Discussion of "Monetary Policy and the Uncovered Interest Rate Parity Puzzle" by Backus, Gavazzoni, Telmer and Zin (2014)

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Disclaimer

- The views in this discussion are solely the responsibility of Wenxin Du and should not be interpreted as reflecting the views of the Board of Governors of the Federal Reserve System or any other person associated with the Federal Reserve System.

Overview

- This paper:
  - use monetary policy asymmetry to explain exchange rate anomalies.
- Main theoretical finding:
  - more procyclical (wrt to output gap) and more accommodative (wrt to inflation) monetary policy gives rise to riskier currencies.
- Calibration using the US and Australia:
  - find support for monetary asymmetry, but not big enough to generate the AUD currency risk premium.
- Interesting paper on an extremely important research area.

Discussion Outline

1. Summary of the model
2. Potential empirical motivation
3. To understand currency risk, is the parsimonious model ...
   - 3.1 reasonable for monetary policy?
   - 3.2 reasonable for inflation?
4. Minor Comments

#1. Summary of the Model

- Exchange rates in complete market 101: $s_{t+1} - s_t = \log m^*_{t+1} - \log m_{t+1}$

$$\begin{aligned} \mathbb{E}_t s_{t+1} - s_t &= \mathbb{E}_t \log m^*_{t+1} - \mathbb{E}_t \log m_{t+1} \\ i_t - i^*_t &= \log \mathbb{E}_t m^*_{t+1} - \log \mathbb{E}_t m_{t+1}. \end{aligned}$$

- The risk premium on the FC:

$$\begin{aligned} -p_t &= (\log \mathbb{E}_t m_{t+1} - \mathbb{E}_t \log m_{t+1}) - (\log \mathbb{E}_t m^*_{t+1} - \mathbb{E}_t \log m^*_{t+1}) \\ &= \mathbb{V}_t(\log m_{t+1})/2 - \mathbb{V}_t(\log m^*_{t+1})/2 \quad (\text{lognormal}) \end{aligned}$$

- Taylor rules:

$$\begin{aligned} i_t &= \tau + \tau_x x_t + \tau_\pi \pi_t \\ i^*_t &= \tau^* + \tau^*_x x^*_t + \tau^*_\pi \pi^*_t \end{aligned}$$

- Result: FC is risky if $\tau_x < \tau^*_x$ and $\tau_\pi > \tau^*_\pi$.

#2. Provide Empirical Motivation

- The paper would benefit greatly from an empirical motivation between Taylor Rule coefficients and currency risk premium.
- Empirically estimate the Taylor rule for different currencies to obtain (α^i, β^i):

$$\bar{i}_t = \bar{r} + \pi_t + \alpha(\pi_t - \bar{\pi}_t) + \beta(y_t - \bar{y}_t) + \epsilon_t$$

  - Can allow policy rates to move toward the target gradually, $i_t = (1-\rho)\bar{i}_t + \rho i_{t-1}$:

$$i_t = \mu + \rho i_{t-1} + (1-\rho)(1+\alpha)\pi_t + (1-\rho)\beta(y_t - \bar{y}_t).$$

- Compute carry trade excess returns over \$ for the same period: rp^i.
- Scatterplots to see if

$$Cov(\alpha^i, rp^i) > 0, \qquad Cov(\beta^i, rp^i) < 0.$$

#3.1 ... reasonable for monetary policy?

- No question that the Taylor rule provides a first-order approximation.
- Scope of the paper: G10 versus EM currencies?
- A simple Taylor rule may not characterize MP in EM:
  - Interest rates can be countercyclical (Russia, yesterday)
    - explicit FX mandate
    - manage capital flows
  - May lack MP commitment
    - inflationary bias
  - May use MP to serve fiscal means.
    - Inflate away nominal debt
- For G10 currencies:
  - Exogenous consumption process is undesirable for discussing active monetary policy.

#3.1 ... reasonable for monetary policy? (continued)

