Commentary: Activist Fiscal Policy to Stabilize Economic Activity

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Alan Auerbach and William Gale provide a very useful assessment of the possible effects of the massive revival of discretionary fiscal policy in the current U.S. context. Largely based on a qualitative reading of the existing literature and two historical episodes, the authors give good marks to the need for a large fiscal package and to the actual size, composition, and timing of the 2009 American Recovery and Reinvestment Act (ARRA) adopted by the Obama administration. Needless to say, such positive evaluation is controversial, as a significant share of the profession has raised serious concerns about the benefits of fiscal activism.

In the following, I start by referring to the paper and some of its results and implications. Then, I reevaluate the existing evidence on fiscal multipliers for the U.S. and turn subsequently to multiplier estimates in other industrial countries, as applied by the Organization for Economic Co-operation and Development (OECD) in its evaluation of fiscal packages and by others. Finally, I make two pleas: one for a particular strand or future research on fiscal policy and the other for the adoption of fiscal policy rules.

I. On the Paper

In the U.S., fiscal activism is back big time. As pointed out by both Auerbach and Gale, among several other authors (i.e., Cochrane, 2009, and Taylor, 2009), this stands in stark contrast to the burial of fiscal activism by most of the profession a decade ago. Taylor's results offer simple but compelling proof that activism is not suddenly back today. It crept back gradually during the last quarter century, as reflected in Taylor's rising regression coefficient of the structural deficit on the output gaps, which starts from zero in 1983-1994 and rises monotonically to attain 0.71 in 1995-2007.

Back to Auerbach and Gale, they specify an equation for 5-year discounted future fiscal policy changes, expressed as ratios to potential GDP, as a function of 5-year projected fiscal balance ratios to potential GDP and the lagged output gap. Reported coefficients are consistent with priors, both for different fiscal categories (revenues, outlays, and primary surplus) and for the full sample and sub-samples.

While this specification reflects good common sense, it lacks theoretical foundations. It is a reduced-form equation with proxies for two policy objectives: counter-cyclical stabilization and government solvency. As it stands, it excludes another possible driver of fiscal policy: the adoption of discretionary policies that aim at changing the size of government spending, for instance, by downsizing through tax cuts, like in Reagan's first years or during the recent Bush administration.

Inclusion of the latter variable could explain why there are significant changes from pro-cyclical to counter-cyclical policies within a given 8-year administration, which are not captured by this paper's specification. Visual inspection of Chart 1 suggests that fiscal policy under President George W. Bush changed from counter-cyclical in his early years (2001-2002) to pro-cyclical in his mid-years (2003-2007) and back to counter-cyclical in 2008, by almost consistently raising government outlays and cutting revenues, independently of the business cycle.

Now let me turn to the paper's policy evaluation. Its metric of evaluating activist fiscal policy is based on the desirable "ttt" features of discretionary policies, as stated by Larry Summers, mark 1. I fully

agree with this conventional metric.[1] On the individual "ts" I have the following comments.

a. **Timely**: Timeliness in implementing fiscal plans is key. However it is extremely hard to get timeliness right because of four reasons: (i) lack of good estimates of key unobservables, in particular the output gap; (ii) very high uncertainty of projections and inflection points at downturns and crises; (iii) policy implementation lags; and (iv) a stiff tradeoff between implementation speed and quality of public investment programs. Lags matter less for tax cuts, more for recurrent government outlays including transfers, and most for government investment programs. Bad timing can be counter-productive, exacerbating the next boom instead of battling the current downturn. "Shovel-ready" public works are very unlikely to be those with high ex-ante rates of return. The authors are very optimistic about getting timeliness right and assess positively the timeliness of ARRA. While by-and-large the implementation of the bulk of ARRA in 2009-2010 could be right, fine-tuning timing is highly unfeasible. Hence, I am more of the skeptical school on optimal timing, joining authors including Leeper, et al. (2009).

b. **Targeted**: Targeting boils down to fiscal policy effectiveness, that is, high multiplier values. The authors survey selectively the older and more recent literature on multipliers for the U.S. The range of multiplier estimates for the U.S. economy is simply mind-blowing. This wide range is embarrassing for the profession, as it offers only limited guidance to fiscal policymakers, for reasons that stretch from differences in models, methodologies, and samples to differences between normal and exceptional financial and monetary conditions. (More on this below). Yet in abnormal times like the current ones, we have to look hard at those fiscal instruments that maximize short-term output impact.

c. **Temporary**: This objective derives from the need of addressing upfront the potentially very stiff tradeoff between counter-cyclical stabilization and fiscal credibility and

solvency. We estimated at the OECD (OECD, 2009a) that the rise in government debt ratios during the current recession in OECD countries from an average 75% of GDP in 2007 to a projected 100% of GDP in 2010 could raise the spreads of 10-year government debt rates over short-term rates by 20 basis points. That does not seem to be much. But in several individual countries with larger levels or debt increases, the rise in long-term interest rates is likely to be much larger due to significant non-linearities between sovereign debt spreads and debt levels.

