The Net Fiscal Expenditure Stimulus in the U.S., 2008-9: Less than What You Might Think, and Less than the Fiscal Stimuli of Most OECD Countries

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The fiscal fatigue in the U.S. echoes the disappointments from the slow phase of employment recovery. Yet, the anaemic employment gains probably reflect both the depth of the crisis, and the failure of the fiscal policy in the U.S. to stimulate aggregate fiscal expenditure, measured by its direct contribution to aggregate demand. Indeed, our research shows that the aggregate fiscal expenditure stimulus in the United States, properly adjusted for the declining fiscal expenditure of the fifty states, was close to zero in 2009. While the federal government stimulus prevented a net decline in aggregate fiscal expenditure, it did not stimulate this expenditure above its predicted mean. Furthermore, the USA is ranked at the bottom third in terms of the rate of expansion of the consolidated government consumption and investment of the 28 OECD countries we studied recently.

To recap, the financial crisis of 2008-9 led to a massive bailout of the financial system, and significant fiscal stimulus by the United States federal government. Despite this massive stimulus, unemployment reached two digit figures, leading some observers to question the efficacy of fiscal policy. Recent research raised questions about the size of the fiscal multiplier in the U.S., as well as about possible adverse effects of higher future debt overhang. Given that the counterfactual of the performance of the U.S. economy in the absence of the fiscal stimulus is hard to ascertain, one may thus question its effectiveness, and hence the logic of continuing it. Before taking a position on these vexing issues, it's pertinent to ascertain the net size of the fiscal expenditure stimulus of the real sector. This issue is of key importance in a federal system like the U.S., where the fifty states are self-restrained from borrowing in recessions, and frequently refrain from raising taxes in times of collapsing tax bases. While the debate about the efficacy of fiscal stimulus continues, our paper does not deal with it. Instead, we focus on the key prior question—WAS there a net stimulus? The short answer is that without the ARRA (The American Recovery and Reinvestment Act), there would have been a large government-level contraction. This follows from the observation that there was a large federal stimulus, but the states cut back a lot

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relative to trend, and the federal expenditure largely only managed to offset that.

DEFINING FISCAL STIMULUS

In order to address these issues, we distinguish between the "pure fiscal expenditure" and the published total expenditure. The "pure fiscal expenditure," or simply, fiscal expenditure of the textbook variety, is defined as the sum of government consumption and government gross investment whereas the published total expenditure equals this pure fiscal expenditure plus transfers. Excluding transfer payments (i.e. analyzing government expenditures net of the transfers to financial sector and automatic stabilizers like higher unemployment benefits that were a consequence of the higher unemployment levels) allows us to consider the impact of the government consumption and investment driven fiscal stimulus. Although this means we also exclude the tax cuts that were part of the ARRA, pure fiscal expenditures are the government expenditure levels relevant for computing the Keynesian fiscal multiplier and the debate on the efficacy of fiscal policy often focuses on the size of these multipliers. We define an increase in these expenditures during a recession as a fiscal stimulus.

While a large literature defines countercyclical fiscal policy as one with positive correlation between fiscal surplus and output, we focus on actual government spending. Following the paper published in NBER Macroeconomics Annual in 2004 by Kaminsky, Reinhart and Vegh, we focus on government instruments to smooth business cycles, not on outcomes like fiscal deficit or surplus, which are endogenous and may lead to misleading conclusions about the fiscal policy stance. For example, the government may be raising tax rates in the recession and cutting expenditure, yet running a fiscal deficit because the tax base is smaller.

HOW LARGE WAS THE U.S. FISCAL STIMULUS DURING THE GREAT RECESSION?

