Has Liquidity Risk in Corporate Bonds Increased?

Michael Fleming
Federal Reserve Bank of New York
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Reasons to Think Liquidity May Have Changed

• Dealers’ reduced balance sheets and risk taking
  – Aftermath of crisis, regulatory changes, changes in market structure
• Technological changes and entrance of new participants
  – October 15th report (Treasury market)
• Growth in market and changes in liquidity demand
• Monetary policy environment
Overview

- Dealer positioning
- Treasury liquidity
- Corporate liquidity
- Liquidity risk
Dealer Positioning
Dealer Assets Have Stagnated Since the Crisis
Dealer Corporate Positions Have Stagnated
Value-at-Risk at Bank-Dealers Has Declined
What Explains Evolution of Dealer Positioning?

• Regulations have tightened markedly
  – Large dealers now BHCs – enhanced liquidity & capital requirements
• Much deleveraging before regulations announced/passed
• Post-crisis contraction concentrated among riskier and faster-growing firms pre-crisis
• Electronification has likely lowered returns to market making
Treasury Liquidity
Primary Dealer Trading Volume Has Been Stable
Primary Dealer Turnover Has Declined Sharply

![Chart showing the decline in primary dealer turnover over time. The chart compares Inter-dealer and Other turnover percentages. The y-axis represents the turnover percentage, ranging from 0 to 5. The x-axis represents the years from 1/1/2005 to 1/1/2015. The turnover for Inter-dealer is represented by a blue line, and for Other is represented by a red line. The chart shows a decline in turnover for both categories, with the inter-dealer turnover decreasing more sharply.]
Trade Size Has Declined Over Time
Bid-Ask Spreads Are Narrow and Stable
Depth Has Declined from Recent Highs

[Graph showing the decline in depth over time with three lines representing 2-year, 5-year, and 10-year periods.]
Price Impact of Trades Has Recently Risen
Yield Curve Fitting Errors are Low and Stable
Treasury Liquidity Caveats/Next Steps

• Evidence is for interdealer market, not dealer-customer market
• Evidence is for on-the-run securities, not off-the-runs
  – Little recent evidence of liquidity bifurcation
• Structural changes may mask liquidity changes
• Concerns about future liquidity – when policy normalizes
• Concerns really about liquidity risk (not average liquidity)
  – To be discussed
Corporate Liquidity
Corporate Bond Issuance At Record Highs

Billions of U.S. Dollars

Investment grade
High yield
Trading Volume Has Increased Modestly

![Graph showing trading volume increase over years](image-url)

- **Billions of Dollars**
- **Investment grade**
- **High yield**
Trade Size Has Declined

- Average trade size (left)
- Number of trades (right)
Realized Bid-Ask Spreads Have Narrowed
Similar Pattern When Weighting by Volume
Amihud Price Impact Has Declined Markedly
Similar Pattern When Weighting by Volume
Similar Pattern Using Signed Order Flow

Percent of Par per $100 Million

Amihud  Signed
Corporate Liquidity Caveats/Next Steps

• Evidence is less direct than for Treasuries
  – Cannot directly observe bid-ask spreads or depth
• Evidence is for traded securities (data limitations)
  – Limit analysis to consistent sample over time
• Structural changes may mask liquidity changes
  – What is happening to dealer holding periods?
• Concerns about future liquidity or liquidity risk
Liquidity Risk
Treasury Liquidity, Volatility, and Liquidity Risk

The diagram illustrates the relationship between the MOVE Index, the Jump indicator, and the Illiquidity index from 1/1/2005 to 1/1/2015. The MOVE Index and Illiquidity Index are shown in blue and red, respectively. The Jump indicator is indicated by a separate line. The X-axis represents the dates, while the Y-axis represents the index values.
Treasury Vol-of-Vol and Liquidity Risk Rising?

![Chart showing the number of jumps and volatility over time from 1/1/2005 to 1/1/2015, with peaks in 2008 and 2009 for both volatility and illiquidity.]

- Volatility
- Illiquidity

Number of Jumps
Corporate Liquidity and Liquidity Risk

Illiquidity Index

-2 -1 0 1 2 3 4 5


Jump indicator Illiquidity index
Corporate Liquidity Risk and Vol-of-Vol Low

Number of Jumps

1/1/2006 1/1/2008 1/1/2010 1/1/2012 1/1/2014

Volatility Illiquidity
Treasury and Corporate Liquidity Risk Co-Move

![Graph showing the number of illiquidity jumps for Corporates and Treasuries from 1/1/2006 to 1/1/2014.](image-url)
Liquidity Risk Caveats/Next Steps

• This is not the only concept of liquidity risk

• Measures are based on daily changes in liquidity, binary, particular jump threshold, and specific liquidity measures
  – Make greater use of intraday data to assess liquidity risk
  – Consider weighting based on size of jump

• Measures based on average liquidity across securities
  – May miss important idiosyncratic component for corporates
Sources

• Has U.S. Treasury Market Liquidity Deteriorated?
  http://libertystreeteconomics.newyorkfed.org/2015/08/has-us-treasury-market-liquidity-deteriorated.html

• Has U.S. Corporate Bond Market Liquidity Deteriorated?
  http://libertystreeteconomics.newyorkfed.org/2015/10/has-us-corporate-bond-market-liquidity-deteriorated.html

• Has Liquidity Risk in the Corporate Bond Market Increased?

• Has Liquidity Risk in the Treasury and Equity Markets Increased?

• What’s Driving Dealer Balance Sheet Stagnation?