

Discussion of:
**‘An Equilibrium Model of Nominal Exchange
Rates, Current Accounts and Asset Flows’**
Marcus Hagedorn

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Interesting paper on key topic in International Macro

Interest rate targeting (exogenous short term policy rate: does not respond to inflation) may lead to INDETERMINACY of the price level & the level of the nominal exchange rate

Sargent & Wallace (1975), Kareken & Wallace (1981)

$$\dot{i}_{t+1} = E_t p_{t+1} - p_t; \quad \dot{i}_{t+1} = \dot{i}_{t+1}^* + E_t e_{t+1} - e_t,$$

e_t : nominal exchange rate (Home currency price of Foreign curr.)

(rise in e_t : depreciation of Home currency)

If $\dot{i}_{t+1}$ & $\dot{i}_{t+1}^*$ are exogenous ('passive' monetary policy, Leeper), then

$E_t p_{t+1} - p_t$ & $E_t e_{t+1} - e_t$ pinned down, but the LEVELS p_t & e_t are NOT necessarily pinned down.

What mechanism might pin down p_t & e_t ?

- 1) Fiscal theory of the price level: 'non-Ricardian' fiscal policy (Leeper)
(primary surplus does not rise (strongly) when real public debt $\uparrow$)

$$D_t/P_t = E_t \sum_{i \geq 0} \rho_{t,t+i} s_{t+i}; \quad s_{t+i}: \text{real primary surplus}$$

Pins down P_t (as nominal debt D_t is predetermined).

- 2) Might also assume that p_t OR W_t is predetermined. Assume labor markets are competitive & clear: labor supply = labor demand.
Pins down $\omega_t \equiv W_t/P_t$. If W_t is predetermined, then P_t is determinate

Marcus present a third mechanism that can ensure determination of LEVEL of prices & nom.exch rate, UNDER PASSIVE MONETARY POLICY

Two-country portfolio balance model
(FTPL does not hold; FLEXIBLE prices & wages)

Ingredients:

- (1) EXOGENOUS supply of NOMINAL gov't bonds, denominated in Home & Foreign currency.
- (2) Country-specific shocks macro $\Rightarrow$ Home & Foreign currency bonds are imperfect substitutes. Can derive Home & Foreign household's demand for REAL holdings of Home & Foreign bonds.
 $\Rightarrow$ With exogenous supply of NOMINAL bonds, the PRICE LEVEL adjusts to the level that equates the REAL value of bonds to demand

Remarks:

- Discussion in paper (so far) only pertain to steady states. Discussion is suggestive. Model not yet fully solved.

Hinge on **assumptions** about valuation effects & equilibrium portfolios—unclear whether those assumption consistent with actual equilibrium.

Equilibrium portfolios (hedging) not fully characterized.

- Model dynamics: only suggestive analysis.
- No quantitative model results yet.

Comments:

- What stylized facts motivate this research ?
- Indeterminacy may be desirable (eg for explaining nom.exch.rate volatility)
- Why write a paper on price level determination under passive monetary policy, now ?

Since 1980's monetary policy targets inflation, (extended) Taylor rule.

Price & exchange rate are determinate if Taylor principle holds.

$$\dot{i}_{t+1} = \gamma_{\pi} \cdot \pi_t + \gamma_y y_t + \gamma_e \Delta e_t + \dots$$

$\gamma_{\pi} > 1$ ensures unique price level (locally)

Set $\gamma_e > 0$ to stabilize nominal exchange rate

Under ZLB: mon.pol. is 'passive', but ultimately will emerge from ZLB, and expect that then will again follow Taylor rule. Ensures determinate price level & exchange rate.

- Is device for generating determinate exchange rate proposed here 'better' than FTPL?

Would need calibrated model & quantitative results.

- Should simplify model to make determinacy point!

- Is within-country heterogeneity and incompleteness needed?

It implies violation of Ricardian equivalence.

⇒ Desired gross real private holdings of Home & Foreign bonds pinned down ⇒ Allows to pin down price level when nominal bond supplied exogenous.

(Under Ricardian equivalence, only NET external holdings of Home & Foreign bonds pinned down

⇒ Price level not pinned down by GROSS public)

Within-country heterogeneity interesting, but huge computational burden. Perhaps model with representative agent & ‘simpler’ violation of Ricardian Equiv. (e.g. distorting taxes) would be more tractable?

- Needed in future work: characterization of more interesting fiscal policy rules (time-varying debt) that allow the mechanism here to work.

- Can conventional methods for computing equilibrium portfolios (and portfolio dynamics) be used?

Devereux & Sutherland; Tille & van Wincoop; Kollmann

Conclusion: promising paper

High risk project, but potentially high scientific return.

What stylized facts ?

Look forward to reading future versions of the paper !

Thank you!