II. Multiplier Estimates for the United States

Let me start with the estimates for *direct consumption effects of personal income tax cuts*, which do not range as wide as those of other fiscal instruments. Multiplier estimates for private consumption effects of temporary personal income tax cuts or rebates range from zero (Taylor, 2009) to 0.1 (Feldstein, 2009), 0.2 (Blinder, 1981; Broda and Parker, 2008), and 0.33 (Shapiro and Slemrod). Multiplier estimates for private consumption effects of longer-term or permanent tax reductions vary between 0.6 (Johnson, et al. 2006), 0.7 (Feldstein, 2009), 0.9 (Souleles, 2002), and 1.0 and beyond (Barro, 2009). While low marginal propensities to consume out of temporary tax cuts is fairly consistent with the basic permanent-income hypothesis for unconstrained forward-looking consumers, it strikes me as surprisingly low when considering that a significant fraction of consumers can be characterized as hand-to-mouth consumers because they either face credit constraints or are poor or do not display much forward-looking behavior.

Estimates of *corporate income tax cut effects on private investment* are much harder to come by because they are more sensitive to assumptions, models, and the lack of relevant policy experiments. Auerbach's estimate for the effects of investment incentives on the user cost of capital (UCK), reproduced in this paper, is sensible and complements the previous literature that suggests an elasticity of equipment investment with respect to the UCK in the -0.5 to -1.0 range (Hassett and Hubbard, 2002) and that bonus depreciation incentives to qualifying investment change the composition of investment (House and

Shapiro, 2008). Yet we still know very little about the responsiveness of aggregate private investment to investment incentives.

Where the real controversy starts is regarding the *general-equilibrium multipliers of fiscal policy changes on output*, because of massive differences in underlying assumptions, models, data samples, and empirical methods for estimating or calibrating parameters.

For government spending *in normal times*, the range of output multiplier estimates is simply humongous. At the high end, recent studies report government spending multipliers at values of 1.1 to 1.6 (Romer and Bernstein, 2009) or 1.2 (Ramey, 2008). More moderate ranges of multipliers that decline over time from 1.0 toward zero in response to temporary government spending programs are obtained in New Keynesian dynamic stochastic general equilibrium (DSGE) models (like Cogan, et al. 2009). At the low end, multipliers are estimated at zero (Barro, 1981) or even negative for permanent government spending programs that are financed by distortionary taxation (Barro, 2009; Leeper, et al. 2009).

However, *during recessions and financial crises*, fiscal multipliers are likely to be very different from values observed in normal times. But in which direction do they differ? On one hand, they may be lower than in normal times. Tax reductions and incentives to consumers and firms may be less effective during recessions and credit crunches, when the willingness to spend on consumer durables and investment goods is impaired by perceptions of large levels of risk or Knightian uncertainty, consumers aim at rebuilding their balance sheets, and firms are affected by negative cash flows.

But on the other hand, they may be larger in abnormal times, when larger shares of consumers and firms face binding credit constraints and therefore the sensitivity of aggregate consumption and investment to government transfers and tax deductions is likely to be higher.

Abnomal times also arise when the zero lower bound on nominal interest rates is binding. Christiano, Eichenbaum, and Rebelo (2009) model an economy at the zero bound that is hit by an adverse shock (such as higher deflation expectations or a higher discount rate),

which induces a Keynesian paradox of thrift that leads to a recession. Under the latter conditions, government spending is shown to be extremely effective, with impact multipliers estimated to be surprisingly large, in the range from 2 to 4. Are the latter values relevant today, when the zero interest-rate policy is complemented by quantitative and credit easing? In all likelihood they are overestimated, because provision of liquidity and credit to illiquid financial markets and distressed debtors lowers liquidity and risk premiums and hence reduces real interest rates and allays deflation fears.

Considering on balance all factors that I have mentioned, the jury is still out regarding if, and by how much, fiscal multiplier values are different under the current abnormal conditions than what they are in normal times. However, if pressed hard, I would say that they are somewhat larger now than in normal times.

