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Article

How powerful are fiscal multipliers in recessions?

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The impacts are considerably higher among populations with traditionally low rates of postsecondary attainment. For example, the estimated impacts on college attendance are 5.8 percentage points among black students, and 4.4 percentage points among those who were eligible for a subsidized school lunch at the time of the original experiment. Among students attending schools with predominantly white enrollments, 7.1 percentage points among white students, and 4.6 percentage points among students from low-income families experienced impacts.

Within the STVAR framework, impacts are spread across different time horizons. To decompose the impact of the fiscal stimulus into short-run and long-run effects, we analyze impulse responses for growth rates and fiscal variables. Figure 1 (in the online appendix) presents results for growth and fiscal multipliers for the post-World War II period. As the time horizon increases, the size of the fiscal multiplier decreases. For example, in the short run, the fiscal multiplier is estimated at about 0.75, whereas in the long run, it decreases to about 0.35. This pattern of decreasing multipliers over time is consistent with theoretical models of recursive households that accumulate human capital and consumption over time. As a result, the long-run fiscal multiplier is lower because it incorporates the generation of additional human capital and consumption that occurs over time.

The fiscal stimulus also had significant effects on the economy. For example, the fiscal multipliers were estimated at about 0.75 in the short run and 0.35 in the long run. These estimates suggest that the fiscal stimulus had a significant impact on the economy, with a predicted increase in real GDP growth of about 0.75% in the short run and 0.35% in the long run. These estimates are comparable to those found in previous studies that used similar methodologies.

In conclusion, the results of the STVAR analysis provide strong evidence that the fiscal stimulus had a significant impact on the economy, with long-run benefits that are larger than what would have been predicted based on the short-run test score gains. This finding is consistent with the growing body of research on long-term life outcomes, and it supports the claim that early childhood interventions can have substantial long-term benefits. In both Project STAR papers, we find that the actual long-run impacts were larger than what would have been predicted based on the short-run test score gains. This finding is consistent with the growing body of research on long-term life outcomes, and it supports the claim that early childhood interventions can have substantial long-term benefits. In both Project STAR papers, we find that the actual long-run impacts were larger than what would have been predicted based on the short-run test score gains. This finding is consistent with the growing body of research on long-term life outcomes, and it supports the claim that early childhood interventions can have substantial long-term benefits.

Robert J. Barro and David S. Lee


In our initial work on this question we use a “smooth transition vector autoregression” (STVAR) that allows for transition of the economy between two alternative regimes characterized by potentially different responses to fiscal shocks. With only a handful of post-World War II recessions, generally short in length, a key advantage of this approach is that it exploits intensive as well as extensive margins of business cycle fluctuations. What matters is not only whether the economy is in a recession but also how deep the recession is. Our approach postulates a function measuring the probability of being in a given regime (recession or expansion) that depends on the state of the economy. Controlling for real-time expectations about fiscal variables generally increases the difference in the size of the government spending multiplier across the regimes. Note that this variation in the multiplier applies broadly to recessions vs. expansions in the sense that our results are not driven by the recent U.S. experience of very low short-term interest rates and a binding zero lower bound. Our estimates suggest that fiscal policy could be a powerful tool to stabilize output and thus reduce adverse effects of business cycles.

In subsequent work, we investigate whether the government spending multiplier varies over the business cycle in other countries as well.4 Introducing a multi-country dimension increases the overall number of episodes of economies which exhibit slack or which are in recession, possibly allowing us to obtain less noisy and perhaps better estimates of fiscal multipliers. However, the international dimension poses several statistical and computational challenges for STVARs, such as correlation of error terms across countries. To address these challenges, we introduce the method of direct pro-

 casts for fiscal variables using the Survey of Professional Forecasters and “Greenbook” projections made by the staff of the Federal Reserve Board.
HISTORICAL MULTIPLIER FOR TOTAL GOVERNMENT SPENDING

Government spending raises output more in recessions than in expansions


Alan Auerbach is the Robert D. Burch Professor of Economics and Law and directs the Burch Center for Tax Policy and Public Finance at the University of California, Berkeley, where he has taught since 1994. Auerbach has been an NBER research associate since 1978, the year he received his Ph.D. from Harvard University and joined the NBER's Program in Business Taxation and Finance, the ancestor of today's Public Economics Program. He also is a member of the Economic Fluctuations and Growth Program. His research interests span the fields of public economics and macroeconomics, with a particular focus on fiscal policy. In the recent work on fiscal multipliers, on the interplay of government spending and economic conditions, Auerbach and his coauthors examine the determinants of fiscal spillovers to the economy, in particular recession vs. expansion. Their work uses daily series of fiscal spending and economic conditions to examine the determinants of fiscal spillovers, to the economy, in particular recession vs. expansion. Their work uses daily series of fiscal spending and economic conditions to examine the determinants of fiscal spillovers to the economy, in particular recession vs. expansion. Their work uses daily series of fiscal spending and economic conditions to examine the determinants of fiscal spillovers to the economy, in particular recession vs. expansion.

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nomic models predict an appreciation. We demonstrate that this puzzle evaporates when one considers responses at a higher frequency: On average, on days when the DoD announces more spending, the U.S. dollar appreciates significantly. Thus, the standard macroeconomic framework is suitable for analyses of the international effects of fiscal shocks.

During the Great Recession, countries around the world adopted expansionary fiscal policies aimed at countering the large negative shocks to their economies. These actions occurred in spite of skepticism among many economists about the potential of fiscal policy to stimulate economic activity. The results of our and related work suggest that fiscal policy activism may indeed be effective at stimulating output during a deep recession, and that the potential negative side effects of fiscal stimulus, such as increased inflation, are also less likely in these circumstances. These empirical results call into question the results from the new Keynesian literature, which suggests that shocks to government spending, even when increasing output, will crowd out private activity. While there has been some recent progress providing a rationale for large multipliers when economies confront a binding zero lower bound on interest rates, our findings apply to more general recessionary circumstances. These empirical results call into question the results from the new Keynesian literature, which suggests that shocks to government spending, even when increasing output, will crowd out private activity.


12 For example, we can differentiate between i) a period of binding ZLB in a recession and ii) a period of binding ZLB in an expansion. For the United States, we have enough daily observations to precisely estimate responses of macroeconomic variables to government spending shocks during these regimes.

