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

University of St.Gallen

Session 2: The role of balance sheet constraints

and much more!

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Both papers are

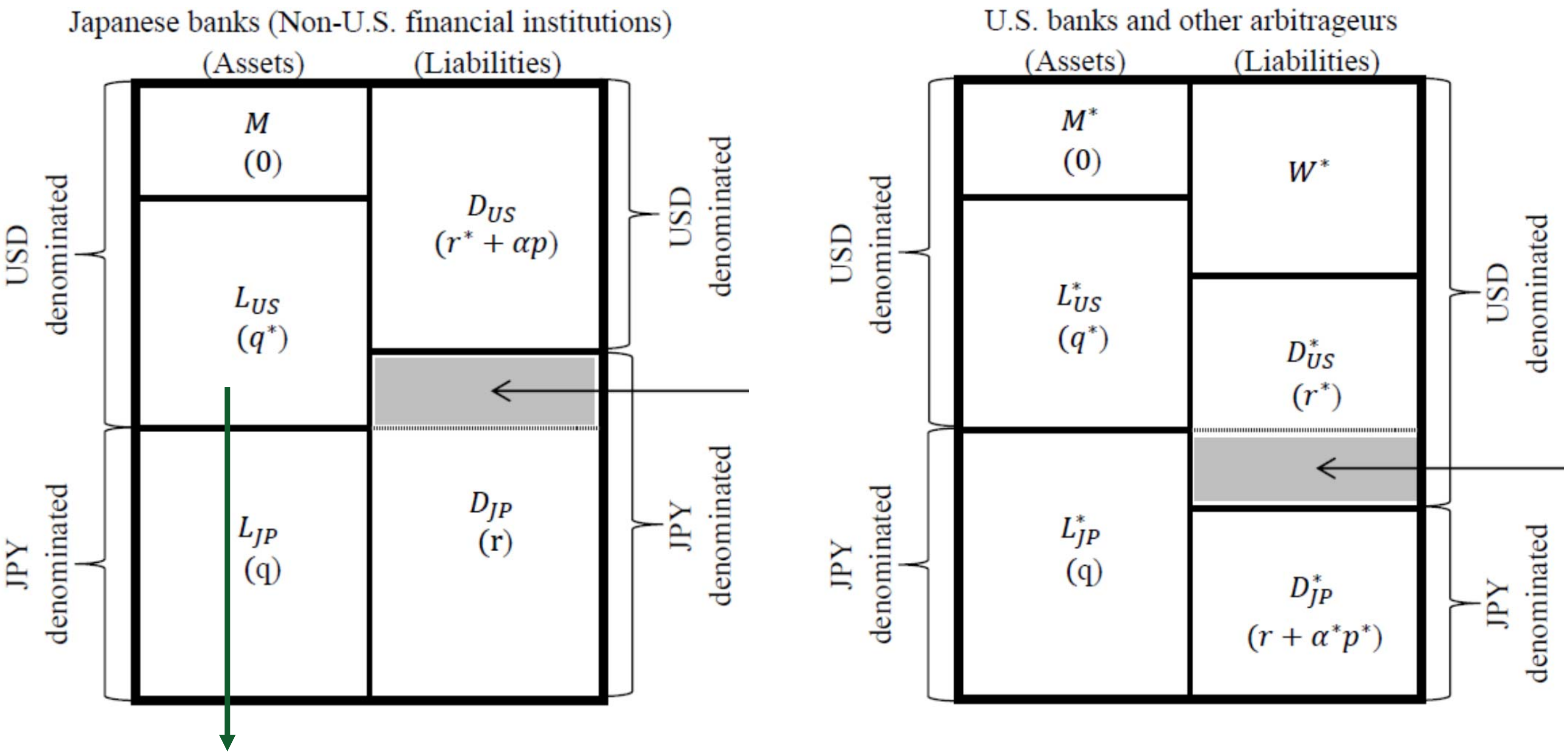
- Very interesting works!
- Significant contributions to the theoretical and empirical literature on CIP!

