ECONOMIC ANALYSIS

Fiscal Crisis, Part 2: Catastrophe

By Martin A. Sullivan — martysullivan@comcast.net

Last week we talked about the first stage of the U.S. fiscal crisis: the slow erosion of long-term growth because of mounting government debt. This phenomenon arises from a straightforward application of conventional supply-side economics. Government borrowing absorbs private saving that would otherwise be used for capital formation. The diminished capital stock reduces productivity, growth, and competitiveness.

This week we look at stage two: a rapid economic meltdown precipitated by an untamable accumulation of government debt. Stage two is much more difficult to understand than stage one. Government debt in distress is not something that gets much attention from economists who study developed countries. It's not something they were taught when they went to economics school. So as the possibility of a crisis has become more real, they are trying out a lot of new ideas.

One nice thing about this otherwise gloomy state of affairs is that politics has not yet infected the economics. The research that you see is not by economists who are pushing a partisan agenda, but by people who are genuinely concerned that the economy may be running itself off a cliff.

Debt Projections

What economists have come up with so far can be divided into two categories. The first involves a lot of high-powered arithmetic. That may sound like kind of a silly way to tackle such an important problem. But just by projecting the relationships between the deficit, debt, and GDP into the future, they get some important insights. What this approach tells us is that if we want to prevent the debt-to-GDP ratio from exploding, the government's "primary balance" must be roughly equal to zero. Also sometimes referred to as the primary deficit, primary balance is the name economists give to the budget balance, taking into account everything except interest paid on government debt.

The official deficit that you see reported in the newspapers is equal to the primary deficit plus interest costs. So achieving primary balance is a lot easier than balancing the budget as we conventionally think of it. But that does not mean it is easy. In the United States, the primary balance is now in deficit, and beginning around 2015 that deficit is projected to grow at an accelerated rate. Given that unrelenting path of primary deficits, the debt will eventually explode. When you hear commentators and politicians talk about the debt being unsustainable (and they are talking about it more and more lately), their comments are rooted in these arithmetic projections.

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As useful as it is, there are some aspects of this approach that seem way out of line with intuition. It gives us no clue as to what level of debt is safe and what level might be dangerous. Just as long as the debt is stable, nothing bad happens. Another unsettling implication of this approach is that under some seemingly plausible assumptions, the size of the total interest costs of the federal debt — whether a little more than 1 percent of GDP as it is now, or 10 percent of GDP as projected for the 2030s — does not affect the amount of economic pain inflicted on the government or taxpayers. In this antiseptic world, the debt that grows commensurately with GDP can be used to pay interest. The model in effect says: "Don't worry about the interest costs of the debt, no matter how large it is. Economic growth will pay for it as long as you stabilize the ratio of debt to GDP."

Debt's Drag on the Economy

Of course, nobody really believes the economy will proceed merrily along irrespective of the size of the government debt. For one thing, as we pointed out last week, growing government debt will slow capital formation and economic growth. Mechanical projections that the government publishes most frequently need to be adjusted to take this into account. The difference between the standard projection and projections adjusted for deteriorating growth can be seen in Figure 1.

