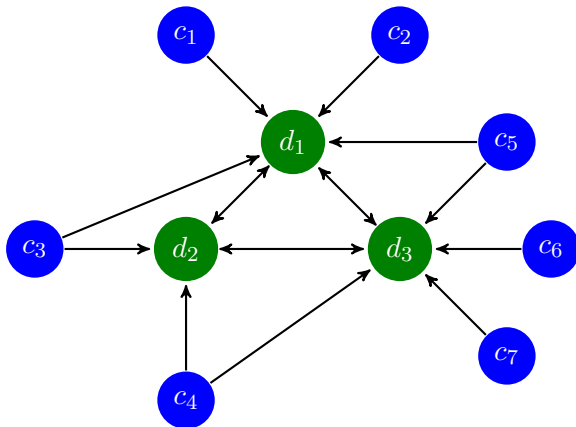


Bank Debt Overhang and Financial Market Liquidity

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Working Group on Economic Policy
Research Lunch Talk
November 6, 2017

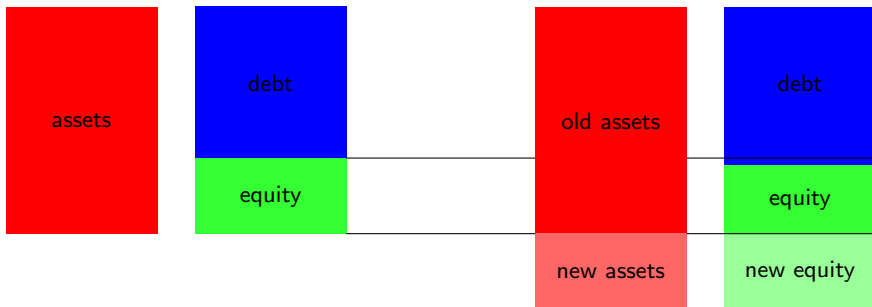
Focus: Bank-intermediated OTC markets



Policy Implications

- 1 More financial stability from higher bank capital requirements and better failure resolution.
- 2 The leverage-ratio rule needlessly raises the cost of access to bank balance sheets for safe asset intermediation. Better: raise risk-based capital requirements.
- 3 A new finding: Debt funding costs for banks are appropriately heightened by more effective failure resolution, but this has further increased the cost of access to bank balance sheets.
- 4 Policies should speed the development of intermediation methods that require less space on bank balance sheets, such as central counterparties and more competitive all-to-all trade platforms.

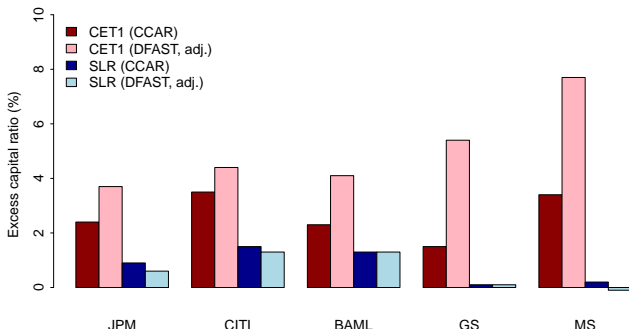
Conventional debt overhang



For shareholders to break even, the new assets must be purchased at a profit that exceeds the value transfer to creditors. (Myers, 1977)

SLR is more binding than risk-based capital ratios

Results of the Fed's 2017 stress tests for the largest US dealer banks



CCAR: stressed CET1 after assumed payouts, less 4.5%; stressed SLR less 3.0%.

DFAST, adjusted: stressed CET1 (no payouts) less (4.5% + G-SIB surcharge); stressed SLR less the G-SIB minimum of 5%.

Data source: Board of Governors of the Federal Reserve, 2017.

