits of government spending. For instance, Cecchetti, Mohanty, and Zampolli’s estimate

1. Manmohan S. Kumar and Jaejoon Woo, “Public Debt and Growth,” *IMF Working Paper*, WP/10/74, July 2010, <http://www.imf.org/external/pubs/ft/wp/2010/wp10174.pdf> (accessed February 22, 2013).
2. Carmen M. Reinhart, Vincent R. Reinhart, and Kenneth S. Rogoff, “Debt Overhangs: Past and Present,” *NBER Working Paper 18015*, April 2012, <http://www.nber.org/papers/w18015> (accessed February 22, 2013). See also Carmen M. Reinhart and Kenneth S. Rogoff, “Growth in a Time of Debt,” *American Economic Review*, Vol. 100, No. 2 (May 2010), pp. 573–578, <http://www.ycsg.yale.edu/center/forms/growth-debt.pdf> (accessed February 21, 2013).
3. Kumar and Woo, “Public Debt and Growth,” Table 6, p. 27.
4. Stephen Cecchetti, Madhusudan Mohanty, and Fabrizio Zampolli, “The Real Effects of Debt,” Bank for International Settlements, September 2011, <http://www.bis.org/publ/work352.pdf> (accessed February 22, 2013).
5. They use the cutoff value of a 90 percent central government debt-to-GDP ratio to define “debt overhang.”
6. Kumar and Woo, “Public Debt and Growth,” p. 20.
7. Assuming 3 percent annual baseline GDP growth.
8. International Monetary Fund, “World Economic Outlook,” October 2012, Table A8, <http://www.imf.org/external/pubs/ft/weo/2012/02/pdf/text.pdf> (accessed February 21, 2013). The data in question is “Net General Government Debt,” which includes state and local debt as well as federal debt. This data series matches that used by Kumar and Woo (p. 8) and Cecchetti, Mohanty, and Zampolli (Appendix 1).
9. I use Kumar and Woo’s estimate of  $-0.16$  percentage point per year until 2013 and their estimate of  $-0.19$  point per year from 2014, which is approximately when general government debt will pass the 90 percent threshold. These estimates assume 3 percent baseline future growth, use budget deficit estimates from the Office of Management and Budget for the years 2012–2017, and assume \$600 billion deficits each year from 2018 to 2022. The White House, Office of Management and Budget, *Historical Tables, 2009–2017*, <http://www.whitehouse.gov/sites/default/files/omb/budget/fy2013/assets/hist01z1.xls> (accessed July 12, 2012).

implies that an additional, one-time \$100 billion expenditure in 2013 would cumulatively shave \$27 billion off GDP over the next five years and \$102 billion off GDP over the next 10 years.

High national debt can seriously slow economic growth. Slow growth

is in important respects worse than a recession—it lowers incomes and well-being permanently, not just temporarily. Among the unpleasant features of debt is that it is easy to grow and difficult to shrink. Thus, a one-time increase in government debt is typically a permanent

addition, and the drag effects on the economy are long-lasting. Short-term policies can dramatically affect long-term growth.

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