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COMMENTARY SERIES

The Next Entitlement Program: Interest on Debt

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The President's Fiscal Year 2012 Budget makes for terrifying reading. As highlighted by *The Washington Post*, the federal debt is expected to grow so rapidly that net interest expense will exceed Medicare outlays by 2018. Over the 10 year budget window, the net annual cost of servicing the federal debt is expected to grow at a 15.8% annualized rate, from $196 billion in 2010 to $928 billion in 2021 (S-1). If this weren't bad enough, closer analysis reveals that the actual debt servicing costs could be much higher. Absent a string of good fortune (that's sadly unlikely to materialize), the federal government could be effectively insolvent within the decade – as debt levels and servicing costs exceed financial capacity.

Debt to GDP	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
OMB Baseline	62.2%	72.0%	75.1%	76.3%	76.3%	76.1%	76.1%	76.1%	76.2%	76.4%	76.7%	77.0%
Adjusted Baseline	62.2%	71.7%	75.1%	76.8%	77.0%	77.3%	77.6%	77.4%	77.4%	77.6%	78.0%	78.4%
3.5% interest rate	62.2%	70.5%	75.0%	77.1%	78.0%	78.7%	79.4%	79.4%	79.1%	78.7%	78.4%	78.1%
6.3% interest rate	62.2%	72.2%	76.5%	82.7%	85.7%	88.6%	91.6%	93.9%	95.8%	97.8%	99.9%	101.9%
10.4% interest rate	62.2%	74.6%	83.9%	91.4%	98.1%	105.0%	112.3%	119.3%	126.2%	133.5%	141.2%	149.4%

In the Administration's baseline estimate, the public debt will rise from 62.2% of GDP in 2010 ($9 trillion) to 77% of GDP in 2021 ($18.9 trillion). Amazingly, this doubling of the national debt and 23% increase in the debt to GDP ratio relies on very favorable assumptions about the directions of interest rates. Over this period, the effective interest rate implied by the ratio of net interest expense to public debt is 3.5%. This happens to be the average for the 5-year constant maturity Treasury rate over the past 10 years. However, the average 5-year borrowing cost for the 10 years ending in January 2000 was 6.3%, while the average 5-year borrowing cost for the 10 years ending in 1990 was 10.4%. Stress testing the President's budget against these different interest rate assumptions reveals that public debt dynamics could trigger federal insolvency in relatively short order.

The table above compares the debt-to-GDP ratio in the Office of Management and Budget (OMB) baseline relative to the debt-to-GDP ratio under OMB's "alterative baseline" and three constant interest rate scenarios based on the alternative baseline. If the average effective interest rate on the debt were to climb to the 10.4% average of the 10 years ending in January 1990, the public debt would explode to nearly 150% of GDP by 2021. Under the more modest 6.3% assumption of the 1990s, the debt ratio would exceed 100% of GDP by the end of the decade. Rather than doubling, as assumed by OMB, the public debt would quadruple over ten years to more than $36 trillion.

The reason for the explosion is simple: debt dynamics

depend on two factors – the primary budget balance and the relationship between the effective interest rate and the nominal GDP growth rate. The primary budget is the relationship between federal revenues and federal spending, excluding interest. When there is a primary budget deficit, the government must sell bonds to the public to raise funds to pay for new spending. However, a primary budget balance is not sufficient to keep the debt from growing in nominal terms. Even if the government collects all the revenue needed to fund all of its operations, it must still issue new debt to pay interest on past borrowing. This sort of finance arrangement makes the interest rate hugely consequential because when it is less than the GDP growth rate the debt-to-GDP ratio falls, but when it is more than the GDP growth rate, the debt burden increases even when the government has achieved primary budget balance. Thus, even if we achieved primary balance next year, the public debt burden could still grow substantially if interest rates were to rise.

For this reason, interest on the debt is like another entitlement program, the cost of which is determined by the compensation creditors demand to hold federal debt. According to the Commerce Department, net U.S. private savings was $1.152 trillion in 2010, or about $140 billion less than the federal deficit. This means that if the government consumed every single dollar saved by U.S. households and businesses, it would still not be enough to cover the federal deficit. As a result, the cost of this entitlement program is largely a function of international creditors' views of the U.S. economy, political system, and currency. A swift change in sentiment could result in a crippling increase in the cost of this de facto entitlement program.

OMB Baseline	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Revenue/ GDP	14.9%	14.4%	16.6%	17.9%	18.7%	19.1%	19.3%	19.5%	19.6%	19.8%	19.8%	20.0%
Interest Expense/ GDP	1.7%	1.9%	2.4%	2.9%	3.2%	3.4%	3.6%					
% of Revenue Consumed	11.4%	13.2%	14.4%	16.2%	17.1%	17.8%	18.7%					
Effective Interest Rate	2.73%	2.64%	3.19%	3.80%	4.20%	4.47%	4.73%					
6.3% interest rate	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Interest Expense/ GDP	1.7%	4.5%	4.9%	5.2%	5.4%	5.6%	5.8%	5.9%	6.0%	6.2%	6.3%	6.4%
% of Revenue Consumed	11.4%	31.6%	29.8%	29.1%	28.8%	29.3%	29.9%	30.4%	30.7%	31.2%	31.7%	32.1%
10.4% interest rate	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Interest Expense/ GDP	1.7%	7.8%	8.7%	9.6%	10.2%	10.9%	11.7%	12.4%	13.1%	13.9%	14.7%	15.5%
% of Revenue Consumed	11.4%	53.8%	52.5%	53.0%	54.5%	57.3%	60.5%	63.7%	66.8%	70.2%	74.0%	77.7%

This table compares net interest estimates from the economic analysis section of the 2012 budget (section 6) to net interest estimates using the other interest rate assumptions. In the OMB forecast (which ends in 2016), interest expense is expected to peak

at 3.6% of GDP in 2016 at which time it will consume 18.7 cents of every dollar the federal government collects in revenue. However, under a 6.3% interest rate assumption, interest expense consumes 30 cents of every dollar of federal revenue by 2016. Most alarmingly, a 10.4% interest rate would cause interest expense to reach 11.7% of GDP in 2016 and account for 60% of all federal revenue. By 2021, 77 cents of every dollar of federal revenue would go to paying interest on the debt. The federal government would be effectively insolvent, with a debt burden equal to more than 7-times revenues.

It's worth noting that revenues in 2021 are forecast to be 20% of GDP, or about 1.5 percentage points greater than the post-War average. Based on the Administration's GDP estimate, the 2021 interest expense in the 10.4% scenario would equal $3.8 trillion or $400 billion more than the entire 2010 budget, in nominal terms. This would also be 43% greater than what OMB expects to spend in 2021 on Social Security, Medicare, and Medicaid combined. The President's budget suggests a willingness to take risks with debt accumulation that the nation simply cannot afford.