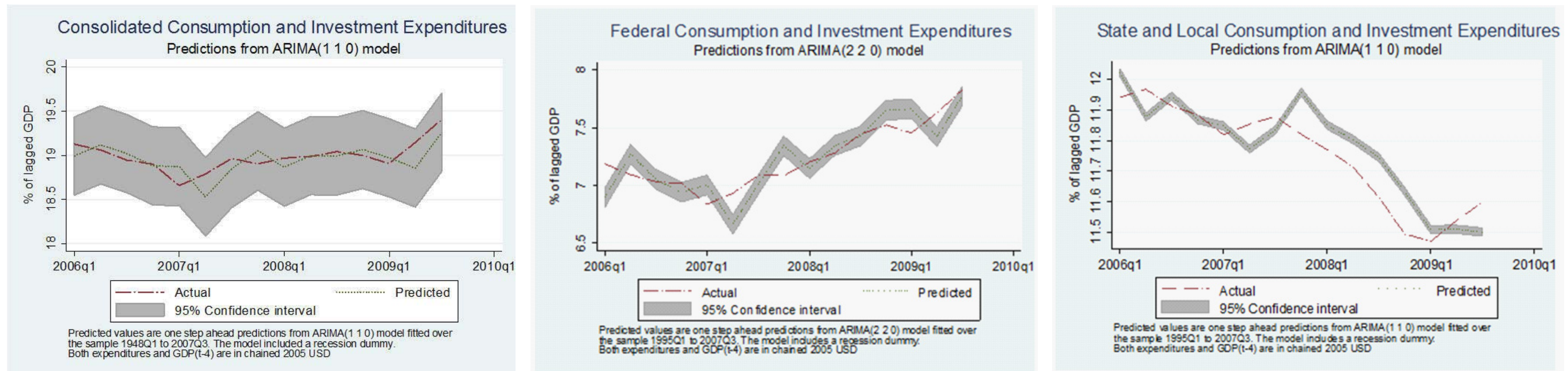
Applying the data from Bureau of Economic Analysis (BEA), in our 2010 NBER working paper, we noted that during the crisis, state and local fiscal expenditures measured in real terms dropped from 11.67 percent of 2007 GDP in 2008Q3 to 11.66 percent of 2007 GDP in 2009Q3 while the federal fiscal expenditures rose from 7.48 percent to 7.87 percent of 2007 GDP over the same period. The consolidated fiscal expenditures therefore rose from USD 2536.6 billion in real terms in 2008Q3 to USD 2585.5 billion in 2009Q3, or from 19.14 percent to 19.51 percent of 2007 GDP. Moreover, all the three series fell before rising—as the economy was in a tailspin in the first quarter of 2009, both federal and state fiscal expenditures were falling with it. During the crisis, from 2008Q3 to 2009Q3, state and local fiscal expenditures plus transfers rose by USD 20.43 billion, or 0.15 percent of 2007 GDP. The federal fiscal expenditures plus transfers increased by 3.13 percent of 2007 GDP, resulting with a net increase of the consolidated fiscal expenditures plus transfers.

In order to better understand the actual magnitude of the fiscal stimulus, we proceeded by focusing on the patterns of the three (consolidated, federal and state and local) fiscal expenditure time series relative to GDP. Considering fiscal policy lags, fiscal expenditure today may reflect decisions undertaken a period ago, which reflect GDP at that time. We looked at the three fiscal expenditure time series, normalized by four-quarter lagged

GDP, investigating the predicted series of one-step-ahead forecasts using the proper ARIMA structure. We also added a dummy variable which takes the value 1 during NBER recession periods and is 0 otherwise. We estimated to model values for the sample period up to and including 2007Q3, and then computed the one-step ahead predictions as well as the associated confidence intervals. We found that the consolidated fiscal expenditure was well within the confidence interval of prediction for the entire time period between 2006Q1 and 2009Q3. This was largely because that while federal expenditures were rising, state and local government expenditures went into a free fall, stabilizing only after 2009Q1 (Figure 1). In fact, for all of 2008, state and local fiscal expenditures were significantly below what could be predicted using historical data. The figure clearly reveals that the fiscal expenditure stimulus did not expand the consolidated fiscal expenditure above the predicted level.

