University of Zurich[UZH]

Department of Economics

On the Low-Frequency Relationship Between Public Deficits and Inflation

Discussion of Kliem, Kriwoluzky, Sarferaz

by Mathias Hoffmann

University of Zurich

What they do

- Study the low frequency link between debt growth ($\Delta D_t/D_{t-1}$) and inflation π_t
  - using a Bayesian VAR framework with time-varying parameters
  - very long US time series
- Motivate their analysis from the fiscal theory of the price level (FTPL) and the unpleasant monetarist arithmetic (UMA)

What they find

- The LF-link between Debt and inflation has been varying in secular manner:
  - Rather volatile relationship during the period before 1930, with virtual absence of a link during the Great Depression
  - Positive but stable link in the postwar period
  - Very strong link after the end of Bretton-Woods
  - Weakening link after the Volker-Disinflation and during the Great moderation, largely due to independent monetary policy

Outline of comments

- I enjoyed reading this paper. Well written and executed. Important topic.
- Comments:
  - Is this the right relationship to identify when studying study fiscal/ monetary interactions?
  - Modelling violations of long-run solvency
  - Econometric quibbles
  - Interpreting the results

Comments (I): the right relation to look for?

- The econometric setup and choice of variables say nothing about fiscal sustainability.
- Debt growth may be a very poor indicator of ability to bring future discounted surpluses to match current debts.
- Maybe better to look at growth in debt/GDP ratio instead?

Comments: modelling intertemporal solvency

- FTPL & UMA are about government not respecting its budget constraint at current real interest rates, $i_t - \pi_t$
  - under FTPL: real interest rate adjustment occurs through $\pi \uparrow$ at a certain point – no matter what i_t.
  - under UMA: real interest rate adjustment occurs more directly through monetization: $i \downarrow$ and $\pi \uparrow$
- How about some notion of intertemporal budget balance in the econometric framework?
  - include IBC directly into the model (see next slide)
  - include long-term interest rates and the term structure.
  - include maturity structure of debt

Comments: modelling intertemporal solvency (cont'd)

- I know how to model intertemporal solvency in the classical framework:
  - linearized budget constraints lead to cointegrating relations (Campbell Shiller (JPE 1987), Lettau and Ludvigson (AER 2004), Cochrane (QJE 1994)).
  - Then use the cointegrating error to check which variables drive the error correction.
- TVPs are fine. But the long-run relations implied by IBCs are rather stable over time. Maybe a possibility to embed that here?

Comments: econometrics

- Authors identify factor structure in the structural chane affecting $\boldsymbol{A}_t$ and $\boldsymbol{B}_t$:

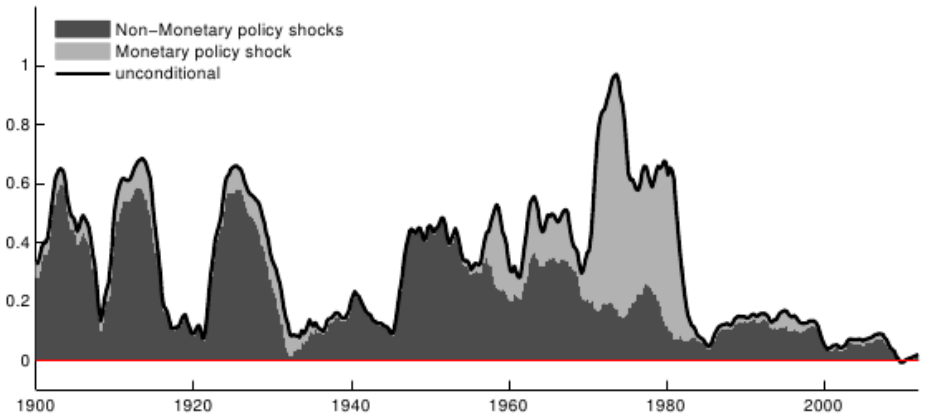
$$Y_t = \boldsymbol{A}_t X_t + \boldsymbol{B}_t \boldsymbol{H}_t^{1/2} \epsilon_t$$

where $\boldsymbol{A}_t = \left[\begin{array}{cccc} \boldsymbol{c}_t & \boldsymbol{A}_{1t} & \boldsymbol{A}_{2t} & \ldots \quad \boldsymbol{A}_{pt} \end{array} \right]$ and

$$\begin{aligned} vec(A_t) &=: a_t = a_{t-1} + v_t \text{ where } v_t = \beta_{\boldsymbol{v}} f_t \\ vec(B_t) &=: b_t = b_{t-1} + \zeta_t \text{ where } \zeta_t = \beta_{\zeta} f_t \end{aligned}$$

- This factor structure should translate into rank restrictions on $\boldsymbol{A}_t$and $\boldsymbol{B}_t$ —> implying a common-cycle or common-trend restriction on Y_t! Exploit it for identification!
- Note that f_t might be the same for ζ_t and v_t! (you find 6 factors for both $\boldsymbol{A}_t$ and $\boldsymbol{B}_t$)

Comments: interpretation of results



– Variation in i driving the correlation before 1980 & also somewhat during interwar period. These were periods of low capital mobility. Reinhart & Sbrancia have argued that such periods give governments lots of leeway to engineer low i / moderate π / low real interest rate environments using a host of mechanisms —> financial repression!

Comments: interpretation of results (cont'd)

- Would be nice to try and identify a fiscal shock as well. What drives variation in real interest rates? monetary or fiscal factors? Could you even distinguish between FTPL and UMA?
- Finally: may want to look at a another country in comparison: the UK. The United states were the hegemon of the post-WWI period, enjoying increasing 'privilege' and providing the world with it's safe asset. Maybe would expect that Fiscal / Monetary Interactions more pronounced in a country with nascent soveriegn bond market (the UK in the century) and with a lot of more or less successful wars.