Volume Title: NBER Macroeconomics Annual 2010, Volume 25

Volume Author/Editor: Daron Acemoglu and Michael Woodford, editors

Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-00213-6

Volume URL: http://www.nber.org/books/acem10-1

Conference Date: April 9-10, 2010

Publication Date: May 2011

Chapter Title: Discussion of "What Fiscal Policy is Effective at Zero Interest Rates?"

Chapter Author:

Chapter URL: http://www.nber.org/chapters/c12165

Chapter pages in book: (p. 139 - 142)

Discussion

Gauti Eggertsson began by responding to Lawrence Christiano's discussion on the quantitative significance of changes to the labor wedge. Eggertsson agreed that the aggregate supply effects of tax changes may not be very large and noted that tax cuts may increase aggregate demand (by, e.g., boosting income for liquidity-constrained consumers), pushing up prices and output. He clarified that his primary aim is to highlight the importance of policies that stimulate aggregate demand as opposed to aggregate supply.

Eggertsson also responded to several points made in Lee Ohanian's presentation. With respect to a slightly negative policy rate achieved by the Swedish Riksbank, Eggertsson noted that the level of the constraint is not central to his results and that central banks around the world were constrained in their ability to cut interest rates. As to the empirical importance of the zero lower bound, Eggertsson argued that the answer to that question depends on the sensitivity of aggregate demand to the interest rate. He noted that the absence of a deflationary spiral should be understood in the context of large increases in the Fed balance sheet and government spending. Eggertsson emphasized that a key question about the current crisis and previous lower bound episodes is what one should expect would have been the counterfactual path of output and prices under a different set of policies. He referenced a related paper in which he argues that policy mistakes by the Roosevelt administration in 1937 cut short an incipient recovery (Gauti B. Eggertsson and Benjamin Pugsley, "The Mistake of 1937: A General Equilibrium Analysis," *Monetary and Economic Studies* [Bank of Japan] 24, no. S-1 [2006]: 1–40).

Daron Acemoglu and others wondered whether the counterintuitive result that an increase in the income tax could be expansionary was, in fact, too surprising. In particular, Acemoglu asked whether the monetary policy rule might be too rigid and whether the monetary authority might

978-0-226-00212-5/2011/2010-0204$10.00

respond very differently to an event where the zero lower bound binds. Eggertsson indicated the importance of central bank credibility, noting that he considers alternative policies and abstracts from unconventional monetary policies. Acemoglu asked what monetary policy would be needed to overturn the main result. Eggertsson noted that his results simply require a constant nominal interest rate in response to a fiscal expansion, adding that debt dynamics or demand-side effect of tax cuts could affect inflation expectations and the interest rate.

Michael Woodford, reiterating Eggertsson, disagreed with Ohanian as to whether the Riksbank was unconstrained by the zero lower bound. He noted that the projections for the policy rate published by the Riksbank showed a period of no change in the interest rate followed by a sharp jump in the future indicating that monetary policy faced a constraint. Ohanian asked how low the Riksbank thought it could lower the policy rate. Woodford responded that officials at the bank were concerned that lowering the repo rate below 25 basis points could have adverse effects on trading in the money market. Also, responding to Ohanian, Woodford emphasized that Eggertsson's qualitative results were robust to more complex mechanisms of price setting beyond Calvo pricing—the key is some degree of price rigidity. Woodford added that if prices were flexible, prices should have fallen sharply during the credit crisis to generate positive inflation expectations and a sufficient fall in real interest rates to maintain full employment.

Valerie Ramey identified the late 1930s and early 1940s as a good empirical test for the fiscal multiplier at the zero lower bound. At that point, the interest rate on 3-month Treasury bills was lower than today and government spending multipliers did not exceed one—well below the multipliers implied by the Eggertsson analysis. Eggertsson responded that his calibration attempted to capture the economic conditions in 1933 rather than 1940, when the United States was much closer to full employment. But he agreed that the model-based multiplier would still exceed one. On this issue, Robert Gordon added that using quarterly government spending and GDP data, his work found multipliers of up to 2.2 through the second quarter of 1941. The multiplier dropped near the end of that year due to wartime supply constraints.