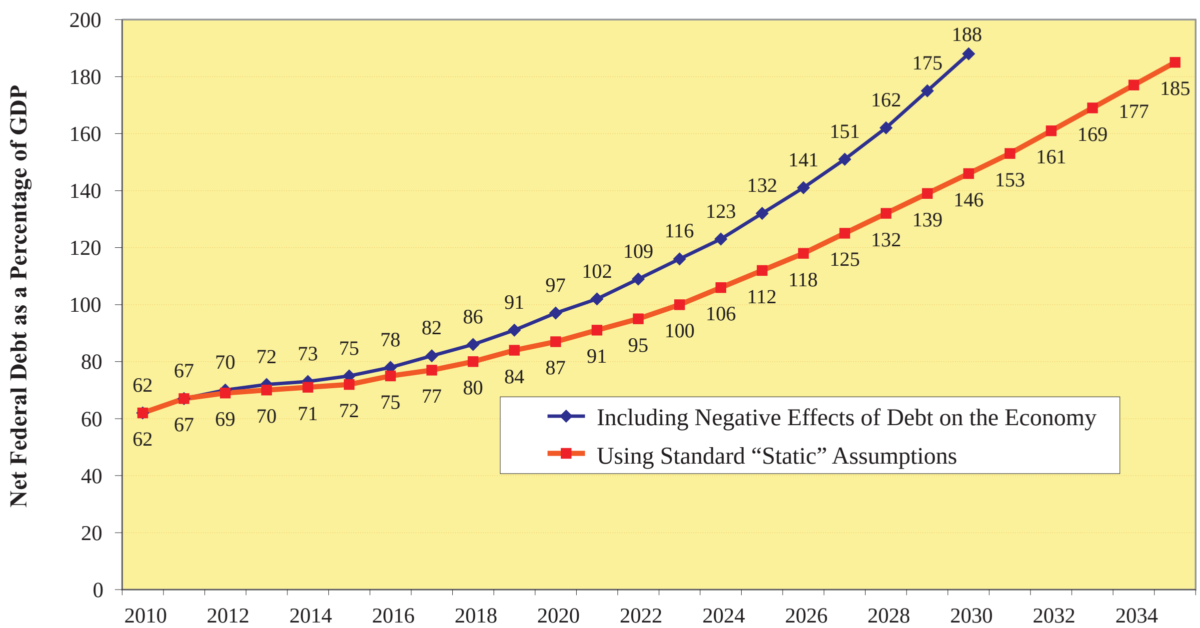
But there are other reasons to believe standard debt projections may be optimistic. We said before that in order for the debt-to-GDP ratio to be stabilized, the primary balance must *roughly* be zero. Now let's be more precise. For government finances to be sustainable — that is, for the debt-to-GDP ratio to remain constant — it must be true that:

$$PB - (i-g)D = 0$$

PB and D are the government's primary balance and accumulated debt, both expressed as a ratio of GDP. The nominal interest rate on government debt is i. And the rate of growth of nominal GDP is g.

There's intuition behind this equation. It says that if the interest rates are larger than the growth

Figure 1. Debt-to-GDP Projections With and Without Economic Effects of Higher Debt



Source: Congressional Budget Office, "The Long-Term Budget Outlook," June 2010, *Doc 2010-14510*, *2010 TNT 126-19*.

rate of the economy, the numerator of the debt-to-GDP ratio will grow faster than the denominator. Therefore, we must do better than balance the primary budget in order to remain on a sustainable path. So, for example, if the government interest rate is 5 percent, GDP growth is 4 percent, and the debt-to-GDP ratio is 0.5, the government must run a primary surplus of 0.5 percent of GDP for sustainability.

This simple equation has important implications. As the debt-to-GDP ratio grows, it will become increasingly difficult to get back on a sustainable budget path. For example, if the interest rate exceeds the growth rate by 1 percent and the debt-to-GDP ratio grows to 1.5, then the government must run a surplus of 1.5 percent of GDP to stay on a sustainable path.

> ***Rising debt levels increase the probability of default. Once expectations of default infect the markets, events can spin out of control.***

Now, in normal times the values of i and g will move up and down, but in the long run they tend to be equal. That's why economists will often just ignore the second term of our equation and for brevity's sake will simply say debt sustainability requires the primary balance to be zero. But in times of crisis, an economy will tend to have high interest rates and low growth. In this scenario, the difference between the interest rate and the growth rate — normally no big deal — becomes critically important. When an economy is fragile, the government must put in extra effort to get its finances on a sustainable path.

Self-Fulfilling Debt Explosion

Several economists (references at the end of this article) have described a scenario in which borrowers rapidly lose confidence in the government's ability to repay its debt. Expectations of default — or of a rapid inflation to lessen the burden of debt — could have immediate implications that accelerate the onset, and increase the probability, of default.

If the probability of default is small, and the necessary risk premium raises the interest rate only slightly, this may be an unwelcome development, but it does not by itself lead to a market meltdown. But at some point the probability of default is large enough that the resulting increase in interest rates and other collateral economic damage feeds on itself and sets off a chain of events that cascades out of control.

What kind of events? Concerns about default raise interest rates, but then higher interest rates on government bonds further add to investors' concerns about solvency. But problems are not limited to bond markets. Higher interest rates can also indirectly weaken government finances by weakening the economy. Higher interest rates slow business spending on capital and consumer spending on durables. Higher interest rates reduce private-sector wealth. Business, investor, and consumer confidence falls. Perhaps most worrisome is the possibility that higher interest rates could set off a round of bankruptcies and bank failures. And because of the size and centrality of the U.S. economy, other countries throughout the world would experience similar difficulties — reducing demand for exports. All of these developments shrink the domestic economy and further reduce tax revenue and feed fears about the riskiness of U.S. government debt.

