

Two Targets, Two Instruments: Monetary and Exchange Rate Policies in Emerging Market Economies

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Question

- ▶ Should inflation targeting be supplemented by judicious foreign exchange intervention, especially in the face of volatile capital flows?
- ▶ More applicable for emerging market economies (EMEs)
- ▶ Rationale: Financial market and macro instability as a result of excessive exchange rate volatility
- ▶ Tools: Augmented Taylor rule, a simple open economy model with imperfect capital mobility and a simulation exercise incorporating richer dynamics.

Results

- ▶ Using an augmented Taylor type reaction function, the paper suggests that the EME central banks do take exchange rate volatility into account and undertake sterilized interventions.
- ▶ Using a simple model the paper shows that by adding FX intervention as another policy tool, the EME central banks with IT frameworks can capture much of the currency stabilization gains that discretionary policy afford without jeopardizing the credibility of the central bank.
- ▶ The results show that FX intervention is not only fully consistent with IT, it may actually enhance the credibility of the central bank's inflation target.

Comments

- ▶ Unconventional model specification of the Taylor rule: real interest rate as a policy instrument

$$i_t - \pi_t^* = \beta_0 + \beta_1(i_{t-1} - \pi_{t-1}^*) + \beta_2(\pi_{t+4}^e - \pi_t^*) - \beta_3 \Delta \log(REER_t) + \beta_4 YGAP_{t-1} - \beta D_{08:4-09:2} + \varepsilon_t,$$

- ▶ REER or deviation of REER from some fundamental or long-run value?
- ▶ Nominal vs Real
- ▶ Short-run vs long-run response of interest rate
- ▶ Real interest rate response to inflation = $\frac{\beta_2}{(1-\beta_1)} > 3$
- ▶ Too large?

Estimation results

| | Dependent Variable: policy rate - int. target | | |
|---|--|----------------------|-----------------------|
| | (1) | (2) | (3) |
| Lagged (policy rate - inflation target) | | 0.854 *** [0.020] | 0.870 *** [0.023] |
| Expected inflation - inflation target | 1.328 *** [0.209] | 0.462 *** [0.059] | 0.441 *** [0.047] |
| Change in REER | | | -0.040 *** [0.012] |
| Lagged output gap | | | 0.120 *** [0.030] |
| Dummy for Global Financial Crisis | 0.820 * [0.414] | -0.933 ** [0.361] | -0.977 ** [0.353] |
| Country Fixed Effects | YES | YES | YES |
| Observations | 654 | 640 | 640 |
| R-squared | 0.250 | 0.887 | 0.899 |
| Number of Countries | 15 | 15 | 15 |

Estimation Results

| | Change in Reserves | |
|-----------------------------------|---------------------|-----------------------|
| | IT | Non-IT |
| Change in REER | 0.252 ** [0.088] | 0.564 ** [0.195] |
| Dummy for Global Financial Crisis | -1.948 [2.167] | -12.301 ** [4.454] |
| Country Fixed Effects | YES | YES |
| Observations | 646 | 520 |
| R-squared | 0.031 | 0.054 |
| Number of Countries | 15 | 10 |

- ▶ Reserves respond to changes in REER, but are they effective in reducing the volatility?

Model

- ▶ Objective function: $\text{Min} \sum_t \delta^t ((y_t - \bar{y})^2 + a\pi_t^2 + be_r^2 + cR_t^2)$
- ▶ Phillips curve: $\pi_t = \beta E_t \pi_{t+1} + ky_t$
- ▶ AR(1) shocks to foreign real interest rates and aggregate demand shocks.
- ▶ IS curve, current account and BOP equations

Comments on Modeling Set Up and Implications

- ▶ Canzoneri and Cumby (2014) argue that pure inflation targeting may be preferable to leaning against the wind unless an appropriate intermediate exchange rate target can be identified. And, there is no one intermediate target that is appropriate for all shocks coming from abroad.
- ▶ Finding an appropriate intermediate target and implementing a successful leaning against the wind policy may be as difficult as implementing the optimal policy.

Comments on Modeling Set Up and Implications

- ▶ The current set up of the model does not take into account the costs of sterilization.
- ▶ What happens to relative risk premia of different types of assets as a result of forex intervention?
- ▶ Forward looking Phillips curve. What about the persistence of inflation? In EMEs, backward looking component should play an important role.
- ▶ There is also no cost push shock in the model.

Comments on Modeling Set Up and Implications

- ▶ Modeling Heterogeneity
 - ▶ Central Bank's credibility
 - ▶ Financial vulnerability
- ▶ For example, Garcia et al. (2011) show that financially vulnerable economies are especially likely to benefit from exchange rate stabilization due to perverse movements of the exchange rate they experience when hit by demand shocks and being more prone to risk premium shocks.
- ▶ Similarly, Blanchard et al. (2014) show that countries with a strong domestic investor base offset the behavior of foreign investors in response to global financial shocks and the central bank does not need to intervene

Comments on Modeling Set Up and Implications

- ▶ The paper is silent on terms of trade shock. The literature seems to suggest that the effectiveness of sterilized intervention may depend a great deal on terms of trade shocks.
- ▶ More discussion about how the parameters for the calibration were chosen.
- ▶ How sensitive are calibration results to the chosen parameter values?
- ▶ For example, the weight assigned to reserves in loss function is 1/10th of the exchange rate weight?
- ▶ Can we derive the optimal weights in the loss function?
- ▶ Asymmetric response to inflows vs outflows?