Comments on Two Pillar Policy for the RMB[1]

Mark M. Spiegel

FRB San Francisco

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[1]The views expressed herein are those of the authors and do not necessarily reflect the views of the Federal Reserve Bank of San Francisco or the Federal Reserve System.

China has recently reformed exchange rate regime

- Based on "Two pillars"
- More response to market conditions
  - Based on previous day closing price
- Desire to keep RMB stable against global currencies
  - Based on a weighted basket of currencies
- Given equal weights, two pillars explain 75-80 percent of RMB variability

This paper models "Two pillars regime"

- Country currency basket
  - Weighted by trade, $\overline{S}_{t+1}$
  - Dollar's weight has been gradually reduced, 22% in 2017
- Combined with previous day closing price ${S_t}^{CL}$, central parity satisfies:

$$S^{CP}_{t+1} = (\overline{S}_{t+1})^{\omega}({S_t}^{CL})^{(1-\omega)}$$

where ω determines the relative weight on the currency basket

Empirical results

- Using 60 day rolling regression windows, weight on index stability increases gradually until formal announcement 12/15
- Settles to around 0.5 weight after that
- Calibration exercises demonstrate that bands are occasionally binding, even at 2%

Derivation of exchange rate under two pillar regime

- Adaptation of Jermann (2017) model of euro-Swiss franc
- Relies on no arbitrage condition

$$\frac{1+r^s}{1+r^C} E_t^Q [V_{t+1}] = V_t$$

- where V_t denotes "fundamental rate" that prevails if Chinese abandon regime
- Paper acknowledges interpretation of V_t can be broad, but suggests free float as plausible specification x
- Kind of looks like a UIP condition

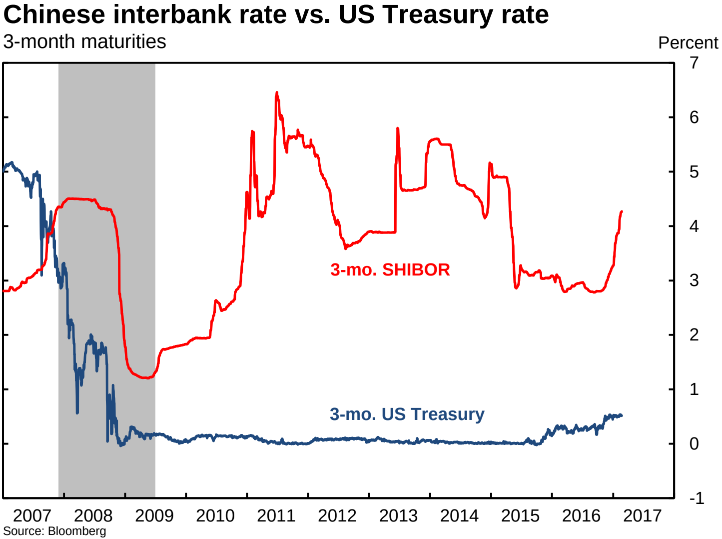
Results

- V_t larger than both central parity and spot rate
  - About 3%
  - Implies RMB depreciation expected
- Probability of 3-month continuation of regime around 70-80%
- Initial launch of regime ω about 80%
  - More weight on currency stabilization
  - Now more like 50%
  - Also evidence of adjustment in face of events, such as $ appreciation after BREXIT vote

Comments

- Interesting approach that rings true
- Execution is careful and makes a lot of sense
- Innovative use of market data through options pricing to gauge expectations
- Would recommend it highly

Large and persistent deviations from UIP in China



No arbitrage application may be better suited for euro-Swiss case

- Euro-Swiss franc case [Jermann (2017)]
  - Free capital mobility
  - Thick and competitive financial markets with little government interference
  - Non-zero probability of abandoning regime disciplines attainable exchange rates
- None of these are true for China
  - Capital controls are imperfect, but prominent
  - Chang, et al (2015): Government swaps assets at par to absorb capital inflows
  - Process has fiscal costs
  - But swaps at par are assumed (and true), but not required

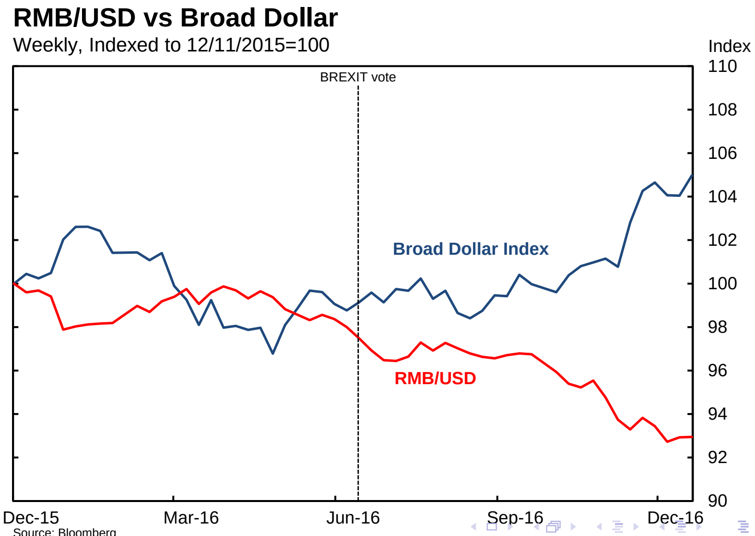
What is V_t in China?

- Given capital controls, not at all clear that abandonment of two pillar policy implies reversion to float
  - Much more likely that China would go back to a managed peg against dollar
  - Would like to see explicit consideration of implications of other exit strategies
- What discipline does potential for abandonment of regime place on attainable exchange rates?
  - Can't China pick whatever it wants given capital account policies?
  - Clearly leakages exist, but maybe we need to understand these better

BREXIT episode

- Paper estimates weight on currency basket ω dropped from 0.506 on June 22 to 0.369 on June 23 and then 0.209 on June 24.
- Seems to be some confusion with dates
  - Vote was on Thursday, June 23 in UK
  - Moreover, bulk of drop in pound value felt the following day, June 24
  - Needless to say, it was even later in China at that time.
- More importantly, not sure what to make of close to zero fitting error in second half of sample.
  - Lots of degrees of freedom to fit data
  - Would like to see range of point estimates for fitted ω

Unclear that movement away from dollar corresponded to BREXIT episode



Conclusion

- Like the paper a lot
  - Explores stated policy of balancing trade-weighted index and market supply and demand for renminbi
  - Estimated model appears to fit well
  - Paper is clearly still in progress, but approach looks very promising
- More thought could be given to impact of capital account regime and alternative exit strategies