Needless to say, this avalanche of adversity is overwhelming. Emotionally, it scares us. We don't like to think about our family and our country suffering economic hardship in an economy plagued with bewildering uncertainty. Intellectually, it overloads our capacity to comprehend the complex interactions of powerful and unfamiliar forces. As economists Laurence Ball and N. Gregory Mankiw have written: ''Hard landings are hard to think about because things can go wrong in such a rich variety of ways.''

Reference Point

To help disentangle the confusing dynamics of a market meltdown, we need a point of reference. One comes from a recent IMF paper by Ostry, Ghosh, Kim, and Qureshi. The authors point out that forward-looking investors must believe that the government will eventually be able to stabilize its debt-to-GDP level. For this to be true, they must believe that the government will be able to satisfy the equation for an extended period some time in the future.

Even if all that is needed is for the primary balance to be zero (and we believe that in times of crisis, the primary balance would have to be in surplus), this requires a tremendous leap of faith on the part of financial markets. Current projections indicate that without significant policy changes, the primary balance will be deeply in deficit, and the political environment gives little hope that our leaders can reach agreement on the large amount of deficit reduction necessary to stabilize debt.

Figure 2 tries to summarize the main points we have discussed so far. On the horizontal axis is time. On the vertical axis is the primary balance necessary to stabilize the debt. Currently, our actual primary balances are below this ideal, and so, over time, the debt-to-GDP ratio is growing.

Let's first look at the solid line. At first (Period A) the economy and government finances are doing nicely. Debt may be growing, but it has little effect on the economy. The difference between i and g is zero. Over time the rising debt level causes interest rates to rise and growth to shrink. The difference between i and g grows (Period B). The primary balance needed for sustainability is positive. But markets take it all in stride, and there is no panic.

> ***We may not have much warning before rising uncertainty develops into catastrophe.***

But as the debt levels continue to grow, the market expectations of default are sufficiently large that rising rates and other adverse economic effects speed up the growth of debt. We find ourselves in a vicious cycle (Period C). Economists call this an unstable equilibrium, and it does not resolve itself until the probability of default is so large that there is no rate of interest that will induce borrowers to purchase government bonds.

Political Will

The IMF paper adds another factor into the mix. The authors point out that it is natural to expect (and they have empirical evidence to back up this assertion) that governments with higher debt levels will make stronger efforts to reduce them, but — and this is the important part — there is only so far they will go. Ultimately the spending cuts and tax increases necessary for sustainability are simply too painful for the politicians to accept. The dashed line in Figure 2 portrays the political limits of deficit reduction.

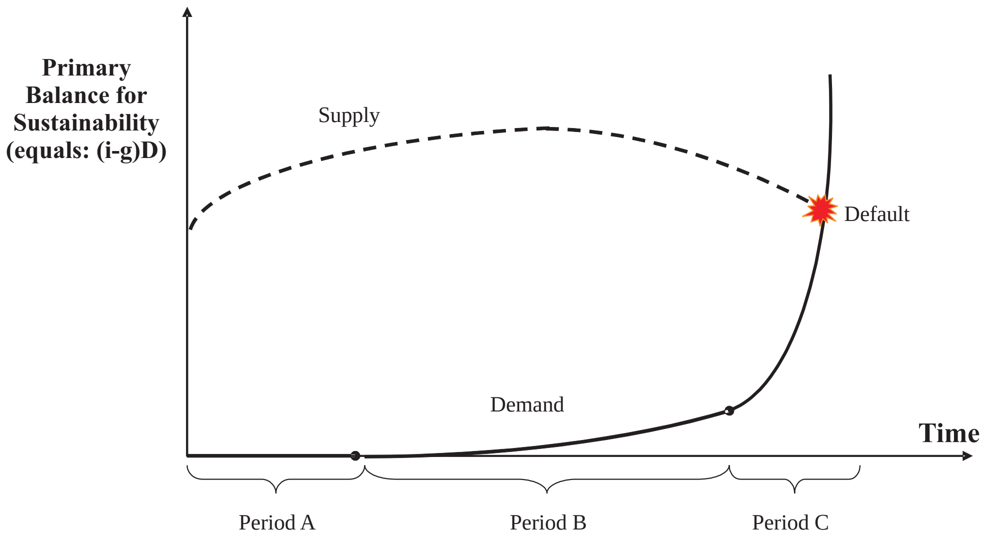
For the purposes of illustration, we show political will first growing, then leveling off, and then declining. We expect it to grow at first because as the debt grows, politicians may become more motivated to take action to get the economy on a sustainable path. But, as posited by the IMF economists, governments have limits. We have added a declining political will in Figure 2 to reflect the increased difficulty of moving to a primary surplus as society ages and healthcare costs escalate.

