Session 2: The role of balance sheet constraints

Paper 1, by T. Iida T. Kimura, and N. Sudo
Paper 2, by V. Sushko, C. Borio, R. McCauley, and P. McGuire

Discussant: Angelo Ranaldo

BIS Symposium: CIP - RIP?
22-23 May 2017, BIS, Basel
Session 2: The role of balance sheet constraints and much more!

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Both papers are

- Very interesting works!
- Significant contributions to the theoretical and empirical literature on CIP!
Regulatory reforms and the dollar funding of global banks: evidence from the impact of monetary policy divergence

T. Iida T Kimura, and N. Sudo
Schematic view

\[ g(L_{US}) = (1 + q^*)L_{US} - \frac{\tau^*}{2} (L_{US})^2 \]
D/S for USD in swap market

Comment 1: Why JP (US) bank bears a credit risk premium $p$ ($p^*$) only on the US (JP) liabilities? Market segmentation?
D/S for USD in swap market

Comment 2: Why only US bank has an endowment \((W=0)\)? JP bank cannot get bankrupt?
D/S for USD in swap market

\[ D = f \left( (q^* - r^*) - (q - r); \alpha; V; \Delta \right) \]
D/S for USD in swap market

\[
D = f \left( (q^* - r^*) - (q - r); \alpha; V; \Delta \right)
\]

\[
S = f \left( (q - r) - (q^* - r^*); \alpha^*; \Delta; W^*; V^* \right)
\]
Then, CIP deviation depends on …

- Interest margin differential: \((q^* - r^*) - (q - r)\)
- Default probability JP firm: \(\alpha\)
- Default probability arbitrageur: \(\alpha^*\)
- Liquidity needs and endowment: \((V + V^* - W*)\)
Suggestion

Elaborate on interest margin differential: 
\[(q^* - r^*) - (q - r)\]

- Short-term FX carry trade: \((r - r^*) > 0\)
- Long-term FX carry trade: \((q^* - q) > 0\)
- Interest-rate carry trade: \((q^* - r^*) > 0\)
- Inverted yield curve and nominal negative rates: \((q - r) < 0\)
  
  and / or \(0 > r\)
The failure of covered interest parity: FX hedging demand and costly balance sheets

V. Sushko, C. Borio, R. McCauley, and P. McGuire
This paper in a nutshell

- CIP crucially depends on supply/demand conditions in the markets for currency forwards and swaps
- Part of the demand is sticky (e.g. institutional, corporates)
- Taking the other side of net FX hedging imbalances is costly since it entails taking balance sheet exposures to OTC FX derivatives
- Prudent risk management requires higher capital charges for both credit and market risks in terms of
  - More hedges (e.g. CDS),
  - More collateral and variation margins
  - But also CCP …
Main findings

- Even small counterparty and market risks of FX swaps give rise to balance sheet costs that make it unprofitable to arbitrage CIP deviation unless these are large enough.
- No-arbitrage bounds increase with the size of the balance sheet exposed to the trade.
Very nice theoretical framework

- CIP arbitrageurs are averse to the counterparty credit risk and have an exponential utility function over one period and pay the transaction costs (bid, ask)
- Assume log normality and $E[S_{t+1}^B] \sim N(F_t^B, \sigma_s^2)$ to get the objective function framed in a certainty equivalent mean-variance setting where the second moment captures the shadow balance-sheet cost
  - Connection to Zigrand, Shin, and Danielsson (2010)’s VaR
- Liquidity constraints increase funding costs
  - Connection Gromb and Vayanos (2010)’s limits to arbitrage
Comments and suggestions

- Supranational, sovereign agencies, and central bank: the currency basis does really represent a profit opportunity?
  - They might hold a sizable amount of FX reserves but don’t act as arbitrageurs
- Better connection between theory and long-run (risk) and short-run (liquidity) factors
- Quarterly BIS stats interpolated to get monthly data
- GC versus Specials
- USD swap lines
Main question

ARE YOU LEAVING MONEY ON THE TABLE?
Possible reasons

- Mismeasurement
- Transaction costs
- Funding constraints
- Aversion to market risk
- Aversion to credit risk
- Market segmentation
  - Especially in the new monetary and regulatory regimes

- Another possible reason: Spoilt for choice
Spoilt for choice

- At the same time of the CIP deviations, there have been a number of more attractive investment opportunities, including FX (e.g. triangular), equities (e.g. multiple listings, ADR), bonds, corporate bonds (Liao), repos

- Exacerbated by distortionary effects and manipulated prices due to monetary policies and new regulations
  - Why not FX carry trade rather than more complex CIP strategies when central banks has removed FX risk?

- How should an investor / arbitrageur invest his (more) limited own capital? Lexicographical order? Which criterion first?
  - Accessibility?
  - Max profit?
  - Simplicity?