Regulatory reforms and the dollar funding of global banks: evidence from the impact of monetary policy divergence

T. Iida T Kimura, and N. Sudo

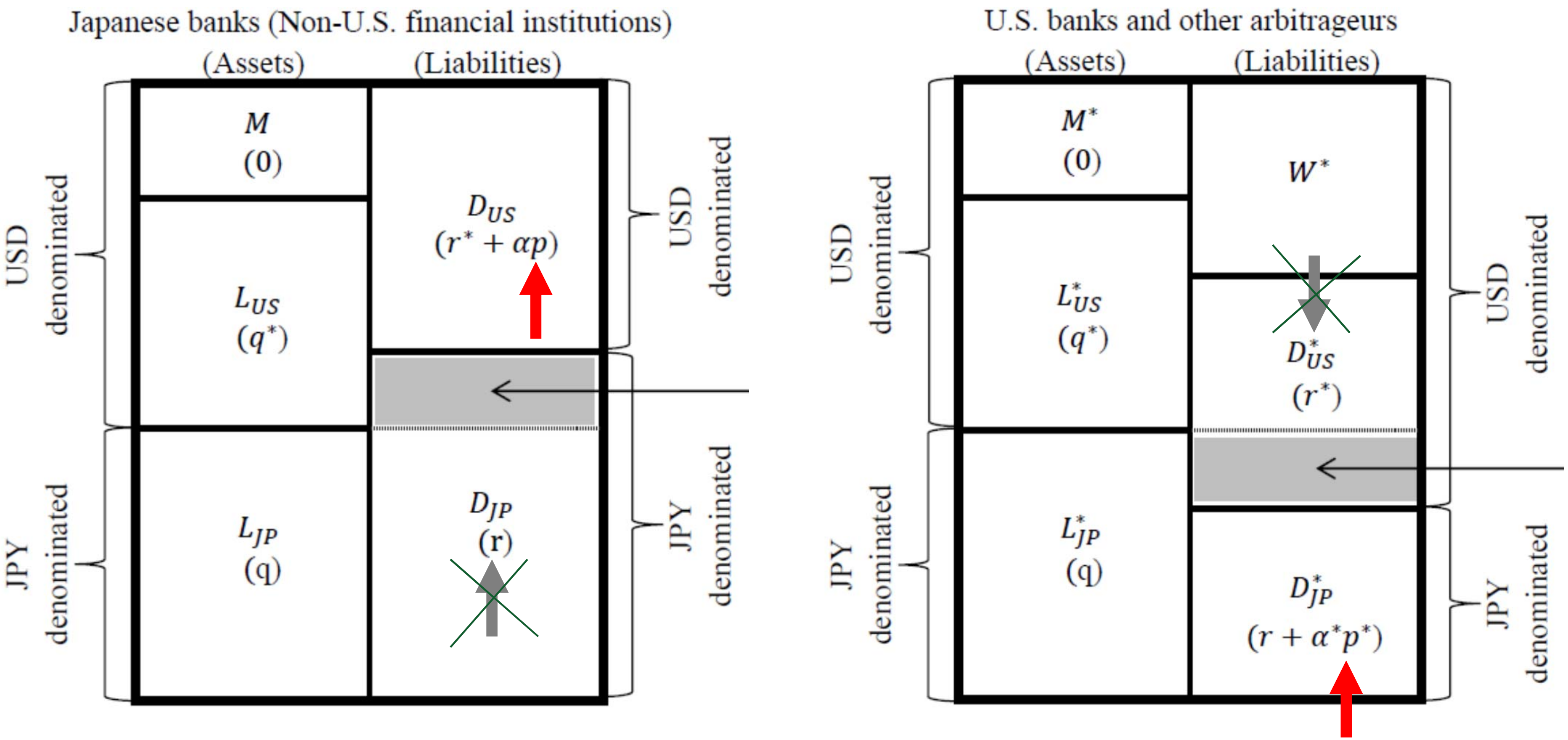
University of St.Gallen

Schematic view



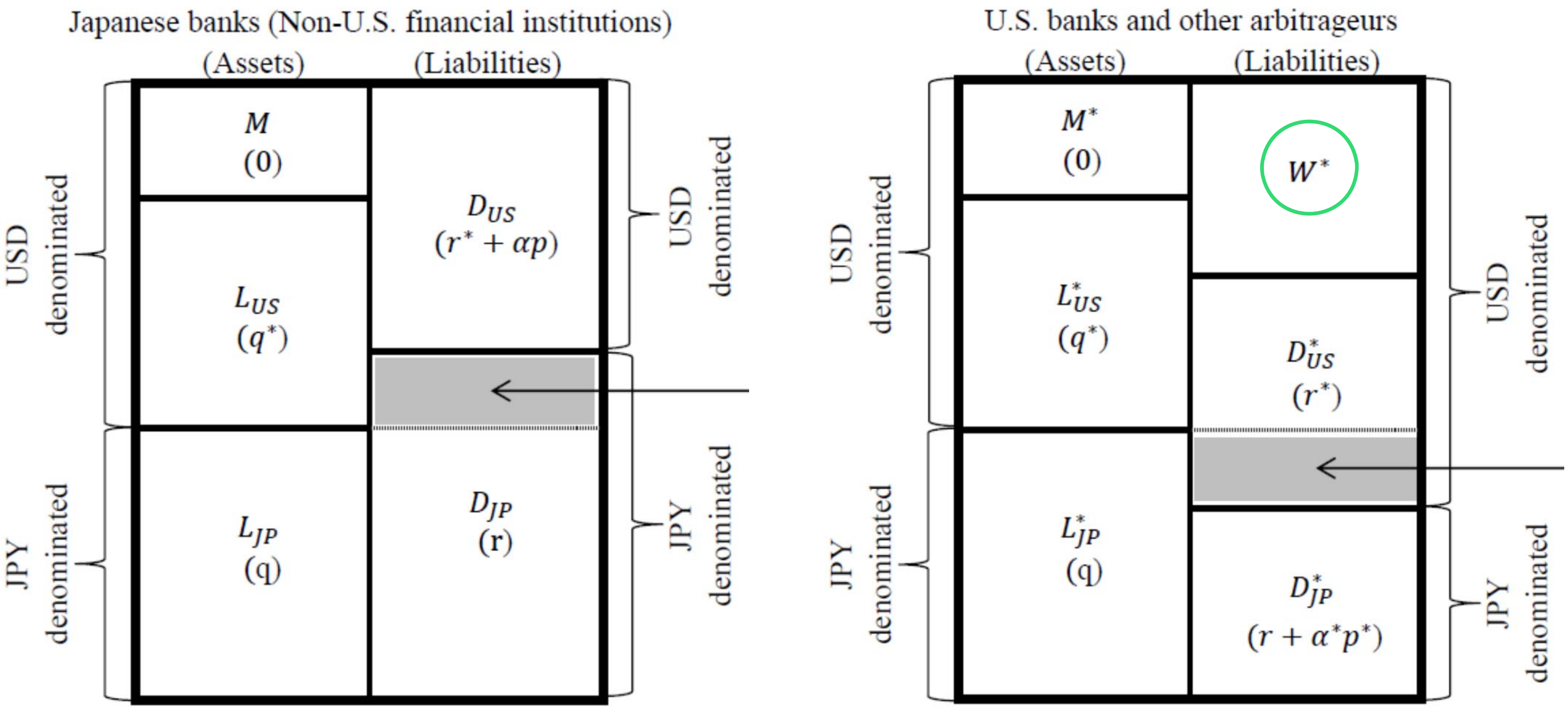
$$g(L_{US}) = (1 + q^*)L_{US} - \frac{\tau^*}{2}(L_{US})^2$$

