

Monetary and fiscal interaction

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Abstract

Unpleasant monetarist arithmetic, Leeper's active and passive regimes, the fiscal theory of the price level, and the fiscal reading of the 2021 inflation.

Two authorities share one budget constraint. The treasury sets primary balances, the central bank sets the interest rate and, through it, the interest bill and the inflation that erodes nominal debt. The identity from The government budget constraint and debt dynamics must hold in every equilibrium, so at least one of the two must adjust. Which one does is the regime question, and it determines whether the central bank controls inflation.

Unpleasant arithmetic

Sargent and Wallace made the point with a thought experiment. A central bank tightens today while the treasury keeps its deficits. Debt grows faster than the economy, and if the public knows that at some date the central bank will have to monetise the debt, expected inflation rises now. A tightening can therefore raise inflation, even today, when the fiscal authority does not follow (Sargent & Wallace, 1981). The result requires an upper bound on debt the public believes in, and $r > g$; it is the first formal statement that monetary policy without fiscal backing cannot deliver price stability.

Leeper: active and passive

Leeper wrote both policies as rules and asked which combinations give a unique stable equilibrium. Monetary policy is **active** if it raises the interest rate more than one for one with inflation (the Taylor principle) and **passive** otherwise; fiscal policy is passive if it raises the primary surplus enough in response to debt to keep it bounded, and active if it does not. Two regimes work: active money with passive fiscal, the textbook case in which the central bank pins down inflation and the treasury pays its bills; and passive money with active fiscal, in which the treasury does not react to debt and the price level must adjust to make the real value of debt equal to the surpluses that will be paid (Leeper, 1991). Both active is explosive; both passive leaves the price level indeterminate.

Definition 1 (Fiscal dominance). The regime in which fiscal policy is active and monetary policy passive: surpluses do not respond to debt, the central bank keeps the interest rate from rising enough to threaten solvency, and inflation is whatever balances the government's intertemporal budget. Sargent and Wallace's thought experiment ends in this regime.

The fiscal theory of the price level

Sims and Woodford turned the passive-money regime into a theory of price determination. In the government's intertemporal constraint, nominal debt B divided by the price level P must equal the present value of real primary surpluses:

$$\frac{B_{t-1}}{P_t} = \sum_{k=0}^{\infty} \beta^k \mathbb{E}_t s_{t+k}.$$

Read as an equilibrium condition rather than a constraint on the treasury, it says that if the public expects lower surpluses, the price level must rise so that the real value of debt falls to match; nominal government debt is priced like a claim on surpluses, as equity is priced on dividends (Sims, 1994; Woodford, 2001). Cochrane’s book develops this into a full account in which the interest rate rule still matters for the *path* of inflation while the fiscal backing determines its *level* (Cochrane, 2023). The theory is contested on whether the equation is a constraint or a valuation, but its empirical claim, that fiscal news moves inflation when it is not expected to be paid for, is now testable.

2021 as a test

Bianchi, Faccini and Melosi built a model with both regimes and let the data say which one financed each shock. They found that the pandemic transfers of 2020 and 2021 in the United States were largely perceived as unfunded, not to be repaid by future surpluses, and that this fiscal component explains a substantial share of the rise and the persistence of inflation in 2021 and 2022, a share that monetary tightening alone could not remove (Bianchi et al., 2023). Whether one accepts the decomposition or not, the episode revived the question of the 1980s: what does the treasury commit to when the central bank raises rates on a large stock of debt?

Reading the balance sheet across the table

The interaction runs in both directions. When the central bank holds long-term bonds financed by reserves, as after quantitative easing, rate rises produce central bank losses and smaller remittances to the treasury; the consolidated government has shortened the maturity of its debt, and the interest bill responds faster to policy. The lesson on the balance sheet in the Unconventional Monetary Policy course covers the mechanics; here the point is that “independence” is an arrangement about who adjusts, and the arrangement is tested precisely when debt is high, as in Fiscal policy after 2020.

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