Brief Summary of Some of the Cross-Section and Panel Estimates of Fiscal Multipliers

The American Recovery and Reinvestment Act (ARRA) of 2009 included $88 billion of aid to state governments administered through the Medicaid reimbursement process. We examine the effect of these transfers on states' employment. Because state fiscal relief outlays are endogenous to a state's economic environment, OLS results are biased downward. We address this problem by using a state's prerecession Medicaid spending level to instrument for ARRA state fiscal relief. In our preferred specification, a state's receipt of a marginal $100,000 in Medicaid outlays results in an additional 3.8 job-years, 3.2 of which are outside the government, health, and education sectors.

This paper estimates the "jobs multiplier" of fiscal stimulus spending using the state-level allocations of federal stimulus funds from the American Recovery and Reinvestment Act (ARRA) of 2009. Because the level and timing of stimulus funds that a state receives was potentially endogenous, I exploit the fact that most of these funds were allocated according to exogenous formulary allocation factors such as the number of federal highway miles in a state or its youth share of population. Cross-state IV results indicate that ARRA spending in its first year yielded about eight jobs per million dollars spent, or $125,000 per job.
Did the Stimulus Stimulate? Effects of the American Recovery and Reinvestment Act
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We use state and county level variation to examine the impact of the American Recovery and Reinvestment Act on employment. A cross state analysis suggests that one additional job was created by each $107,000 in stimulus spending. Time series analysis at the state level suggests a smaller response with a per job cost of about $400,000. These results imply Keynesian multipliers between 0.5 and 1.0, somewhat lower than those assumed by the administration. However, the overall results mask considerable variation for different types of spending. Grants to states for education do not appear to have created any additional jobs. Support programs for low income households and infrastructure spending are found to be highly expansionary. Estimates excluding education spending suggest fiscal policy multipliers of about .67 with a per job cost of $267,000.
The American Recovery and Reinvestment Act: Solely a government jobs program?
Timothy G. Conley and Bill Dupor

Abstract
This paper estimates the private and government sector employment effects of American Recovery and Reinvestment Act (ARRA) spending via an instrumental variables strategy. We argue that this aid was effectively fungible and states used it to offset declines in revenue. This enables us to use exogenous variation in states’ budget positions to identify the Act's employment effects. We also exploit exogenous variation across states in ARRA highway funding. According to our benchmark estimates, average state and local government employment, during the 24 months following the program's inception, was between 156,000 and 563,000 persons greater as a result of ARRA spending (90% confidence interval). The corresponding estimate for the private sector ranges from a loss of 182,000 to a gain of 1.1 million jobs. Our point estimate for the implied cost of creating a job lasting one year is $202,000, which is substantially larger than the corresponding estimate from the President's Council of Economic Advisors.

We use rich historical data on military procurement to estimate the effects of government spending. We exploit regional variation in military build-ups to estimate an "open economy relative multiplier" of approximately 1.5. We develop a framework for interpreting this estimate and relating it to estimates of the standard closed economy aggregate multiplier. The latter is highly sensitive to how strongly aggregate monetary and tax policy "leans against the wind." Our open economy relative multiplier "differences out" these effects because monetary and tax policies are uniform across the nation. Our evidence indicates that demand shocks can have large effects on output.

We analyze the effects of government spending in a monetary and fiscal union—the United States. We estimate the effect that an increase in government spending in one region of the union relative to another has on relative output and employment. We refer to this as the “open economy relative multiplier.” We use variation in regional military procurement associated with aggregate military buildups and drawdowns to estimate these effects. The “open economy relative multiplier” we estimate differs conceptually from the more familiar “closed economy aggregate multiplier” that one might estimate using aggregate US data. At first glance, this might seem to be a pure disadvantage, since much interest is focused on the closed economy aggregate multiplier. We show, however, that the open economy relative multiplier has important advantages. These advantages stem from the fact that relative policy is precisely pinned down across regions in the United States: The Federal Reserve cannot raise interest rates in some states relative to others, and federal tax policy is common across states in the union.
We provide explicit solutions for government spending multipliers during a liquidity trap and within a fixed exchange regime using standard closed and open-economy models. We confirm the potential for large multipliers during liquidity traps. For a currency union, we show that self-financed multipliers are small, always below unity. However, outside transfers or windfalls can generate larger responses in output, whether or not they are spent by the government. Our solutions are relevant for local and national multipliers, providing insight into the economic mechanisms at work as well as the testable implications of these models.

In the context of a currency union, our results uncover the importance of transfers from the outside, from other countries or regions. In the short run, when prices haven’t fully adjusted, positive transfers from the rest of the world increase the demand for home goods, stimulating output. We compute “transfer multipliers” that capture the response of the economy to transfers from the outside. We show that these multipliers may be large and depend crucially on the degree of openness of the domestic economy.

Outside transfers are often tied to government spending. In the United States federal military spending allocated to a particular state is financed by the country as a whole. The same is true for exogenous differences in stimulus payments, due to idiosyncratic provisions in the law. Likewise, idiosyncratic portfolio returns accruing to a particular state’s coffers represent a windfall for this state against the rest. When changes in spending are financed by such outside transfers, the associated multipliers are a combination of self-financed multipliers and transfer multipliers. As a result, multipliers may be substantially larger than one.

Finally, we explore non-Ricardian effects from fiscal policy by introducing hand-to-mouth consumers. We think of this as a tractable way of modeling liquidity constraints. In both in a liquidity trap and in a currency union, government spending now has an additional stimulative effect. It increases the income and consumption of hand-to-mouth agents. This effects is largest when spending is deficit financed; indeed, the effects may in some cases depend entirely on deficits, not spending per se. Overall, although hand to mouth consumers introduce an additional effect most of our conclusions, such as the comparison of fiscal multipliers in a liquidity trap and a currency union, are unaffected.