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The Stimulus Evidence One Year On

Over five years, my research shows an extra \$600 billion of public spending at the cost of \$900 billion in private expenditure. That's a bad deal.

By ROBERT J. BARRO

The first anniversary of the Obama stimulus package generated a lot of discussion about whether and how much the package (originally estimated at \$787 billion but now priced at \$862 billion) moderated the recession. These are complex questions, and their answers require more than merely counting the quantity of goods and services that the government purchased or the number of people that the government hired.

We need to ask whether the government's spending reduced or enhanced private spending and whether public-sector hiring lowered or raised private hiring. This requires an empirical model based on the history of past fiscal actions in the U.S. or other countries. The administration must have such a model, but my own analysis makes me skeptical about the numbers they've reported about GDP increases and saved jobs.

To realistically evaluate the stimulus, I've been using long-term U.S. macroeconomic data to estimate some key economic relationships: the effects on GDP from increased government purchases (the spending multiplier) and from increased taxes (the tax multiplier).

For spending, the main results come from fluctuations in defense outlays associated with major wars such as World War I, World War II and the Korean War. The data feature large positive values in the early stages of wars (extra spending of 26% of GDP in 1942) and large negative values in war aftermaths (27% of GDP in 1946).

Although stimulus packages usually concentrate on nondefense outlays, the information from defense spending is useful for two reasons. First, the defense-spending multiplier can be precisely estimated from the available data and, second, this multiplier provides a reasonable gauge (and likely an upper bound because of the strong wartime boost to labor supply due to patriotism) for the effects of nondefense government purchases.

I estimate a spending multiplier of around 0.4 within the same year and about 0.6 over two years. Thus, if the government spends an extra \$300 billion in each of 2009 and 2010, GDP would be higher than otherwise by \$120 billion in 2009 and \$180 billion in 2010. These results apply for given taxes and, therefore, when spending is deficit-financed, as in 2009 and 2010. Since the multipliers are less than one, the heightened government outlays reduce other parts of GDP such as personal consumer expenditure, private domestic investment and net exports.

For taxes, I focus on a newly constructed measure of average marginal income-tax rates; these rates apply to federal and state income taxes and the Social Security payroll tax. I estimate that an

increase in marginal tax rates reduces GDP, particularly in the next year. When one factors in the typical relationship between tax rates and tax revenue, the multiplier is around minus 1.1. Hence, an increase in taxes by \$300 billion lowers GDP the next year by about \$330 billion.

Christina Romer, the chair of President Obama's Council of Economic Advisers, and her husband, David, have been major contributors to research on tax multipliers. Their results, which rely on the history of U.S. tax legislation since 1945, show tax multipliers of larger magnitude than the one I found. (So my conclusions here—based on the coming increases in taxes—would be strengthened if I switched to their estimates.) By contrast, I have not seen serious scientific research by Ms. Romer on spending multipliers, so I cannot understand her rationale for assuming values well above one, as she has apparently done when evaluating the fiscal stimulus plan. If the spending multiplier were really larger than one, it would mean that GDP would rise by even more than the rise in government spending.

My estimates allow me to assess the 2009-10 fiscal-stimulus package, which I characterize as roughly \$300 billion of added government purchases in each of 2009 and 2010. I assume that, as of 2011, government spending goes back down to its 2008 level, although I could assume—perhaps more realistically—that the added spending is permanent.

I suppose that taxes do not change in 2009-10, so that the incremental spending is deficit-financed. The spending multipliers that come from my research imply that GDP rises by \$120 billion (or 0.8% of GDP) in 2009 and \$180 billion (or 1.2% of GDP in 2010)—all compared to the baseline of no stimulus package. These results imply that other parts of GDP fall by \$180 billion in 2009 and \$120 billion in 2010.

In other words, the deal looks pretty good in the short run because we "buy" the added government outlays by paying 60 cents on the dollar in 2009 (losing 180 in private spending to get 300 in government spending) and 40 cents on the dollar in 2010.

How attractive this short-run deal looks depends on how much one values the added governmental activity. If it's considered useful public investment—such as building a needed highway or, more modestly, fixing potholes—it might look good. If it's wasteful spending in a hastily constructed and highly political stimulus package, it looks bad.

But these calculations are not nearly the end of the story, because the added \$600 billion of government spending leads to a correspondingly larger public debt. These added obligations must be paid for sometime by raising taxes (unless future government spending declines below its 2008 level, an unlikely scenario).

I suppose that the government collects an additional \$300 billion of taxes in each of 2011 and 2012. The timing of the future taxes does not matter for the main calculations—the key point is that the government has no free lunch and must collect the extra taxes eventually. Since I assume a tax multiplier of minus 1.1, applying with a one-year lag, the higher taxes reduce GDP by \$330 billion in each of 2012 and 2013.

We can now put the elements together to form a "five-year plan" from 2009 to 2013. The path of incremental government outlays over the five years in billions of dollars is +300, +300, 0, 0, 0, which adds up to +600. The path for GDP is +120, +180, +60, minus 330, minus 330, adding up to minus 300. GDP falls overall because the famous "balanced-budget multiplier"—the response of GDP when government spending and taxes rise together—is negative. This result accords with the familiar pattern whereby countries with larger public sectors tend to grow slower over the long term.

The projected effect on other parts of GDP (consumer expenditure, private investment, net exports) is minus 180, minus 120, +60, minus 330, minus 330, which adds up to minus 900. Thus,

3/17/2010

Robert J. Barro: The Stimulus Evidenc...

viewed over five years, the fiscal stimulus package is a way to get an extra \$600 billion of public spending at the cost of \$900 billion in private expenditure. This is a bad deal.

The fiscal stimulus package of 2009 was a mistake. It follows that an additional stimulus package in 2010 would be another mistake.

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