

Discussion of “Tracking Monetary-Fiscal Interactions across Time and Space”*

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Monetary-fiscal interactions arise in a number of dimensions. Poorly managed, they can generate hyperinflation, as has been the case after major world wars or periods of egregious fiscal mismanagement. Such episodes have connections to the unpleasant monetarist arithmetic of Sargent and Wallace (1981) and fiscal theory of the price level, as in Leeper (1991). The implications can also appear more benign. In the United States, for example, the Federal Reserve’s quantitative easing programs following the Great Recession have affected remittances to the Treasury. Some have also argued that these programs affected decisions about the maturity distribution of new debt issuance.¹

To further investigate monetary-fiscal interactions in an empirical context, the paper by Franta, Libich, and Stehlik (henceforth, FLS) uses a state-of-the-art time-varying parameter vector autoregression (TVP-VAR) with stochastic volatility to assess whether monetary policy in several advanced economies responds to debt-financed government spending shocks. Looking across several countries, the framework allows the authors to evaluate whether responses to fiscal shocks have changed over time. FLS find that in some countries, such as the United States, interest rate movements have become increasingly accommodative of debt-financed changes in government spending. That is, the Federal Reserve (the Fed) apparently did not “lean against” fiscal stimulus in the decades prior to the Great Recession. The results in the United States, however, stand in contrast to some other countries. For example, monetary

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¹See Greenwood et al. (2015) for a discussion of these issues.

policy became less accommodative of fiscal shocks in Australia and the United Kingdom, and, to a lesser extent, also in Canada and Switzerland.

Although the authors never pin down the longer-term quantitative implications of such shifts in policy, they motivate some potential issues by appealing to unpleasant monetarist arithmetic and the fiscal theory of the price level. That is, there is an assumption that fiscal policy can spill over and suboptimally affect the level and variability of inflation. To insulate against such fiscal pressures, FLS ask what kind of institutional design mechanisms can insulate monetary policy from fiscal policy decisions. That is, why do the results show a divergence across economies? The authors posit that the adoption of legislated inflation targets plays an important role.

1. Revisiting Monetary Policy Responses to Fiscal Shocks

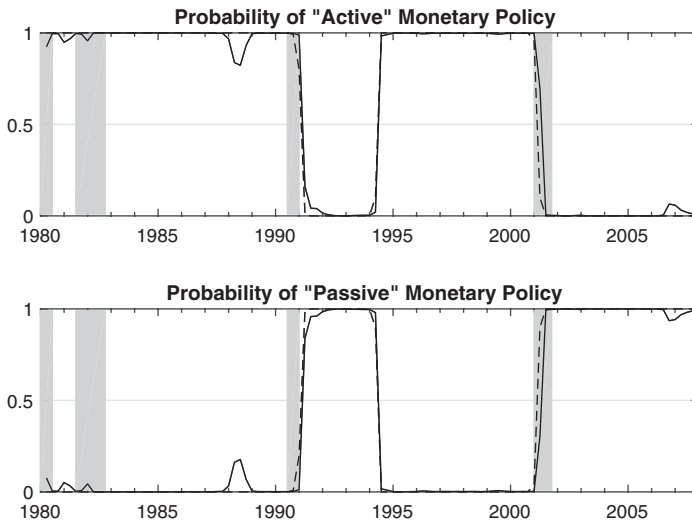
Although FLS use a sophisticated and compelling empirical framework, the empirical results raise some questions about identification. For example, if monetary and fiscal policy both run countercyclical policies, then both will be adding stimulus when economic conditions are weak, which could result in a spurious finding that monetary policy is responding to fiscal policy.

