Stability-Liquidity Tradeoffs in Post-Crisis Bond Markets

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A stability-liquidity tradeoff

• Capital and activity rules have improved bank stability and reduced commitments of bank-affiliated balance sheets to financial market intermediation.

• This raises incentives for agency intermediation, CCPs, all-to-all trade, shadow-bank intermediation, and a shift by banks away from low-risk standardized (low-margin) products.

• The net impacts on market efficiency are still playing out, and depend on other factors, including monetary policy.
Treasuries bid-ask spreads are stable

Source: Adrian, Fleming, Stackman, and Vogt (2015) (BrokerTec data)
Treasury note trade price impacts

Source: Adrian, Fleming, Stackman, and Vogt (2015) (from BrokerTec data)
Symptoms of changing liquidity

- Traditional liquidity measures such as price impact and bid-ask spread look fine.

- Turnover and trade sizes are generally down.

- Single-name CDS and matched-book repo markets are withering.

- The 10-year Treasury note “yield crash” of October 15, 2014 is a symptom of changes in the mix of intermediaries, including HFT.
Trade size has declined

Source: Adrian, Fleming, Stackman, and Vogt (2015) (BrokerTec data)
Treasury market turnover

Data source: SIFMA
Figure 4.13: Benchmark Price Impact (Cash)

Note: Slope coefficients from weekly regressions of 5" price changes on 5" net order flow for the on-the-run notes
Source: Staff calculations, based on data from BrokerTec.

Figure 4.14: Benchmark Trade Size (Cash)

Note: 21-day moving average; Average trade size; On-the-run notes
Source: Staff calculations, based on data from BrokerTec.

Figure 4.15: Treasury Active Contract Trade Size (Futures)

Note: 21-day moving average; 8:20 - 15:00 ET
Source: Staff calculations, based on data from CME Group.

Decline in GCF net lending volume

Daily Net Cash Positions by Dealer Group

Monthly Average

Source: Martin (2015), FRBNY.
Corporate bond – average bid-ask spreads
Turnover of corporate and municipal bonds

Data source: SIFMA
When more dealers compete, corporate bond trade costs go down

Source: Hendershott and Madhavan (2014)
Number of CDS trades per quarter

Data source: DTCC
Who handles U.S. bonds?

Data sources. ICI: AUM, bond mutual funds + ETFs. FRBNY: primary dealer daily financing (securities out) of UST + agencies + MBS + corporate bonds.
Net monthly cash inflows to bond funds

Data source: Investment Company Institute
Section 4 Figures

Figure 4.1: Financial Assets of Security Brokers and Dealers

$ trillions

0 1 2 3 4 5 6

Note: Quarterly observations; Total financial assets of security brokers and dealers as reported in the financial accounts of the United States. Source: Staff calculations, based on data from Federal Reserve Board.

Figure 4.2: Net Treasury Positions of Primary Dealers

$billions

Note: 4-week moving average. Source: Staff calculations, based on data from FRBNY.

Figure 4.3: Gross Treasury Positions of Primary Dealers

$billions

0 50 100 150 200 250

Note: 4-week moving average; Sum of dealers’ short and long positions. Source: Staff calculations, based on data from FRBNY.

Figure 4.4: Estimated Treasury Market-Making Positions of Primary Dealers

%$ billions

0 0.5 1.0 1.5 2.0 2.5 3.0

Note: 4-week moving average; Smaller of each dealer’s short and long position in each reporting bucket, aggregated across dealers and buckets. Source: Staff calculations, based on data from FRBNY.

Figure 4.5: Ownership of Treasury Debt by Investor Group

Mutual funds
Households
Depository institutions
Insurance companies
Nonfinancial businesses
Pension funds
State and local governments
Money market funds
Other financial institutions
Federal Reserve

% 0 10 20 30 40 50 60

Note: Mutual funds includes closed-end funds and exchange-traded funds; Pension funds includes government retirement funds. Source: Staff calculations, based on data from Federal Reserve Board.

Figure 4.6: Government Bond Fund Flows

$ billions

Note: Total net monthly flows; Some funds own agency debt securities and MBS in addition to Treasury securities. Source: Staff calculations, based on data from Morningstar.

Source: Joint Staff Report: The U.S. Treasury Market
Asset management stability issues

• Comments on the risk of a crisis arising from sudden bond fund redemptions seem exaggerated.

• A rush for the exits would impact prices, but bids will likely arrive before a crisis is triggered. Who exactly would “fail”?

• Large hedge funds present a potential for unwind risk, given their reliance on leverage and expert portfolio managers.

• Large agency-based managers seem more benign, and have not been designated as SIFIs.

• Regulators also focus on insurance firms that are active in financial markets. Some have been designated.

• Money-market funds are migrating to government securities
Depth has declined from recent highs

Source: Adrian, Fleming, Stackman, and Vogt (2015) (from BrokerTec data)
T-note multilateral platform volumes

Source: Fleming (2014) (BrokerTec data)
FX dealer versus non-dealer volumes

Source: Rime and Schrimpf (2014) (BIS data)
Some remaining system vulnerabilities

• Improving but still fragile design of tri-party repo leaves the potential for repo fire sales.

• Lending of last resort is overly limited by Dodd-Frank.

• Potential for pro-cyclical margins, pending new FSB standards (more research needed).
U.S. tri-party repo collateral and liquidity

Type (90th percentile haircut)
- Treasuries (2.0%)
- Agency MBS (3.0%)
- Agencies (3.0%)
- Money market (5.0%)
- Agency CMO (11%)
- IG Corporate (9.0%)
- Equities (15.0%)
- HY Corporate (15%)
- CMO (Private) (20%)
- Other

Data source: FRBNY, November, 2015
US GSIFI FHC

Zone of stays on failure termination of swaps, repos, sec-lending

U.K. Broker Dealer

U.S. Broker Dealer

U.S. Bank

Counterparty
Daily average volume of interest rate derivatives

Data sources. BIS: OTC Triennial (April), U.S. exchanges Table 23A (March).