

The Implications of CIP Deviations for International Capital Flows

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The views and conclusions are those of the author and do not necessarily indicate concurrence by the Federal Reserve Bank of New York, the Federal Reserve System, their staff or policies.

Paper Overview

- Two rich regulatory datasets: universe of FX derivatives and securities holdings in the euro area
- The framework: Euro area investors cannot directly borrow in dollars so can only hedge risks using FX derivative markets. Hedges are very short term, investments longer term. Maturity mismatch leaves risk-averse international investors exposed to cross-currency basis risk. CCB widening (hedging costs?) spurs reduced FX hedging and fewer dollar holdings.
- Estimate elasticities of euro area investor international portfolio responses to CCB, a granular instrumental variable using transaction-level FX positions, for a causal impact of FX derivative market frictions.

Paper is carefully executed and addresses issues that are important to research and policy communities.

Growing literature on CIP deviations and international capital flows

- International portfolio allocations exhibit persistent home bias. In addition, capital flow responses to CIP deviations and return differentials are low.
 - ▶ Extensive work on international portfolio theory to rationalize weak or slow responsiveness (Bacchetta and van Wincoop)
 - ▶ Sensitivities of international capital flows to interest rate components in CIP are distinct, with large US rate role in global financial cycle.
- Risk conditions are important drivers of international capital flows.
 - ▶ Dynamics differ for typical risk levels versus extreme conditions. Instrument class flows exhibit different elasticities to risk (cross border bank loans versus international debt securities).
 - ▶ Cross-currency bases highly sensitive to risk shocks.
 - ▶ Some view the dollar exchange rate (appreciation, as an asset price) as an important metric of risk conditions, as investor demand for US safe assets increases.
- Mechanisms for international capital flows
 - ▶ less about investor portfolio rebalancing, and more about dollar exchange rate (correlated with CIP changes) induced wealth effects (Gourinchas et al).

Research using granular data addresses heterogeneity (and NBFIs)

- Persistent CIP deviations post GFC period debated.
 - ▶ Active debate about reasons: regulation, investor mandates, limits to arbitrage given transaction costs of hedging, or convenience yields and dollar asset safe haven features.
 - ▶ Measurement matters: For corporate borrowing CIP holds, in contrast to covered interest parity in risk-free rates. (Carmichael, Gopinath and Liao 2022)
- Empirics mistakenly combine behavioral estimates of normal and high distress periods.
 - ▶ Regulatory limits on currency mismatch increase hedging and financial intermediary constraints in financial distress and exchange rate volatility (Zhang and Liao 2020).
 - ▶ Highly heterogeneous effects of risk across asset classes, and in tail events (Chari, Dilts Stedman and Lundgrad 2020).
- Heterogeneity in mandates key for euro-area investor international capital flows.
 - ▶ Insurance corporations and pension funds (ICPF), which exhibit both home (euro area) firm and local currency biases. Other financial institutions (OFI), which include mutual funds, more balanced holdings of dollar-denominated bonds and by foreign issuers (Faia, Salomao and Ventula Veghazy 2022)

Question 1 - On availability of FX derivatives

1. If FX derivatives are so important, why so short term and why are hedge ratios so low?

On Securities holdings... USD Bonds have mean maturity of 8.72 years (SD 1.7);
euro-area bonds 7.6 years (SD 6.7)

FX Forward Positions - closer to 2-3 months on time to maturity.

Hedge ratios of securities are mean 0.04 (SD 0.30)!!!!

Question 2 - on NBFH heterogeneity and estimation

2. How should NBFH heterogeneity influence approach to elasticities estimation?

Beyond being low, hedge ratios vary by institution type.

Makes sense: prior literature shows different NBFH constraints and mandates.

Literature suggests that different institution types face different CIP (CCB) values.

These features might challenge the granular instrument used.

Table 2. Summary Statistics by Sector: FX Forward Positions and Bond Holdings.
The table depicts the sector-specific time-series averages of the variables from Table 1.

	Banks	Insurers	Investment Funds	Pension Funds
Net FX Position (bil EUR)	-148.36	29.93	474.48	64.02
Gross FX Position (bil EUR)	4,600.93	61.11	1,136.62	91.27
FX: Time to Maturity (months)	3.28	2.81	1.16	1.86
Share of USD Bonds	0.07	0.03	0.39	0.18
Hedge Ratio	-0.37	0.15	0.13	0.25

Question 3 - CCBs as FX derivative costs

3. Does the source of CCB variation matter for portfolio elasticities?

Currency risk bases have normal period behaviors, or they blow up with large risk events.

Each large risk events reflects differentially across tenors of the CCB, by event (GFC, COVID shock). Dollars available through swap lines have responded to strained tenors.

Yet, model and framework assume the time-varying CCB is really a hedging cost without such variation.

The consequences for portfolio (safe asset) demand are likely to be conceptually different if risk sentiment driven.

Concluding comments

Congratulations to authors on a thoughtful and fascinating contribution.

The broader literature raises many puzzles relevant for the estimation approach.

Thank you!

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