Implications

We are in uncharted economic territory. We cannot be sure of what danger lies ahead or how fast it may arrive at our doorstep. But at least economists are providing some useful ideas to help us better conceptualize the problem.

With their help we can see that we absolutely want to be vigilant about any risk premium creeping into the government's interest rate. It surely will precede any bond market meltdown. But that is not enough. The dynamics are such that we may not

Figure 2. The Supply and Demand for Deficit Reduction



have much warning before uncertainty suddenly develops into a catastrophe.

We can also see that when government debt levels are high, any unexpected spike in interest rates is a threat to solvency, irrespective of the cause of that increase. The shock could be generated by the government itself taking on too much debt (as discussed above), or it can come from outside events that are not directly related to government policy.

In the last few years, we have enjoyed spectacularly low interest rates. Initially this was because of the huge inflow of saving emanating from developing economies, particularly China. More recently it has been reinforced by the massive increase in saving resulting from the worldwide recession. In the long run, we will be unable to rely on either of these phenomena to continue dulling the pain and danger of a rapidly growing debt.

> ***Because the growing debt threatens our economic health, we must be keenly aware that growth may slow and exacerbate our debt problem.***

Economics also shows us that long-term economic growth plays a critical role in maintaining fiscal stability. This does not mean — as many hope — that there is any reasonable chance that we can grow our way out of this problem. On the contrary, because the growing debt threatens our economic health, we must be keenly aware that growth may slow and exacerbate our debt problem. With a large debt and uncertainty about future growth, there are downside risks.

Finally, it is clear that politics and confidence in our political system play a critical role in forestalling a bond market meltdown. We know, unfortunately, that in our current political climate the federal government will not be undertaking the steps needed to put its finances on a sustainable path. The markets right now believe that this will change dramatically before default is a problem. When push comes to shove, we will buckle down. It seems the investors are taking the Churchillian view: ''Americans can always be counted on to do the right thing . . . after they have exhausted all other possibilities.'' Let's hope there's time for that.

Background Reading

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Obama, Democrats Open to Compromise on Expiring Tax Cuts

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One day after the Republican Party gained control of the House and at least six Senate seats, President Obama and Democratic leaders vowed to work with lawmakers across the aisle on contentious tax issues such as extension of the 2001 and 2003 tax cuts.

Obama said during a White House press conference November 3 that he will sit down with congressional leaders from both parties to try to work out a compromise on the tax cuts. He made clear that he is willing to reconsider his long-stated policy of extending the cuts only for individuals making less than $200,000 and families making less than $250,000.

> ***Asked whether he is willing to compromise on the tax cuts, Obama responded, 'Absolutely.'***

"My hope is, given that we all have an interest in growing the economy and encouraging job growth, that we're not going to play brinksmanship but instead we're going to act responsibly," Obama said. Asked whether he is willing to compromise on the tax cuts, he responded, "Absolutely."

Obama's remarks reflect a sea change compared with his comments on the tax cuts before the elections. Although he previously did not reject a compromise on the cuts, he did not endorse one either.

The president said he does not think the outcome of the midterm elections indicates voters' rejection of his administration's record, but instead is a sign that people are frustrated with the pace of the economic recovery. Obama said he takes responsibility for the electorate's dissatisfaction and that he will work with businesses to find ways to promote job creation.

To that end, Democrats and Republicans should work together to pass legislation on the tax extenders, including the research credit, to provide more certainty to businesses, Obama said. Another item to aid businesses that he said both parties could agree on is relaxation of the new information reporting requirements for businesses enacted in the healthcare reform legislation, an unpopular policy that lawmakers have so far been unable to modify. (For prior coverage, see *Tax Notes*, Sept. 20, 2010, p. 1219.)