Notes on Fiscal Policy in a Low-Interest Rate Environment:

Countercyclical Fiscal Policy at the Zero Safe Nominal Rate Lower Bound

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An economy in which interest rates are secularly low is one in which the short-term safe nominal interest rates that are the Federal Reserve's principal policy instrument are likely to hit the zero nominal lower bound relatively often, and also an economy in which the real interest rate involved in carrying extra government debt is likely to be low as well. Both of these have potential consequences for the approprate balance between fiscal and monetary policy as macreconomic stabilization policy tools.

It would not be going to far to say that a decade ago the North Atlantic macreconomics profession, at least, had a strong near-consensus behind the view of John Taylor (2000) that, automatic stabilizers aside, fiscal policy had no proper stabilization policy role: fiscal policy should be set on "classical" principles, and stabilization should be left to monetary policy and the central bank. For this there were three main reasons: a political-economy reason, a distortionary-consequences-of-policy reason, and a speed-of-decision-loop reason.

The political-economy reason was that it has proven overwhelmingly difficult, since 1980, to get America's federal legislature and executive properly focused on the need for long-term fiscal sustainability and budget-balance. To add to this already-difficult issue area the proposition that sometimes cyclical budget deficits were good, and that only long-term structural budget deficits were bad, seemed likely to add to the confusion of legislators and executives and the surrounding Washington DC public sphere, and was best avoided.

The distortionary-consequences-of-policy reason was well set out by Mankiw and Weinzerl (2011). Using fiscal policy for stabilization purposes beyond automatic stabilizers involves varying tax rates in order to finance government purchases or temporary tax holidays, and so adds to distortionary fiscal drag. At least in frameworks derived from Knut Wicksell (1898), however, using monetary policy for stabilization purposes carries real interest rates to their first-best values, and makes the slope of the intertemporal price system reflect true marginal societal preferences. While this is not true in broader models that allow for moral hazard in finance, Mankiw and Weinzerl (2011) do express a belief that, in normal times at least, distortions from the activist use of monetary policy as a stabilization policy tool are an order of magnitude less than those from the activist use of fiscal policy.

The speed-of-decision-loop reason was the most important one. It takes time to use government purchases as a stabilization policy tool. Few projects are shovel-ready, and planning cannot be quick. The legislative process in the United States is a complex and lengthy eighteenth-century enlightenment orrery. And once budget authority has been granted there are still quarters at least before purchases respond. By contrast, shifts in monetary policy shake the intertemporal price structure the moment they are perceived and give every agent in the economy at least a small incentive to immediately alter their portfolio and their plans to rebalance in order to optimize for the new intertemporal price structure. Thus whatever the stance of fiscal policy and its effect on the flow of spending, the monetary policy authority moves second and can boost, tolerate, damp, or neutralize its effects. So why not presume that it will and should do so?

Or so that was the near-consensus when the economy was thought unlikely to attain zero nominal lower bound on safe short-term interest rates.

When the economy is sufficiently depressed that the short-term safe interest rates that are a central bank’s principal policy tool attain the zero nominal lower bound, however, things change, and perhaps significantly. There are, perhaps, significant distortionary costs to keeping short safe nominal interest rates near zero for extended periods of time for the functioning of the commercial banking system and perhaps for the ability of the financial system's requirement to "show me the money" to curb bubbles and Ponzi schemes. Non-standard monetary policy demand-management tools like extended forward guidance and large-scale quantitative easing are of lessened and uncertain efficacy. Thus central banks at the zero nominal lower bound probably cannot and, empirically, do not act to fully offset and neutralize the demand-management effects of changes in fiscal policy.

Consider an extremely crude framework: a discretionary government-purchases fiscal impetus ΔG, a net-of-monetary-policy-offset Keynesian demand multiplier μ, a deadweight loss from taxation ξ, and a "hysteresis" effect of government purchases on potential output—either via the fact that government purchases of investment goods add to potential output, or via labor-market channels—of η that decays over time at rate φ. Then in an economy with a real cost of funding government debt of r, a trend economic growth rate of g, and a marginal tax rate τ the net effect on the present value of real GDP of a transitory fiscal impetus ΔG will be:

$$(1) \qquad \Delta W = \mu\Delta G + \frac{\eta\mu\Delta G}{\phi + (r-g)} - \xi[1-\mu\tau]\Delta G$$

with:

- $\mu\ \Delta G$ being the current-period boost to production
- $\eta\ \mu\ \Delta G/(\varphi+(r-g))$ being the present value of the future boost to aggregate supply from higher potential output
- $[1-\mu\ \tau]\ \Delta G$ being the extra government debt that must be financed
- $\xi[1-\mu\ \tau]\ \Delta G$ being the present value of the deadweight loss that must be financed —the (r-g)s cancel each other out in this last term, as a higher value of (r-g) both raises the amount of real debt services required in future periods but also equally diminishes their weight in present-value calculations.

Away from the zero nominal lower bound, with a central bank acting inside the fiscal authority's decision loop, it will generally be the case that $\mu = 0$, and so (1) becomes:

$$(2) \qquad \Delta W = -\xi[1-\mu\tau]\Delta G$$

No benefits and all costs to the use of fiscal policy at a stabilization policy tool.

At the zero nominal lower bound, however, μ then becomes positive, and expansionary fiscal policy in a depressed economy then passes a GDP-based benefit-cost test as long as:

$$(3) \qquad \left(\frac{\mu}{1-\mu\tau}\right)\left(1+\frac{\eta}{\phi+(r-g)}\right) > \xi$$

For a Keynesian multiplier at the zero nominal lower bound μ=1, for a marginal tax rate of 1/3, for r=g, for a gross social rate-of-return on government investment purchases η=5%, and for a government-capital depreciation rate φ of 5%, this expression (3) is positive as long as $\xi < 3$. Given that back-of-the-cuff estimates of ξ typically range from 0.25 to 1, we can understand why even economists greatly worried about long-run debt burdens like Kenneth Rogoff (2013) are now calling for aggressive expansionary fiscal policy focused on boosting productive government capital.

Do note, however, that it may be extremely unwise to use this public-economics frame to calibrate ξ. In a framework like this, ξ is not just the deadweight loss from raising an extra $1 of tax revenue. If higher government debt de-anchors inflation expectations in the long run, and so requires an unemployment rate higher than the NAIRU in order to hit the central bank's inflation target—that belongs in ξ. To the extent that higher national debt increases risk of some form of financial crisis—that belongs in ξ too. Assessing the utility of fiscal policy in a depressed economy at the zero nominal lower bound requires more than simply comparing the effect of Keynesian multipliers and of supply-side boosts to potential via hysteresis to a relatively small deadweight-loss-of-taxation parameter.

Nevertheless, a low-interest-rate economy makes what had been the dead issue of the discretionary stabilization policy role of fiscal policy alive again. The lessened power of moneary policy at the zero nominal lower bound, the much greater chances of running into that bound, and the fact that in a low interest-rate economy benefits via the hysteresis channel's effect on potential output have a high present value all alter the calculations.

(1) $$\Delta W = \mu \Delta G + \frac{\eta \mu \Delta G}{\phi + (r - g)} - \xi [1 - \mu \tau] \Delta G$$