European Banks Delever as Reporting Days Approach

Daily collateral outstanding in the tri-party repo market and the Federal Reserve's overnight reverse repo (ON RRP) facility

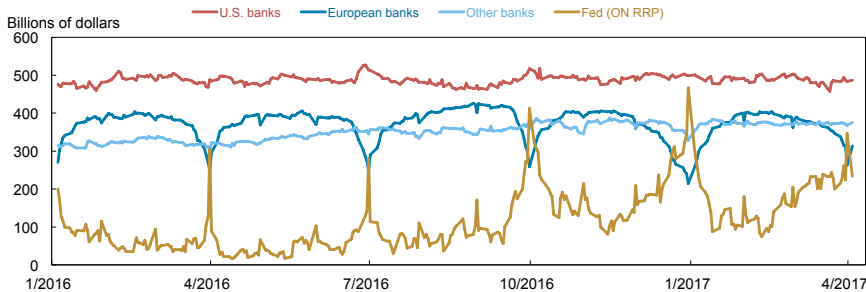
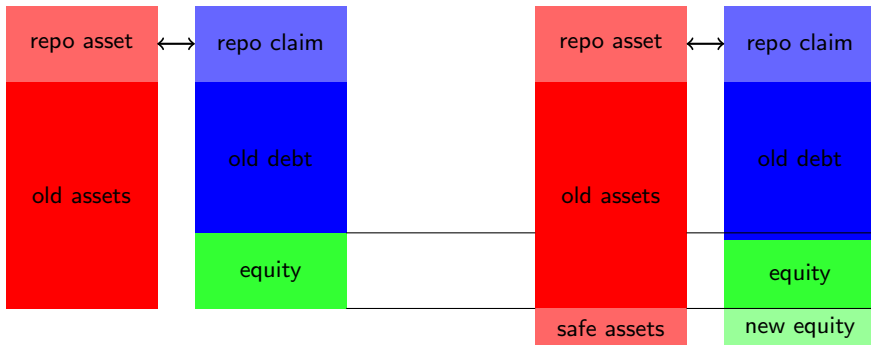


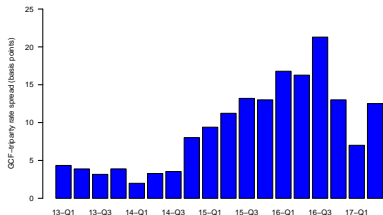
Figure Source: Egelhov, Martin, Zinsmeister, Federal Reserve Bank of New York, August, 2017.

Notes: Banks headquartered in the euro area and Switzerland report leverage ratios as a snapshot of their value on the last day of each quarter, while their U.S. counterparts report quarterly averages. Totals only include trades backed by Fedwire-eligible securities—that is, U.S. Treasury and agency securities.

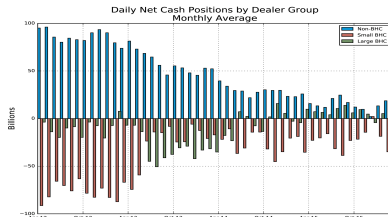
Impact of leverage-ratio regulation on repo intermediation costs to legacy shareholders



Impact of SLR on UST repo market efficiency



(a) bid-ask spreads up

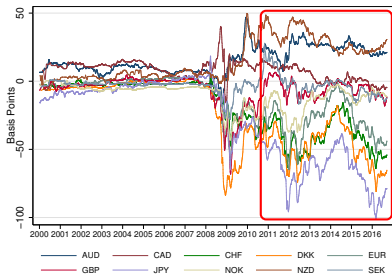


(b) inter-dealer positions down

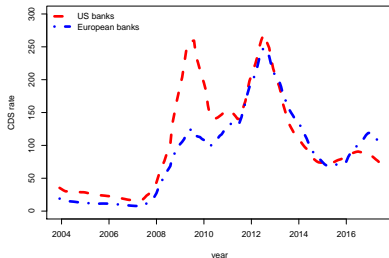
Figure: (a) Average within-quarter difference between overnight GCF and Tri-party repo rates. Data sources: Bloomberg and BNY-Mellon. (b) Figure source: Antoine Martin, FRBNY (2016).

Cross-currency basis and bank funding costs

Funding value adjustments now leave wider arbitrage bounds on the basis

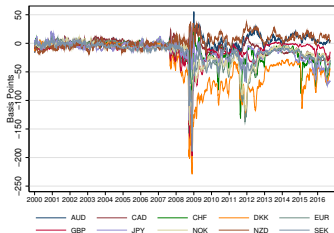


(a) 5-year USD cross-currency basis.
Source: Du, Tepper, and Verdelhan (2017).

