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Valuing the Government-Spending Multiplier: Why Monetary Offset Must Be Recognized

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THE LONGSTANDING ARGUMENT BETWEEN

Keynesian economists and their opponents has been fought on many fronts, but one of the most controversial and substantive points of contention concerns the size of the government-spending multiplier. A multiplier of greater than one implies that for each additional dollar of government spending (generally during a recession), private output would increase, not decrease. A multiplier of zero would mean that for every dollar the government spends, a dollar of private output disappears. While certain caveats apply, a multiplier of greater than one is typically seen as a full-throated endorsement of interventionist government stimulus as a cure for recession.

For decades, different methodologies achieved different results. Recent methodological advances led researchers to focus on the effects of government spending on regional and local economies in order to extrapolate what the general impact of government spending may be. While these methodologies have many desirable statistical properties, they do not properly address the macroeconomic realities present for regions when they exist together under a common central monetary authority. Instead, the starting point should be this: to interpret measured, positive, regional effects of government spending as *shifting* jobs from one place to another, as opposed to *creating* new jobs, via the mechanism of monetary offset.

THE RETURN OF THE FISCAL MULTIPLIER

Over the years, economists lost interest in the exact value of the multiplier, because monetary policy was seen as a macroeconomic stabilizer superior to fiscal policy.[1] The Great Recession broke this consensus, with many seeing the years that followed as an example of conditions under which monetary

stimulus was doomed to fail. With renewed interest, academic literature returned to the question of the fiscal multiplier as offering a possible solution to sluggish economies.[2]

Those working in macroeconomics, as with any other field of applied economics, are constantly unnerved by the prospect of their statistical modeling techniques failing to measure what they claim they measure. At the onset of the crisis, vector autoregression and the narrative approach were the two statistical methods that macroeconomists felt best addressed issues applied to the question of the multiplier. Each method exhibits certain weaknesses, leaving plenty of room for debate.

MACROECONOMICS IN THE "CREDIBILITY REVOLUTION"

Elsewhere in economics, statistical modeling underwent a so-called "credibility revolution," using research designs that supposedly circumvented any question of statistical validity.[3] Instead of trying to control for every imaginable variable, this family of methodologies either causes the "treatment" to be randomized in such ways that controls are largely superfluous or employs clever ways of finding data with similar statistical properties to randomization. Following the crisis, these methodologies were applied to the question of the size of the fiscal multiplier.[4]

However, one significant issue with the methodology remains: it is not always clear what will occur outside the context of the statistical test.[5] Without theory, it is not known what the results of the statistical model actually imply for the real world. For macroeconomics and the multiplier, this is especially important. When thinking about the practical effects of government spending as stimulus, it is necessary to consider the other means of mitigating recessions—monetary policy. Hypothetically, a central bank conducting monetary policy can choose to magnify or stifle the effects of government spending. For example, when Congress decides to conduct a stimulus program, the central bank could respond by subsequently printing more or less money as a result. It does not make sense to analyze the expected effects of fiscal policy without a theory of how the monetary authority will interpret and react.

Implicit in macroeconomics is an expectation of how central banks will behave, although this assumption is not always incorporated into the fiscal policy analysis. Most central banks have an edict to target inflation—either a specific rate of inflation or something akin to it. This mandate presents a serious problem for government spending to function as claimed. If it is to work (i.e., the multiplier is greater than one), it must do so by raising inflation. But if the central banks have tools to target inflation and are willing to use them, any and all attempts at fiscal stimulus will be offset by the monetary authority. This issue, known as monetary offset, was raised in the context of the Great Recession by the director of the Mercatus Center's Program on Monetary Policy, Scott Sumner.[6]

In a recent paper in the *Journal of Financial Economic Policy*, I examine the application of the credibility revolution in statistical methods in light of the problem of monetary offset.[7] While most methods use national data, the new and clever research designs very frequently use subnational data, such as that of US states. These methods take advantage of differences in government spending across states that have desirable statistical properties, and they use these differences to derive multipliers from spending at the subnational level. Yet a capable and competent central bank prevents expansionary effects for the United States *overall* because of its ability to react to *state and local* fiscal stimulus. While estimates of fiscal multipliers at the national level calculated to be greater than one may be interpreted as something akin to indices of central bank incompetence (i.e., evidence that it is unwilling to hit its target), the issue is made far worse when using subnational data.