To assess the robustness of the findings from the TVP-VAR for the United States, a variant of the exercise in Davig and Leeper (2007) can shed light on whether monetary policy has altered its response over time. The approach uses a single-equation framework, though it allows monetary policy to shift between states. In one state, the central bank responds aggressively to inflation, and it is less responsive in the other. The framework also allows the volatility of monetary shocks to vary across regimes.²

Using the same sample period as FLS (1980–2008), figure 1 shows that monetary policy becomes less responsive to inflation during and after recessions—that is, monetary policy is “passive,” meaning that nominal interest rates adjust less than one-for-one with

²The Davig and Leeper rule is as follows: $r_t = \alpha_0(S_t) + \alpha_\pi(S_t)\pi_t + \alpha_x(S_t)x_t + \sigma_R(S_t)\varepsilon_t^R$, where the nominal interest rate, r_t , depends on inflation, π_t , and the output gap, x_t . S_t is the monetary policy regime. The regime evolves according to a Markov chain. See Davig and Leeper (2007) for additional details.

Figure 1. Monetary Regimes



Note: Passive regimes are when the interest rate is adjusted less than one-for-one with inflation. Solid lines are smoothed probabilities, whereas the dashed lines are filtered.

inflation. Since 1980, which is the starting point for the FLS analysis, the passive regimes were quite long lasting after the 1990–91 and 2001 recessions. In each case, job growth lagged even after growth resumed, granting these episodes the moniker of being “jobless recoveries.” The Davig and Leeper estimates suggest that the Fed may have been less focused on inflation during these periods and, instead, focused on the maximum employment leg of the Fed’s dual mandate.

To evaluate whether the FLS results can be recovered in this setting, the government spending shocks from Ramey (2013) are added to the Davig-Leeper rule.³ Over the sample period, about 12 percent of quarters contained an estimate of a government spending shock. One difference between this approach and FLS is that the Ramey shocks are not necessarily debt financed, which is the case

³These shocks are the expected present discounted value of government spending, triggered by military events, relative to GDP identified via a narrative approach.

for FLS. Based on the FLS results, a priori one would have expected that the coefficient on the Ramey shock would be negative. That is, interest rates would decline in response to an increase in government spending. The Ramey shocks, however, are not significant, even when looking at various subsamples over the period, and did not alter the timing of monetary regimes. These results imply that either the financing is of significant enough consequence to alter the estimates, the identification of fiscal shocks in the paper is somewhat fragile, or the statistical significance of the result is not at the level where it survives alternative specifications.

Why might the FLS result not translate to this alternative specification? One reason is that inflation is not included in the FLS model, so it may be missing an important factor driving monetary decisions. For the United States, the declining and low inflation rates, along with the jobless recoveries that shifted the Fed's focus toward employment, may have generated monetary policy responses that look like they were accommodating fiscal policy. Instead, the Fed was likely well aware of fiscal actions, though it may have taken the view that became influential in the late 1990s around financial conditions. Namely, monetary policymakers cannot respond to a wide array of different shocks, so instead they respond to a small set of macroeconomic variables. As a result, monetary policy only responds to financial conditions, or fiscal shocks or any other shock for that matter, to the extent they affect inflation or employment.

As a result, the absence of inflation in the VAR could result in a misspecified monetary reaction function, where it looks to be responding to fiscal shocks but is instead reacting to movements in the inflation rate and employment. Nonetheless, monetary policy was still passive for a significant amount of time since 1980. Whether this is due to accommodation of fiscal shocks, as FLS suggest, or a focus on employment growth, as the Davig-Leeper estimates suggest, the short- and long-term implications for inflation should still be understood.

2. Short- and Long-Term Implications of Fiscal Accommodation

In the short run, a passive monetary policy, combined with an active fiscal policy (meaning that taxes do not adjust sufficiently to debt

to ensure long-run sustainability), generates the fiscal theory of the price level. In this setting, a central bank can still hit its inflation target, though the variability of inflation is likely to be higher and fiscal shocks play a central role. If fiscal policy acts passively—that is, responsibly—then in many models, there is not a unique equilibrium when monetary policy is also passive. Consequently, questions may arise about how inflation expectations remain anchored, leading to potentially higher inflation variability.

The longer-run implications of passive monetary policy are potentially more consequential, especially in a rising debt environment. When the government's borrowing constraint binds, some action must be taken. Governments must default, impose a combination of higher taxes and lower spending, or turn to inflationary finance. FLS refer frequently to unpleasant monetarist arithmetic—that is, the “game of chicken” that results in a central bank capitulating to fiscal pressure by monetizing debt at the fiscal limit. If households expect government debt to be monetized, then expectations feed back onto current inflation rates, resulting in higher present-day inflation.