We also examined the actual and predicted values of fiscal expenditures plus transfers, along with the confidence intervals around one-step-ahead predictions made using the appropriate ARIMA structure. While the consolidated fiscal expenditure plus transfers was outside the confidence interval in two of the five quarters up to 2009Q3, it exceeded the upper bound by at most 0.6 percentage points, and fell back within the confidence interval in 2009Q3. Thus, even taking into account the transfers to the financial sector and the automatic stabilizers built into the system, the federal stimulus did not expand the consolidated fiscal expenditure significantly above the predicted level. Moreover, even this limited impact may now be over. Our findings

Figure 1
Pure Fiscal Expenditures/Lagged GDP, 2006-2009



echo those of Cary Brown (1956), who examined the fiscal stimulus in the U.S. during the 1930s and concluded that "fiscal policy, then, seems to have been an unsuccessful recovery device in the 'thirties—not because it did not work, but because it was not tried."

To put it in the global perspective, in our 2011 NBER working paper, we studied the patterns of fiscal stimuli in the OECD countries propagated by the global crisis. Overall, we found that the USA net fiscal stimulus was modest relative to peers. The USA is ranked at the bottom third in terms of the rate of expansion of the consolidated government consumption and investment of the 28 countries in sample. Contrary to historical experience, emerging markets had strongly countercyclical policy during the period immediately preceding the Great Recession and the Great Recession. Many developed OECD countries had a procyclical fiscal policy stance in the same periods. Contrary to the U.S. experience, other federal unions on average saw larger net fiscal stimulus than their counterparts. There was no significant net fiscal stimulus without stimulating the expenditure of regional governments. We also found that greater net fiscal stimulus was associated with lower flow costs of general government debt in the same or subsequent period, contradicting the view that markets penalized countries that expanded spending during the Great Recession.

OBSTACLES FOR NET STIMULUS

Understanding the reasons for the lack of greater net fiscal expenditure stimulus in the aftermath of the deepest recession of the last fifty years is essential. One explanation is provided by the moral hazard concerns associated with common pool challenges of a fiscal union. The concern is that in a federal system, benefits of public expenditure tend to be enjoyed at the local level, but are at least partly financed from a common pool of federal resources. This asymmetry may lead to a bias towards excessive public expenditure at the local level, shifting the funding cost to the federal level. This situation implies a spending pressure towards federal funds, possibly strategic behaviour, in all a bias to overspending (tax the other states to fund your bridges). Another explanation for the lack of a larger stimulus is that the present trajectory of the U.S. public debt/GDP, in the absences of concrete plans for fiscal consolidation, is a cause for concern.

The limits on state borrowings in a federal union may be rationalized by the concern that the absence of such limits may induce competitive borrowing by states, expecting the federal government to bail them out in due course. In an article published in the American Economic Review, von Hagen and Eichengreen showed that empirically, this is an important concern in a highly centralized federal union, where most of the tax revenue is 'owned' by the federal government (curiously, this argument suggests for the federal government to require the states to run balanced budgets, yet the limits on states deficits in the U.S. are mostly self-imposed at the states level). There is also the apprehension that transferring federal resources to states with deeper tax revenue shortfalls would 'reward' states that were less prudent, and penalize states that designed a more stable tax base and a precautionary pool of 'saving for the rainy day' in good times in order to provide the cushion for bad times. While this moral hazard concern is important, in principle one could design a federal stimulus program that

would involve transfers to states but would not reward states that had made past fiscal mistakes.

Another concern restraining public support for greater federal stimulus may be the long run implications of a net stimulus, i.e. increasing the future debt overhang. Observers like Auerbach and Gale have noted that even before the crisis, the public debt trajectory was unsustainable, and fiscal reform was needed. Recognizing the gravity of the recession induced by the financial crisis may call for coupling any federal fiscal stimulus with outlining a credible medium term plan for fiscal consolidation. In fact, independent of the fiscal stimulus triggered by the great recession, concerns about the future path of the public debt/GDP remain a serious policy challenge for the U.S.

To summarize, the federal fiscal expenditure stimulus in the U.S. during the great recession mostly compensated for the negative state and local stimuli associated with the collapsing tax revenue and the limited borrowing capacity of the states. While this was a significant accomplishment, the net effect was that the consolidated fiscal expenditure stimulus was small. This observation is pertinent in explaining the anaemic reaction of the overall U.S. economy to the allegedly "big federal fiscal stimulus."

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