Even if the central bank is perfectly competent and offsets the effects of fiscal stimulus entirely (meaning the multiplier at the national level is zero),

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these statistical methods when applied to subnational data still calculate the fiscal multiplier to be greater than one.[8] Under conventional assumptions and settings where central banks credibly target certain nominal variables, any multiplier greater than zero should instead be interpreted as one region taking aggregate demand and jobs from another. In other words, a multiplier of greater than zero in one area implies a multiplier less than zero in another.

THE FISCAL STIMULUS MATH

Consider the case of the inflation-targeting central bank. The inflation rate of the United States can be interpreted as a weighted average of state inflation rates across the country. This means that, if one state engages in fiscal stimulus and raises its inflation rate, arithmetic demands that there be less inflation than there would otherwise be elsewhere in the country. In other words, there is a "negative externality" associated with regional stimulus in a single currency zone. For anything else to occur, it would send the currency area as a whole off its inflation target. This issue applies not only to US states but to countries using the Euro as well.[9]

Research employing these methods is published in elite academic journals such as *American Economic Review*[10] and *American Economic Journal: Economic Policy*.[11] Very rarely does it seriously address the negative externality problem. If it does, it often implies that states engaging in fiscal stimulus will provide a *positive* spillover for neighboring states. When the problem is referenced, it is noted as a small caveat deep within the paper. For instance, one paper states in its abstract that $100,000 of public outlays corresponds to 3.8 job years (implying a multiplier greater than one).[12] This article has been cited 133 times as of September 2016, according to Google Scholar. Within the paper, however, the authors write, "given that the results from this cross-state approach do not incorporate equilibrium effects, cross-state multipliers, or the response of the monetary authority, we interpret this multiplier as only suggestive of the national multiplier of policy interest." This interpretation entirely undercuts their point.

The concern raised here is not meant to unproductively and nihilistically reject all versions of this methodology. One paper by Columbia University economics professors Emi Nakamura and Jon Steinsson only considered the *relative* effects of local fiscal stimulus, thus avoiding the problem.[13] Elsewhere, Australian National University professor Markus Brueckner and International Monetary Fund economist Anita Tuladhar correctly interpret their result explicitly as an upper bound.[14] However, these papers are the exceptions, and they stand in contrast to literature that is otherwise very careless about the matter.

AN ALTERNATIVE VIEW

A possible counterargument is that the United States is a large, economically diverse country, and what may be best for Houston, Texas, may not be best for Flint, Michigan. Perhaps areas of the country that are dependent on oil, such as North Dakota, operate on a different business cycle than the rest of the United States. We may want certain areas of the country to get their hands on some of the aggregate demand currently going to states already performing well. But this is less of an argument for fiscal stimulus performed at the state and local level than it is

an argument for alternative monetary systems. Free banking may be able to more flexibly sort out the optimal currency area,[15] or maybe the United States should simply have more than one currency and central bank. This argument actually finds some support with respect to the ongoing problems with the Euro, but it may speak most strongly to the fundamental flaws of a system in which a single monetary policy must be set equally for Germany and Greece.

It is a common perception among nonexperts that international trade is bad if it leads to trade deficits. The worry is that other countries might steal their home country's aggregate demand. This is not a real issue, for a variety of reasons (especially the fact that the home country's central bank can always increase its aggregate demand). But this intuition applies precisely to regional fiscal stimulus within a currency area. There is a single sum of aggregate demand set by the central bank to go around. If another state takes it, there is less for your community.

Caution is important in this area because of what we know of the political economy of local stimulus in a historical context. Time and time again, when a mayor or governor spends for the sake of spending, we don't get potholes filled or the boiler in the elementary school finally replaced; we get sports stadiums, conference centers, and other white-elephant infrastructure featuring a plaque with the mayor's name on it.