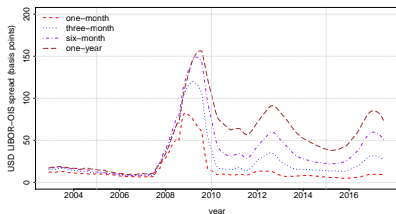


(b) 5-year dealer credit spreads

Cross-currency basis



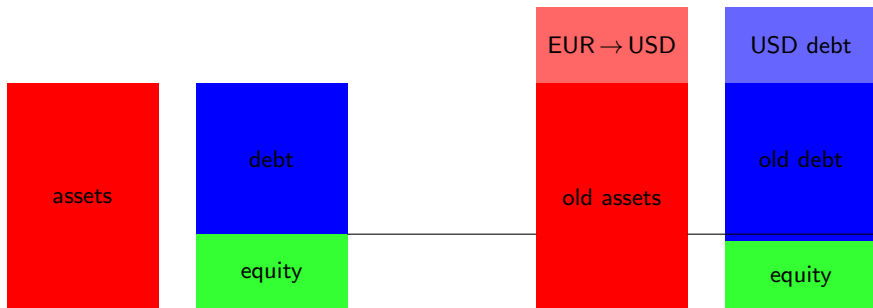
(c) 3-month USD cross-currency basis. Source: Du, Tepper, and Verdelhan (2017)



(d) LIBOR-OIS spreads. Data source: Bloomberg.

CIP arbitrage can be costly to dealer shareholders

Debt overhang cost for funding synthetic dollar deposits

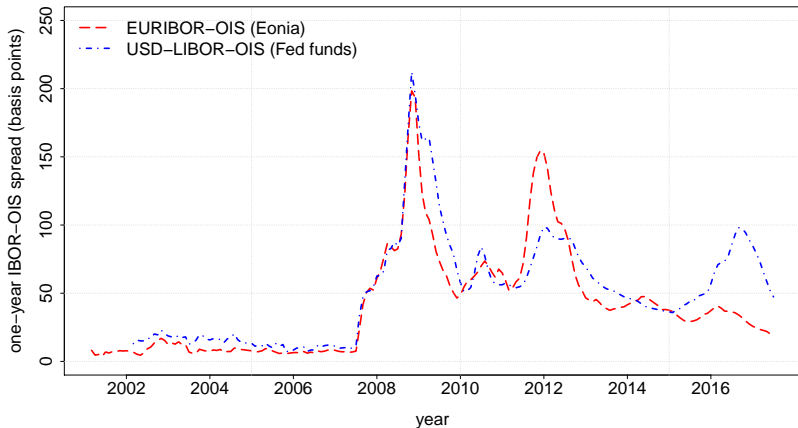


To benefit shareholders, the trade profit must exceed the funding value adjustment (FVA), a debt-overhang cost.

Example: CIP arbitrage can be bad for shareholders

- ▶ Suppose the one-year USD risk-free rate is zero.
- ▶ Our bank has a one-year credit spread of 35 basis points.
- ▶ We borrow \$100 with one-year USD commercial paper, promising \$100.35.
- ▶ We invest \$100 in one-year EUR CP, swapped to USD, with the same all-in credit quality as that of our bank's CP, and uncorrelated.
- ▶ Suppose the EUR CP, swapped to dollars, promises \$100.60, for a basis of -25bps .
- ▶ We have a new liability worth \$100 and a new asset worth $\$100.65/1.0035 \simeq \100.25 , for a trade profit of approximately \$0.25.
- ▶ However, the value of the trade to our shareholders is negative, because, *conditional on dealer survival*, the expected incremental payoff to equity is $\$100.25 - \$100.35 = -\$0.10$. Conditional on default, equity gets nothing.

New finding: Dealer credit spreads are lower bounds on excess intermediation returns



Data: Bloomberg