

Policy rules for capital controls

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Discussion

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¹The opinions expressed and conclusions drawn are those of the author and do not necessarily reflect the views of the Bank of Italy.

- **Motivation:**
 - ① In EMEs capital controls (CC) are higher than 10 years ago.
 - ② Theoretical literature justifies CC.
 - ③ Partial rehabilitation by the IMF.
- **This paper:** Estimation of Taylor-type rules for CC.
- **Challenge:** How to measure CC? Which are the target variables?
- **Findings:**
 - ① EMEs tighten capital controls when the exchange rate appreciates: **competitiveness motive**.
 - ② EMEs tighten capital controls when the credit/gap opens up: **macroprudential motive**.

Panel ordered logit model (country i , week t) for 11 EMEs from 2001 to 2015.

$$Pr(y_{it} = s_j | w_{it-1}) = f(X_{it-1}^{MP}\beta^{MP} + X_{it-1}^{FX}\beta^{FX} + X_t^G\beta^G + X_{it-1}^O\beta^O)$$

- $Pr(y_{it} = s_j | w_{it})$: probability that country i takes s_j CC actions in week t , conditional on $w_{it} = \{X_{it-1}^{MP}, X_{it-1}^{FX}, X_t^G, X_{it-1}^O\}$.
- X_{it}^{MP} : bank credit-to-GDP gap.
- X_{it}^{FX} : weighted exchange rate vis-à-vis the 5 main competitors.
- X_t^G : VIX.
- X_{it}^O : set of dummies for fiscal, monetary and past CC policy.

Comment #1: Why not OLS?

- Suppose that in week t country i :
 - ① raises the tax on portfolio equity,
 - ② imposes a cap on portfolio equity,
 - ③ reduces the tax on notional amount of currency derivatives.
- Suppose that country's liabilities are the following:

$$\frac{ptf_liab_t}{tot_liab_t} = 32.5\% \quad \frac{der_liab_t}{tot_liab_t} = 20.4\%.$$

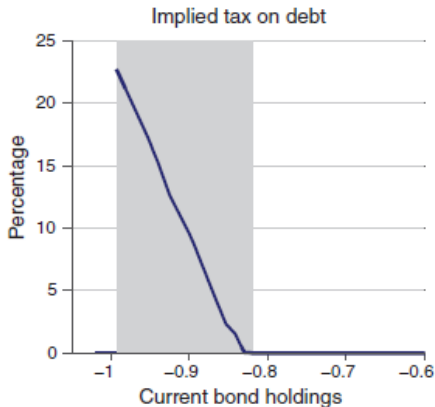
- This implies that in week t capital controls are:

$$y_{it} = 2 \times 0.325 - 1 \times 20.4 = 0.446.$$

- The weighting procedure implies that y_{it} is a continuous variable! **So why to not use OLS? Is it for a better interpretation of the results?**
- Then the author transforms y_{it} to reduce the categories to 5.

Comment #2a: Link with theory

Asymmetric capital controls



Optimal tax on foreign debt in Bianchi (2011)

Comment #2a: Link with the theory

Asymmetric capital controls

- Several authors (Bianchi, Korinek, Jeanne) justify CC in model with occasionally binding financial constraints:

$$d_t \leq \chi(q_t k_t)$$

where d_t is external debt, q_t is FX rate and k_t is collateral.

- The macropru. motive for CC works as follows. Agents over-borrow as they do not consider that, by borrowing, they induce a real depreciation ($q_t \downarrow$), making the constraint tighter.
- A tax on d_t reduces external borrowing: welfare improvement.
- In these models, optimal tax is non-increasing in net external assets. If net external assets sufficiently high, optimal tax is 0.
- Do CC respond asymmetrically to external debt? Do CC respond asymmetrically to credit/GDP?

Comment #2b: Link with the theory

Interest rate manipulation

- Countries may have an additional motive for CC: to affect the interest rate (Costinot et al., 2014, Heathcote and Perri, 2016).
- Countries would like a lower interest rate when they borrow.
- A tax on capital inflows reduces the interest rate. According to the UIP, the effective interest rate (net of CC τ_t):

$$R_t - \tau_t = R_t^* + E_t(\Delta s_{t+1}).$$

- EMEs can affect $E_t(\Delta s_{t+1})$ (expected depreciation of domestic currency)! EMEs should reduce $E_t(\Delta s_{t+1})$ when they borrow. CC can do the job.
- Problem: in an empirical model, hard to disentangle this channel from the competitiveness motive.

Comment #3: Implication for business cycle models

Interest rate manipulation

- Suppose that in a DSGE model for an open economy, capital controls τ_t are set according to the following rule:

$$\tau_t = \phi_q q_t + \phi_d cy_t,$$

where q_t is the real exchange rate and cy_t is credit/GDP gap.

How should a researcher calibrate ϕ_q and ϕ_d ?

- I think that the paper should elaborate more on this issue. Not straightforward: capital controls are not a single instrument!

- Smart paper based on a very simple idea: Taylor rules for capital controls.
- Gurnain's CC indicator is the best available in the literature and is definitely well-suited for her analysis.
- I suggest the author to further strengthen the link with theoretical models.
- Paper definitely ready for submission to prestigious journals