Discussion of "FX Intervention with UIP and CIP Deviations" by P Bacchetta, K Benhima, and B Berthold

Wenqian Huang (BIS)

QCGBF, 1 July 2024

Disclaimer: The views expressed here are all mine and not necessarily of the Bank for International Settlements.

Summary

- An insightful and well-written paper on FX intervention costs
  - with a focus on how they relate to UIP and CIP deviations
  - with empirical analysis on safe haven economies
- For safe haven currencies, CIP and UIP deviations often have different signs
  - A positive CIP deviation $\longrightarrow$ covered returns on domestic bonds (hedged via forward contracts) are higher than their foreign counterparts
  - A negative UIP deviation $\longrightarrow$ a negative excess return (typical for safe haven currencies)
- The paper models the CB as a constrained planner with interactions between
  - CIP and UIP deviations
  - SDFs of domestic HH and international FI

Summary

- Empirical evidence: international FI value the hedging properties of safe haven currencies more than domestic HH do

Table 1: $\frac{Cov(x^*_{t+1}, m^*_{t+1})}{E_t(m^*_{t+1})}$ and $\frac{Cov(x^*_{t+1}, m_{t+1})}{E_t(m_{t+1})}$

A) CHF domestic currency, USD foreign currency					
	Fin. Intermediaries				HH
$NW_{t+1} =$	$\eta^{HKM}_{t+1} \times W^{MSCI}_{t+1}$	$\eta^{AEM}_{t+1} \times W^{MSCI}_{t+1}$	$\eta^{HKM}_{t+1} \times W^{GDP}_{t+1}$	$\eta^{AEM}_{t+1} \times W^{GDP}_{t+1}$	C^{CH}_{t+1}
1999-2010	1.61	1.74	0.2	-1.17	0.25***
2010-2020	2.82**	1.32	5.1*	2.13**	0.01
B) JPY domestic currency, USD foreign currency					
$NW_{t+1} =$	$\eta^{HKM}_{t+1} \times W^{MSCI}_{t+1}$	$\eta^{AEM}_{t+1} \times W^{MSCI}_{t+1}$	$\eta^{HKM}_{t+1} \times W^{GDP}_{t+1}$	$\eta^{AEM}_{t+1} \times W^{GDP}_{t+1}$	C^{JP}_{t+1}
1999-2010	1.85	-2.9	-3.57	-2.56**	0.7***
2010-2020	6.39***	3.31**	7.93***	2.63**	0.33

- Optimal policy decisions
  - CB can improve welfare by accumulating FX reserves

Overall assessment

- **Tractable and insightful framework**
  - The authors present an innovative framework that integrates international financial intermediaries' valuation of safe haven currencies
- **Robust empirical validation**
  - The empirical evidence provided is robust and convincingly shows the unique interaction between UIP and CIP deviations in economies like JP and CH
- **Policy Relevance**
  - The paper offers valuable policy insights for CBs in safe haven economies, suggesting when and how to accumulate FX reserves to optimize welfare
- My comments will focus on better understanding some of the key assumptions

Comment 1: Assumptions on the forward market

- Two key assumptions to simplify the model
  - **Only dealers use FX forwards**
  - The forward market is effectively frictionless for FI
- However, according to the BIS statistics, non-dealers account for the lion share of FX forwards trading

2022 | **Currency leg 1:** Total (all currencies) | **Currency leg 2:** Total (all currencies) | **View:** Value | **Level:** Level 3

	Total FX contracts	Spot transactions	Outright forwards	Foreign exchange swaps	Currency swaps	Total options	Other products
Total FX contracts	7,505,992	2,104,019	1,163,471	3,810,157	123,945	304,330	70
with reporting dealers	3,459,638	840,408	393,921	2,042,218	65,319	117,770	...
with other financial institutions	3,621,588	1,113,742	674,794	1,619,980	53,127	159,943	...
with non-financial customers	424,701	149,869	94,756	147,959	5,498	26,617	...

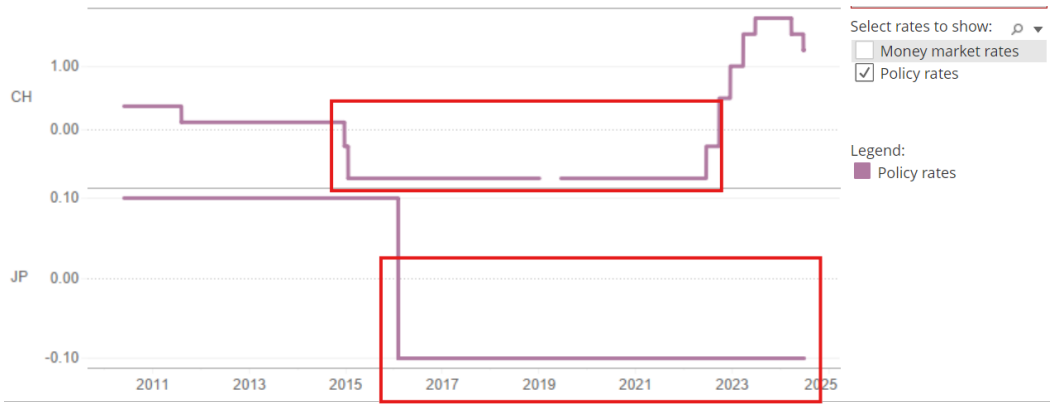
- If HH are allowed to arbitrage the CIP deviations, is the domestic SDF more correlated to the excess return? $\longrightarrow$ Maybe some discussions?

Comment 1: Assumptions on the forward market

- Two key assumptions to simplify the model
  - Only dealers use FX forwards
  - **The forward market is effectively frictionless for FI**
- Although FX forwards do not involve a transfer of funds *ex ante*, they often involve **counterparty risk** and **regulatory constraints** $\longrightarrow$ not frictionless
- Du, Tepper and Verdelhan (2018) shows that CIP deviations are strongly associated with the frictions in FX forwards (and swaps)
- Some discussions on how these frictions will affect the relationship between CIP and UIP deviations would be useful

Comment 2: Safe haven currencies and negative rates

- Safe haven economies like JP and CH had long periods of negative interest rates



- Is the ZLB assumption needed?
- How negative rates differ from FX interventions in the model?

Comment 3: Estimation of covariance differential

- As shown in Table 1, the covariance differential between domestic HH and international FI varies over time
- This differential is the key component that determines the utility cost/benefit of FX intervention
- It will be informative if the authors can show the time series of the various measures of this differential
- Presumably, the time series variation would come from x^*_{t+1}?
- If this differential is smaller in stress states (e.g., Covid shock, Ukraine war) compared to normal states, it can have implications to the optimal FX interventions in stress times?

Minor comments

- Why only JP and CH? Maybe include a section that explores the potential applicability of the model to broader contexts
- Some of the inline expressions are a bit confusing, e.g., the covered amount should be $f_t^*/((1+i_t)S_t)$ instead of $f_t^*/(1+i_t)S_t$
- Maybe add a table in the appendix that summarises the notation?

Concluding remarks

- A very insightful framework to study the interactions between FX interventions, UIP and CIP deviations
- The focus on safe haven economies leads to useful policy implications
- All economists interested in FX dynamics should read it