Deviations from Covered Interest Rate Parity, Dollar Funding Pressure, and Currency Risk Premia

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(I am on the job market 25/26)

Research Highlights

- Interpret the CIP violations as a measure of **dollar funding pressure**.
- Exposure to dollar funding pressure explains cross-sectional variation in currency risk premia.
- A global high-minus-low basis (HML_x) factor earns **4–4.5% risk premium** per annum.
- The basis factor **subsumes** carry and global imbalance factors

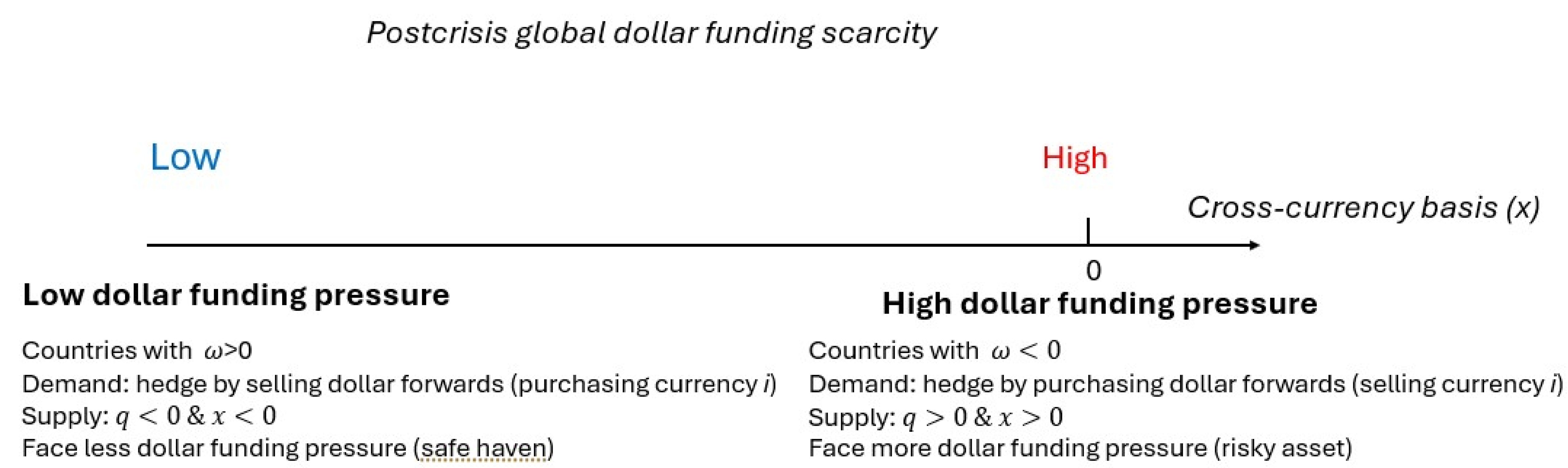

Figure 1:Dollar Funding Pressure and the cross-currency basis

Introduction

- Global non-U.S. financial institutions hedge dollar exposures via FX forwards.
- Postcrisis regulatory reforms (Basel III) impose **balance sheet constraints** on intermediaries.
- Result: large and persistent **CIP violations** after the crisis (Du et. al, 2018).

This study:

- Interpret CIP violations as dollar funding pressure measure capturing the **structural imbalances** between dollar hedging demand and constrained dollar supply

↓ why?

Theoretical Motivation

Post-crisis period (Liao and Zhang, 2025):
In equilibrium, the cross-currency basis (x^i) is:

$$x^i = \kappa G'\left(W - \kappa \sum_m H(-h^j\omega^j)\right) H'(-h^i\omega^i). \qquad (1)$$

x arises from *two* joint forces:

- the average **financial intermediary costs** (κ)
- the **investors' hedge demand** driven by external imbalances ($h\omega$).

↓ persistent non-zero x
demand-and-supply imbalances

Pre-crisis period (Keller, 2024):

- No balance sheet constraints (L&Z does not apply)
- CIP holds; deviations are small and short-lived; dollar supply perfectly elastic
- x reflects a *relative* currency scarcity **regardless of its source** (temporary mismatch):
  - $x > 0$: domestic currency scarcity
  - $x < 0$: dollar scarcity

↓ x near 0
temporary frictions; *fail to* translate into a meaningful risk premium

Hypothesis

H1: Currencies with **higher dollar funding pressure** (higher unconditional level of basis) earn higher expected excess returns.

H2: Basis-sorted portfolios **subsume** information in

- interest rate differentials (carry of Lustig et al., 2011);
- external imbalance measures (e.g., IMB of Corte et al., 2016).

Data

- G10 currencies, covering Jan 1999 to Jan 2025
- **Two** sub-samples:
  - Precrisis: Jan 1999 to Aug 2008
  - Postcrisis: Aug 2009 to Jan 2025
- One-month (1M) IBOR rates as risk-free rates
- Following Du et. al (2018), the log-form (dollar-denominated) basis:

$$x^i_{t,t+n} = y^{\$}_{t,t+n} - (y^i_{t,t+n} - \rho^i_{t,t+n}) \qquad (2)$$

Main Results

Key finding: A global high-minus-low basis factor (HML_x) earns a **4-4.5% annual risk premium**.

- HML_x explains a large share of the cross-sectional variation in currency excess returns.
- The pricing power is concentrated in the post-GFC period, when many standard currency factors weaken (**a particularly useful postcrisis factor**).
- Relative to the carry, HML_x improves cross-sectional R^2 by at least **10%**.

Spanning and horse races:

- Basis-sorted portfolios subsume carry, external imbalance factors, business gap, value, and momentum.
- Basis factor v.s. carry by its short legs.

Contributions

1. Contribute to broader asset pricing literature by identifying dollar funding pressure as **a new priced risk factor** in currency markets (a new risk-based explanation).
   - Du et. al (2023): absolute magnitudes of the basis as proxy of **shadow costs** of balance sheet of intermediaries (**supply-side information**)
   - My study: **unconditional level** of the basis to capture **both demand-side** (dollar hedging demand) and **supply-side** (constrained intermediary) information.
2. Contribute to forward premium puzzle literature
3. Complements on bourgeoning CIP literature by providing direct asset pricing implications of CIP violations

References

[1] Pasquale Della Corte, Steven J Riddiough, and Lucio Sarno. Currency premia and global imbalances. *The Review of Financial Studies*, 29(8):2161–2193, 2016.

[2] Wenxin Du, Alexander Tepper, and Adrien Verdelhan. Deviations from covered interest rate parity. *The Journal of Finance*, 73(3):915–957, 2018.

[3] Wenxin Du, Benjamin Hébert, and Amy Wang Huber. Are intermediary constraints priced? *The Review of Financial Studies*, 36(4):1464–1507, 2023.

[4] Lorena Keller. Arbitraging covered interest rate parity deviations and bank lending. *American Economic Review*, 114(9):2633–2667, 2024.

[5] Gordon Y Liao and Tony Zhang. The hedging channel of exchange rate determination. *The Review of Financial Studies*, 38(1):1–38, 2025.

[6] Hanno Lustig, Nikolai Roussanov, and Adrien Verdelhan. Common risk factors in currency markets. *The Review of Financial Studies*, 24(11):3731–3777, 2011.

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