However, Gordon took issue with aspects of Eggertsson's model. He noted that prices rose from 1933 to 1940 while output remained far below potential. Likewise, over the last decade, Japan experienced flat prices or a slight decline while output remained well below potential. Eggertsson responded that outright deflation is not needed in these models as the shocks that cause the recession may have some cost-push element. He cited the work of Curdia and Woodford (2009) examining the effect of intermediation shocks that increase credit spreads. The key issue is that further monetary easing is not possible. Gordon also expressed skepticism over the sharp movements of the real wage in Eggertsson's simulations.

Frederic Mishkin commented that, while deflation has not been very large, the credit crisis in 2008 required very low real interest rates (on the order of −5%) which could not be attained regardless of the precise bound on the policy rate or the level of inflation. He also called for greater analysis of unconventional monetary policy and its effect on central bank credibility and independence. Eggertsson briefly noted that he is working on research in this direction.

Susanto Basu commented on how positive productivity shocks can be contractionary in New Keynesian models by lowering expected inflation and raising real interest rates in the short run. He also encouraged Eggertsson to frame the results in terms of accommodative versus restrictive monetary policy rather than the zero lower bound. He noted that Eggertsson's qualitative results would continue to hold assuming monetary policy accommodated a fiscal expansion regardless of the level of the interest rate. Basu also asked, as an empirical matter, whether aggregate spending was really as responsive to changes in the real interest rate as implied in the Eggertsson simulations.

John Taylor took issue with Eggertsson's comment that the small fiscal multipliers found in his work with Cogan, Cwik, and Wieland were the result of assuming a permanent increase in government spending. While one simulation in their model assumed a permanent increase, the primary experiment of interest was a simulation of the effect of the Recovery Act as written. Taylor noted that this experiment found a much more modest impact of government spending on output than studies by the Obama administration in early 2009. He also noted that, while the zero lower bound was binding, it was not clear that the policy rate should have been very negative; the Taylor rule called for a funds rate of −1% (rather than −5%) over a fairly short period. Eggertsson responded that determining the proper real interest rate target is a key empirical issue that deserves greater attention.

While recognizing the theoretical contribution, Greg Mankiw questioned the policy recommendations. If tax cuts could deepen a recession, would it make sense to pursue policies that reduced aggregate supply like imposing regulations and discouraging job search? He emphasized the need to think about the effect of such policies on investment demand and noted that policies designed to boost aggregate supply would also bolster business confidence and investment. Eggertsson responded by emphasizing that policies must be recognized as temporary and cited extensions of his model that include endogenous capital formation. He also reiterated that the demand-side effects must be understood for any fiscal policy under consideration.

Jordi Galí provided further comments on the realism of the model. He noted that the government spending multiplier could be strengthened at the lower bound by using Jaimovich-Rebelo type preferences, which would weaken the wealth effects and limit the shift in aggregate supply. Moreover, such preferences would also weaken the effect of government spending shocks in non-zero-lower-bound circumstances. He also added that he could not think of a single government that pursued tax cuts in the current credit crisis for supply-side effects; the stated purpose was to increase disposable income. Eggertsson responded that because of possible demand-side effects, he was unwilling to push his headline conclusion too strongly.

Deborah Lucas asked about the degree to which Eggertsson's results depended on a single economy-wide interest rate. She noted a large disconnect between the Fed funds rate and the decision-relevant interest rates facing consumers. She added that the Fed purposed credit-easing policies, in addition to standard monetary easing, in order to try to influence borrowing rates. Eggertsson cited the Curdia and Woodford model with multiple interest rates, noting that their model can be reduced to a similar set of equations as a standard New Keynesian model.