III. Multipliers in the World

Both the IMF (Spilimbergo, et al. 2008) and the OECD (OECD, 2009a,b) published early reviews of the world literature on fiscal multipliers to draw inferences about the effectiveness of the large discretionary fiscal policy packages adopted by governments worldwide since 2008. I briefly review the multiplier estimates that we used at the OECD to evaluate the output effects for each budgetary item of every discretionary fiscal package announced by OECD countries in 2008 and early 2009. Multiplier point values selected by us varied according to spending and revenue measures (smaller for revenue cuts than for spending increases), the years after the adopted measures (somewhat larger the second than the first year), and country size (smaller for mid-sized and smaller economies due to stronger import leakages). Therefore short-term multiplier values ranged between a maximum of 1.2 (the year-2 multiplier for infrastructure investment in a large economy, like the U.S.) to 0.1 (the year-1 multiplier for indirect tax cuts in a small economy, like Belgium).

The stimulus effects of fiscal packages were estimated by applying the multipliers (which vary by policy instrument, year (2009 and 2010), and country) to fiscal policy changes. For example, in the case

of the U.S., the sum of the 2008 tax rebates and the 2009 ARRA package amount to 5.6% of 2008 GDP. Considering the latter size, its composition and its time profile, and multipliers that average a value of 0.55, the effects of the U.S. discretionary fiscal packages were estimated at plus-1.2% of GDP for 2009 and plus-1.5% for 2010. For the OECD economy at large, discretionary fiscal packages announced in 2008-09 and implemented in 2008-10 are roughly equivalent to a (weighted) average of 4% of GDP. Considering an average multiplier of 0.5 for the OECD, discretionary fiscal packages are estimated to have avoided a further deepening of the recession by 2 percentage points of the OECD's GDP in 2009-2010. The OECD also pointed out that discretionary packages are on average smaller than the deterioration of cyclical budget components, which therefore are also contributing strongly to output stabilization.

The latter OECD estimates of the impact of discretionary fiscal policy during the current recession were done carefully but fall short of a coherent assessment based on a general-equilibrium model for the world economy. McKibbin and Stoeckel (2009) have recently performed such an evaluation, using the OECD's estimates of fiscal packages and McKibbin's G-cubed model for the world economy. The latter model is particularly appropriate for deriving international linkages in a micro-funded, multi-country general-equilibrium framework that includes real and nominal frictions. The model simulations show that countries that adopt strong discretionary packages are able to raise output in response to higher domestic spending but the ensuing real exchange rate appreciation reduces their net exports and therefore GDP, which reduces the expansionary effect of fiscal policy. The converse is observed in economies (like many developing countries) without large fiscal packages, where currencies depreciate, net exports rise but output declines due to the world rise in interest rates. The world at large is negatively affected by the rise of world interest rates due to the OECD's fiscal expansion. McKibbin and Stoeckel estimate that discretionary fiscal packages lift 2009 GDP by 1.8% in the U.S. and in China, by 1% in Germany and the UK, and by 0.4% in Japan (similar to the OECD's estimates). Due to the world interest rate rise and the temporary nature of fiscal expansion

in OECD countries and in China, fiscal packages are expansionary in 2009 but contractionary in 2010 and subsequent years.

IV. How Should We Evaluate Fiscal Policy Effectiveness in the Future?

Auerbach and Gale review four families of studies of fiscal policy effectiveness, which are based on: (1) reduced-form macroeconometric models, (2) structural VAR models, (3) consumption and investment models based on micro data, and (4) simulations based on general-equilibrium models. This wide array of models is in large part the cause of the embarrassingly wide range of evaluations of fiscal policy effectiveness. The authors seem to come down in favor of structural VAR models (SVAR) for fiscal policy evaluation. I differ. Atheoretical SVARs and reduced-form macroeconometric models are largely useless because they do not spell out the key micro foundations, informational conditions, and counterfactuals required for conducting hard policy analysis. And the latter tools are particularly useless today, as the profession has already developed alternative tools that have overcome the latter limitations: DSGE or real business cycle (RBC) models, complemented by microeconometric studies of household behavior. The latter provide the right framework for spelling out the possible behavioral and informational assumptions that govern private-sector reactions to fiscal policies in economies that face nominal and real rigidities and are integrated into the world economy. I have quoted above some of the results of this literature, which will develop much more in coming years, providing better guidance to fiscal policy makers.

V. Fiscal Policy Rules: The Challenge for the Future

Let me end with one fiscal policy lesson that partly predates this crisis but may contribute to lessen the likelihood of a future repeat. Most countries entered the financial crisis and world recession lacking a counter-cyclical fiscal policy embedded in an *explicit* fiscal rule (other than automatic stabilizers, which clearly proved to be insufficient). Several countries—including the U.S.—had in place a significant pro-cyclical fiscal bias during the 2003-2007 boom years, which contributed to the subsequent bust. Recent world-wide empirical evidence suggests

that the likelihood of countries having in place counter-cyclical fiscal policies rises significantly with their financial depth and institutional development (Calderón and Schmidt-Hebbel, 2008).