FLS use the results from their model to posit whether a central bank is likely to be in a position to resist inflationary finance at the fiscal limit. Plausibly, if fiscal shocks are accommodated when the government's borrowing constraint does not bind, a central bank will very likely accommodate shocks when it does. That is, are the results from the TVP-VAR suggestive that the central bank is more likely to capitulate and monetize the debt at the fiscal limit?

3. FLS's Twin Conjectures

FLS conjecture that an inflation target may discipline monetary policy to not accommodate excessive debt financing of government spending. Under this conjecture, an inflation-targeting central bank would not accommodate fiscal stimulus, as it could lead to inflation moving persistently above its target. That is, adoption of an inflation target requires monetary policy to “lean against the wind” where in the current context, the “wind” being fiscal policy.

FLS are surely correct to be concerned that unsustainable fiscal policy can result in pressure on monetary policy. As debt is rising,

monetary policy my succumb to pressure to keep real rates lower than would otherwise be the case. The resulting lower financing costs and higher levels of economic activity, as well as higher inflation that devalues nominal debt, can work in tandem to push back the day when the government reaches its fiscal limit. Accommodating the rise in debt puts inflationary finance on the horizon, even if that day is far into the future. FLS make the point that an inflation-targeting central bank cannot follow this approach and expect to have households maintain longer-run inflation expectations consistent with the inflation target. The econometric results in FLS are suggestive that countries adopting IT are less susceptible to these kinds of destabilizing dynamics.

The second conjecture is that an inflation target may also discipline fiscal policy, as the credibility of the inflation-targeting regime could limit the temptation of fiscal policy turning to inflationary finance. Consequently, fiscal authorities adjust taxes and spending in a way to ensure sustainable debt dynamics. Uncovering such connections empirically is likely to be challenging, but the idea definitely has appeal.

The question is whether, in practice, an inflation-targeting central bank can impose longer-term fiscal discipline. In theory, certainly. If inflationary finance is taken off the table in a model, then households must expect that fiscal adjustments will result in a stable debt trajectory—otherwise, transversality conditions are violated and debt is not valued in equilibrium. In reality, a question exists as to whether inflation targeting leads to expectations that all adjustments needed to stabilize debt are through spending and taxes. It's plausible, but as FLS state, it's also certainly a conjecture.

Overall, FLS's first conjecture is about how an inflation target disciplines monetary policy prior to hitting any fiscal limit. The second is about how an inflation target disciplines fiscal policy and thereby reduces the probability of hitting the fiscal limit. From this perspective, a credible inflation target and independent central bank aid in achieving not only price stability but also fiscal discipline. In some respects, the independence of the central bank, rather than an inflation target, may be more relevant to the ability of monetary policy to impose fiscal discipline.

4. Fiscal Backing of Sovereign Debt

Hitting the fiscal limit is a traumatic event for an economy. Historical examples abound, as do present-day examples of Zimbabwe, Greece, and Puerto Rico. The implications of inflationary finance in Zimbabwe are well known, as are the disinflationary and depressionary effects seen in Greece and Puerto Rico of not having access to the printing press.

In the economies in FLS, each country has an active investor base for its government debt. In the event they hit the fiscal limit, central banks may be able to engage in balance sheet actions, such as quantitative easing, that temporarily drive up prices (and drive down yields) on government debt. The inflationary implications of these actions, as of today, appear relatively benign—though the balance sheet expansions have not come due to the absence of fiscal capacity. The lack of inflation likely reflects that solvent governments stand, or the market expects them to stand, behind the assets of their central banks. Still, national governments may not understand this distinction, and so may lack fiscal discipline due to expectations that their central bank can bail them out. Consequently, the ability and willingness of national governments to back assets acquired by their central banks may have greater longer-term implications for inflation than the mere existence of an inflation target.

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