D/S for USD in swap market



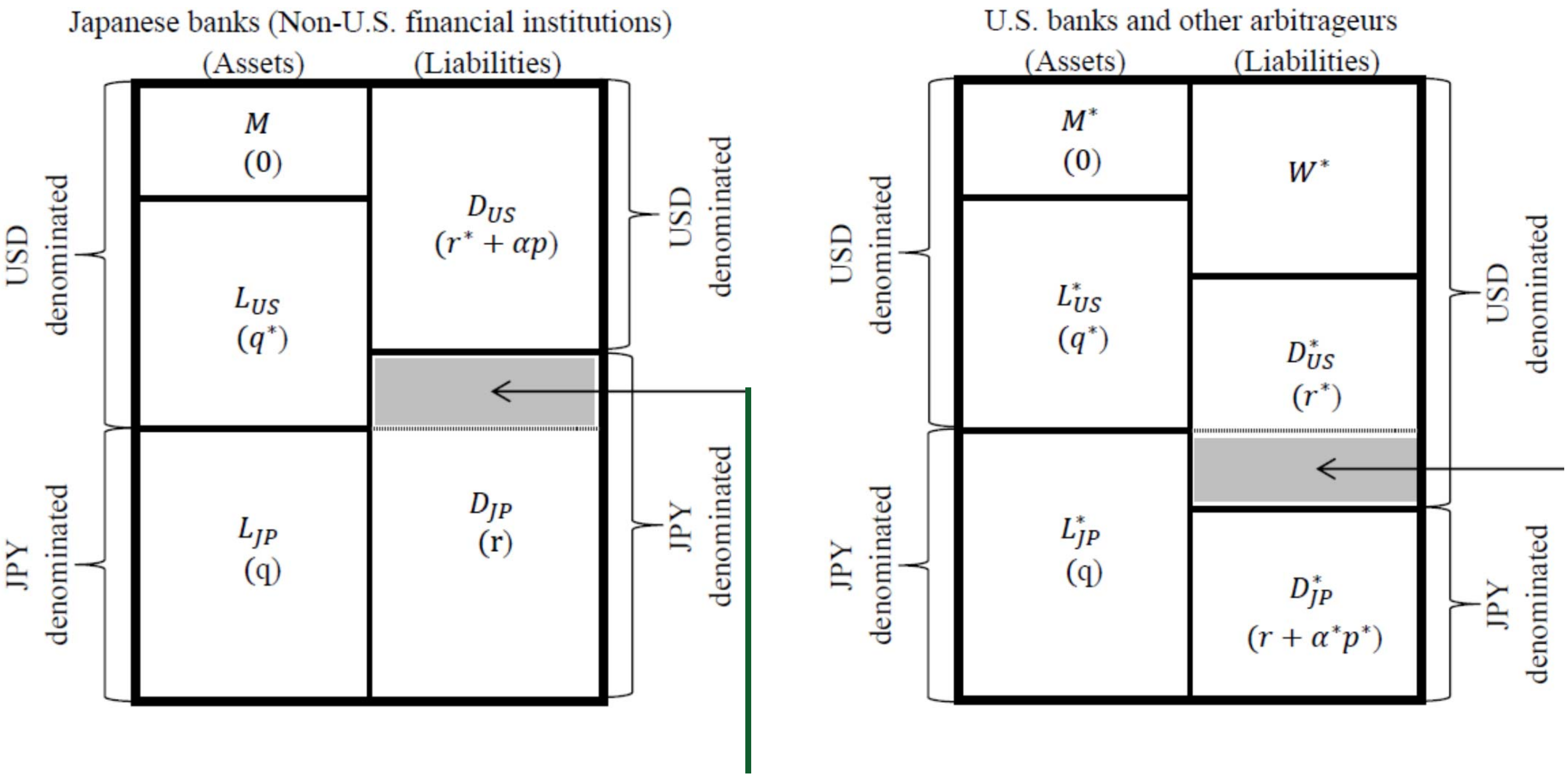
Comment 1: Why JP (US) bank bears a credit risk premium p (p^*) only on the US (JP) liabilities? Market segmentation?