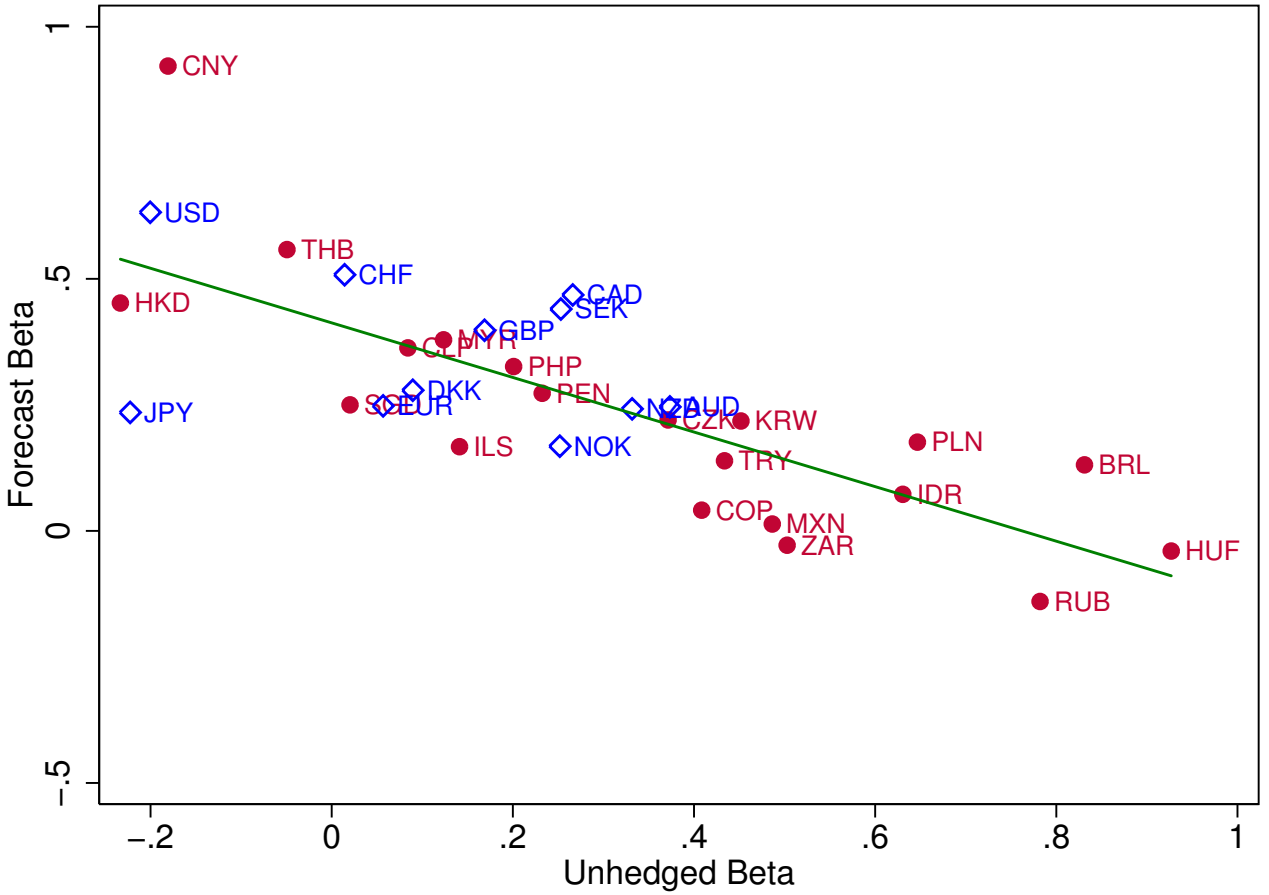
- Alternative: 3-eq New Keynesian model (e.g. Clarida, Gali and Gertler, 2001):

$$\begin{aligned} x_t &= -\phi(i_t - \mathbb{E}_t\pi_{t+1}) + \mathbb{E}_t x_{t+1} + \epsilon_t^{IS} \\ \pi_t &= \lambda x_t + \beta\mathbb{E}_t\pi_{t+1} + \epsilon_t^{PC} \\ i_t &= \tau + \tau_x x_t + \tau_\pi \pi_t + \epsilon_t^{MP} \end{aligned}$$

- The main mechanism in the current version: endogenous inflation is negatively correlated with consumption growth.
  - Counterfactural in the recent period (more later).
  - Need not hold for an endogenous consumption process.
- Term structure Implications (e.g. Campbell, Pflueger and Viciera, 2014)
  - U.S. nominal bonds switched from a risky asset to a hedge for stock markets.
  - Use nominal bond risk premium to identify MP shocks.
- High-frequency identification of FX response.

#3.2 ... reasonable for inflation? [2005-2013]

Figure 1: Inflation Cyclicality and Nominal Bond Risk (Du and Schreger, ongoing)



- x-axis: Forecast β: revisions to inflation forecasts on revisions to GDP forecasts (Concensus Economics)
- y-axis: Unhedged Global β: \$RX on holding LC 10-year bond on S&P RX.

#3.2 ... reasonable for inflation? (continued)

- In the recent decade, Inflation is perceived to be procyclical in the low-risk countries, and countercyclical in high-risk countries.
- Perceived inflation cyclicality is among the highest for the US. Foreign currency cannot have positive risk premium vis-a-vis the $ if the real pricing kernels are the same across countries and markets are complete.
- Must have a model that monetary policy affects the real rates, or abandon the complete market framework.
  - Carry trade capital flows?

#4. Minor Comments

1. Discuss more the link between MP asymmetry and differential loadings on global risk factors.
2. Conclusion discussion about carry trade costs in implementing MP is a bit loose.
3. Carry trade anomaly versus UIP puzzle (Hassan and Mano, 2014).
4. Be more consistent with word usage (small or large of a negative number, procyclical, accommodative, passive, etc.).

Conclusion

- Extremely important research topic.
- The paper has the potential to become a benchmark paper.
- A simple Taylor rule with exogenous consumption processes may not be enough.
  - Enrich the model.
  - Empirical relevance of model predictions.