This crisis has shown that the degree of counter-cyclicality in fiscal policy worldwide is neither sufficient nor optimal. Countries should work very hard at implementing strong, explicit counter-cyclical fiscal policy rules, well beyond the insufficient contribution provided by automatic stabilizers. Adoption of such rules would contribute to more effective macroeconomic stabilization, complementing existing monetary policy frameworks.

Three successful examples of countries that have in place explicit counter-cyclical policy rules, or at least rulings, come to mind: Norway, Germany, and Chile. Norway's policy of saving its oil profits in the country's pension fund is fundamentally an intergenerational transfer device to fund future pension liabilities. But it also has an implicit counter-cyclical role, isolating government spending from temporary oil price shocks. Germany, when going through excruciating domestic debates about the size and temporariness of its discretionary fiscal package to ensure fiscal solvency, changed recently its constitution by mandating the government to ensure a balanced budget over the business cycle, allowing for significant cyclical budgetary deviations. However, it is still open how this constitutional ruling will be implemented in practice.

My third and last example is Chile, which adopted an explicit counter-cyclical fiscal rule—not in its constitution but in its annual budget laws, as proposed by a government willing to tie its own hands and voted by congress every year since 2000. In its essence the rule is very simple: Government spending is tied to an estimate of government permanent income while all estimated windfalls from temporary GDP and copper-price shocks are saved. Now you may ask how much the government cheats on its own rule by biasing its estimates of permanent and future GDP and copper prices? The answer is close to zero, because of the strong political-economy underpinnings of the rule's implementation. Every year the Chilean government simply farms out the provision of the latter estimates to two private-sector commissions whose trimmed mean projections

are binding for next year's budget. A third private-sector commission has been set up more recently to advise the government on how to invest abroad the government resources saved in its sovereign wealth funds during cyclical upturns.

Governments and treasuries of both industrial and developing countries, and particular the U.S. government, should have a hard look at the three latter country examples of actually or potentially successful counter-cyclical rules.

Endnote

[1]In contrast to an alternative view espoused by Spilimbergo, et al. (2008) that argues that good discretionary policy should satisfy seven objectives: "tlldccs," or "timely, large, lasting, diversified, contingent, collective, and sustainable," a metric which is not only highly debatable but also excessively multi-dimensional to be operationally useful.

References

Auerbach, A. (2009). *American Economic Review: Papers and Proceedings*, 99 (2), 543-49, May.

Auerbach, A. and W. Gale (2009). "Activist Fiscal Policy to Stabilize Economic Activity." Prepared for the conference sponsored by the Federal Reserve Bank of Kansas City on Financial Stability and Macroeconomic Policy at Jackson Hole, Wyoming, August 20-22, 2009.

Barro, R. (1981). "Output effects of government purchases." *Journal of Political Economy*. Vol. 89, No. 6, pp. 1086-1121.

Barro, R. (2009). "Voodoo multipliers." *Economic Voice*, February: 1-4.

Calderón, C. and K. Schmidt-Hebbel (2008). "Business cycles and fiscal policies: The role of institutions and financial markets." *Central Bank of Chile Working Paper*.

Christiano, L., M. Eichenbaum, and S. Rebelo (2009). "When is the government spending multiplier large?" Northwestern University. *Manuscript*, July.

Cochrane, J. (2009). "Fiscal stimulus, fiscal inflation, or fiscal fallacies?" University of Chicago Booth School of Business. *Manuscript*, February.

Cogan, J., T. Cwik, J. Taylor, and V. Wieland (2009). "New Keynesian versus old Keynesian government spending multipliers." *NBER Working Paper* No. 14782, March.

Feldstein, Martin (2009). "Rethinking the role of fiscal policy." *American Economic Review: Papers and Proceedings*, 99 (2): 556-559.

Spilimbergo, A., S. Symansky, O. Blanchard, and C. Cotarelli (2008). "Fiscal Policy for the Crisis." *IMF Staff Position Note* SPN/08/01, December.

Leeper, E., T. Walker, and S. Yang (2009). "Government investment and fiscal stimulus in the short and long runs." NBER *Working Paper* No. 15153.

OECD (2009a). *OECD Economic Outlook: An Interim Report*. March, Paris.

OECD (2009b). *OECD Economic Outlook*. June, Paris.

Romer, C. and J. Bernstein (2009). "The Job Impact of the American Recovery and Reinvestment Plan." *Manuscript*, January.

Shapiro, M. and J. Slemrod (2009). "Did the 2008 tax rebates stimulate spending?" *NBER Working Paper* No. 14753.

Taylor, J.B. (2009). "The lack of an empirical rationale for a revival of discretionary fiscal policy." *American Economic Review: Papers and Proceedings*, 99 (2): 550-555.