D/S for USD in swap market



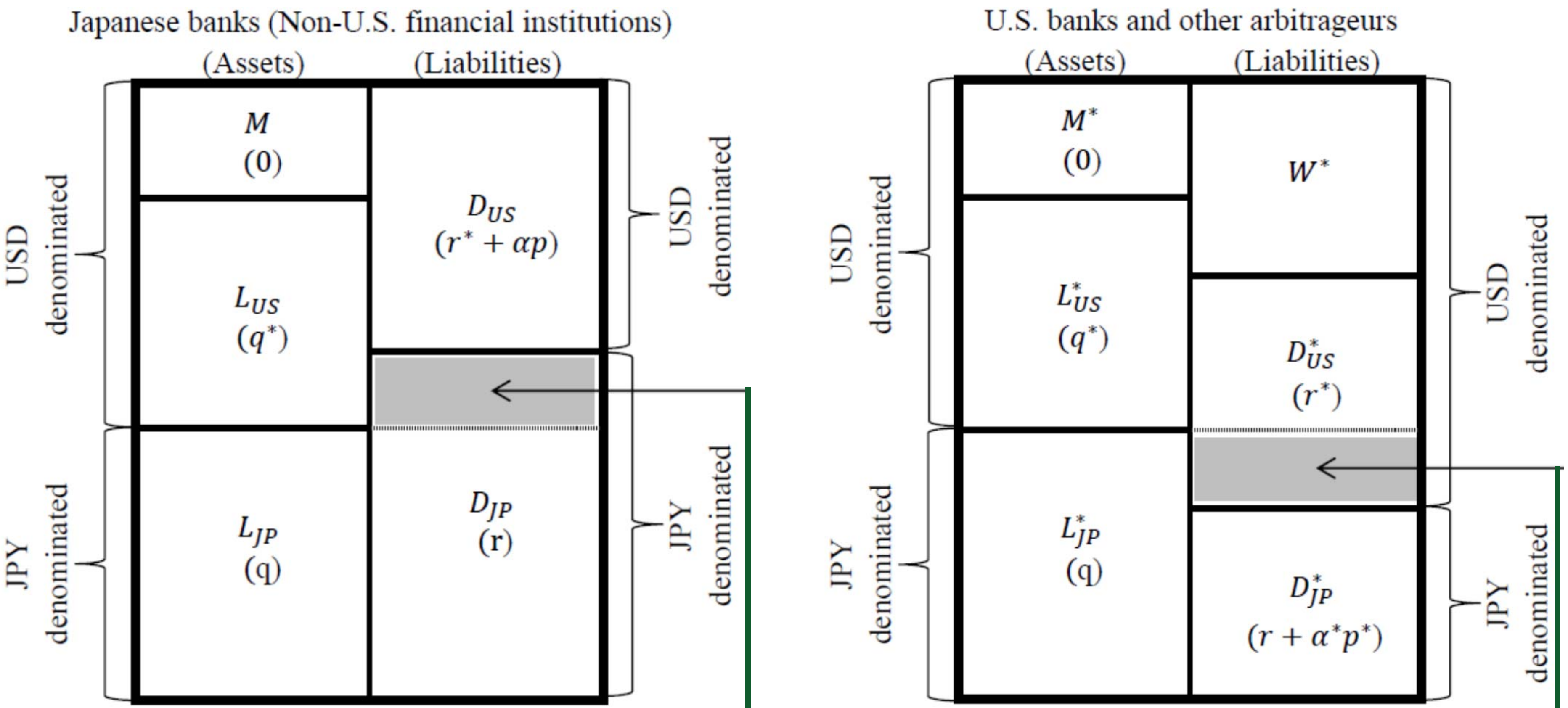
Comment 2: Why only US bank has an endowment (W=0)?
JP bank cannot get bankrupt?

D/S for USD in swap market



$$D = f\big((q^* - r^*) - (q - r); \alpha; V; \Delta\big)$$

D/S for USD in swap market



$$D = f\big((q^* - r^*) - (q - r); \alpha; V; \Delta\big)$$

$$S = f\big((q - r) - (q^* - r^*); \alpha^*; \Delta; W^*; V^*\big)$$

?

Then, CIP deviation depends on …

- Interest margin differential: $(q^* - r^*) - (q - r)$
- Default probability JP firm: α
- Default probability arbitrageur: α^*
- 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

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?