CONCLUSION

Studies measuring the size of the government-spending multiplier using state and local data will invariably overstate the value of the multiplier for the country as a whole. Economists and policymakers would be wise to discount—or ignore altogether—studies that fail to account for the true impact of monetary offset.

NOTES

1. J. Bradford De Long, "The Triumph of Monetarism?," *Journal of Economic Perspectives* 14, no. 1 (2000): 83–94.
2. A summary of the literature through 2011 is explained by Valerie Ramey, "Can Government Purchases Stimulate the Economy?," *Journal of Economic Literature* 49, no. 3 (2011): 673–85.
3. Joshua Angrist and Jorn-Steffen Pischke, "The Credibility Revolution in Empirical Economics: How Better Research Design Is Taking the Con Out of Econometrics," *Journal of Economic Perspectives* 24, no. 2 (2010): 3–30.
4. A literature review of many applications of these new methods to macroeconomics can be found in Nicola Fuchs-Schuendeln and Tarek Alexander Hassan, "Natural Experiments in Macroeconomics" (NBER Working Paper No. 21228, National Bureau of Economic Research, Cambridge, MA, June 2015).
5. Angus Deaton and Nancy Carthwright, "Understanding and Misunderstanding Randomized Control Trials" (NBER Working Paper No. 22595, National Bureau of Economic Research, Cambridge, MA, September 2016).
6. Scott Sumner, "Why the Fiscal Multiplier Is Roughly Zero," (Mercatus on Policy, Mercatus Center at George Mason University, Arlington, VA, 2013).
7. Ryan H. Murphy, "Beggaring Thy Neighbor at the State and Local Level," *Journal of Financial Economic Policy* 8, no. 4 (2016): 532–39.
8. It should be noted that offsetting fiscal stimulus should be seen as desirable, at least under the assumption that governors of central banks are more effective at determining the path of aggregate demand than are state and local legislatures.
9. Informal studies have suggested that the wrong message about Europe and austerity has been taken because of the failure to make the distinction between countries that use the Euro and those with their own monetary policy. See Kevin Erdmann, "More on Austerity, Growth and Monetary Policy," *Idiosyncratic Whisk*, October 19, 2013; and Benn Steil and Dinah Walker, "Correcting Paul Krugman's Austerity Chart for Monetary Effects Yields Very Different Results," *Geo-Graphics*, Council on Foreign Relations, January 13, 2015.
10. Antonio Acconcia, Giancarlo Corsetti, and Saverio Simonelli, "Mafia and Public Spending: Evidence on the Fiscal-Multiplier in a Quasi-Experiment," *American Economic Review* 104, no. 7 (2014): 2185–209; and Daniel Shoag, "Using State Pension Shocks to Estimate Fiscal Multipliers since the Great Recession," *American Economic Review* 103, no. 3 (2013): 121–24.
11. Gabriel Chodorow-Reich et al., "Does State Fiscal Relief during Recessions Increase Employment? Evidence from the American Recovery and Reinvestment Act," *American Economic Journal: Economic Policy* 4, no. 3 (2012): 118–45; Jeffrey Clemens and Stephen Miran, "Fiscal Policy Multipliers on Subnational Government Spending," *American Economic Journal: Economic Policy* 4, no. 2 (2012): 46–68; Daniel J. Wilson, "Fiscal Spending Jobs Multipliers: Evidence from the 2009 American Recovery and Reinvestment Act," *American Economic Journal: Economic Policy* 4, no. 3 (2012): 251–82.
12. Chodorow-Reich et al., "Does State Fiscal Relief during Recessions Increase Employment?," 138.

13. Emi Nakamura and Jon Steinssen, "Fiscal stimulus in a Monetary Union: Evidence from US Regions," *American Economic Review* 104, no. 3 (2014): 753–92.

14. Markus Brueckner and Anita Tuladhar, "Local Government Multipliers and Financial Distress: Evidence from Japanese Prefectures," *Economic Journal* 124 (2014): 1279–316.

15. See Ryan H. Murphy, "A Comparative Institutional Analysis of Free Banking and Central Bank NGDP Targeting," *Journal of Private Enterprise* 29, no. 1 (2013): 25–39.

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