

## Across-the-Curve Credit Spread Benchmarks

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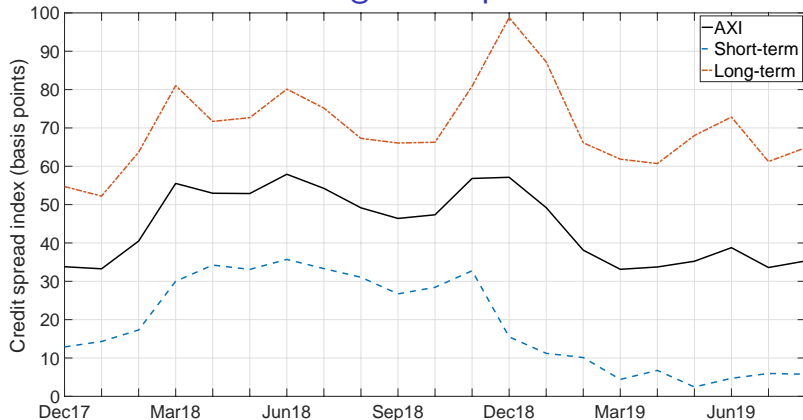
NYU panel discussion on LIBOR Transition

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## Credit spread benchmark: Across the curve

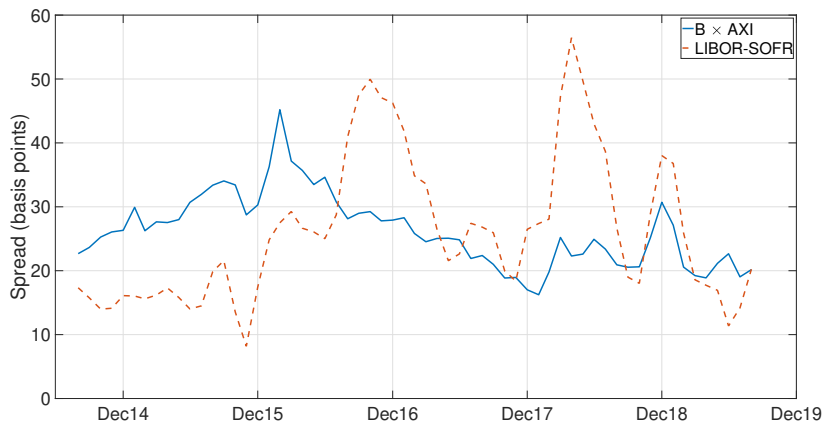
1. A credit spread benchmark should be robust, representative, and flexible to changes in bank funding patterns.
2. A successful credit spread benchmark is likely to underly substantial derivatives trade.
3. These criteria suggest combining a broad set of transactions from across the maturity curve.
4. Using TRACE and other data, we first estimate average wholesale unsecured funding spreads within each maturity bucket out to 5 years, and then average across maturity buckets by issuance.
5. The composition of unsecured issuance volumes across maturities changes substantially over time.

## An average of short term and long term spreads



**Figure:** The black line is a roughly estimated across-the-curve credit spread index (AXI), constructed as the simple average of (a) weighted average long-term spreads (1-5 year bond spreads, TRACE data) and (b) weighted average short-term spreads, using data from ICE Benchmark Administration on wholesale deposits, CP, and CD primary issuances of a panel of 14 banks, restricted to issuances over \$10 million and maturities under 250 days. Short-term spreads are weighted by average issuance and a rough estimate of average maturity.

## AXI, rescaled to average 3-month LIBOR-SOFR, 2014-2019



**Figure:** In red, the spread of 3-month LIBOR over 3-month SOFR, compounded in arrears. In blue, AXI scaled by  $B_{3mo} = 26/84$ , which is the ratio of the mean of LIBOR-SOFR over the indicated sample period (26 bps) to the mean of AXI over the same sample period (84 bps). Bank loans or floating-rate notes linked to AXI would have floating interest payments every  $n$  months of the contractual form

$$R = \text{SOFR}_n + B_n \times \text{AXI} + \text{borrower fixed spread}$$

## Across-the-curve credit spread index (AXI) construction

- ▶ AXI is designed to measure the recent cost of U.S. dollar wholesale unsecured debt funding for publicly listed U.S. BHCs and commercial banks:

$$AXI = \sum_m q_m s_m,$$

where, for each maturity bucket  $m$ ,

- ▶  $s_m$ : volume-wgtd median credit spread across secondary mkt trades in trailing month
- ▶  $q_m$ : fraction in maturity bucket  $m$  of the total issuance in the previous year
- ▶ For maturities of one year or longer, included instruments are senior unsecured corporate debentures, MTNs, or MTZs. To achieve a level of homogeneity, we exclude foreign currency, private placement, convertible, exchangeable, perpetual, unit deal, defaulted, Rule 144a, putable, Yankee, or Canadian bonds.
- ▶ For money-market maturities, such as 1 day, 1 month, 3 months, and 6 months, include issues such as CP, wholesale CDs, Eurodollar deposits, and federal funds borrowings of U.S. banks and BHCs, with trailing issuance amounts replaced for weighting purposes with current outstanding amounts, scaled as desired.

## Monthly transaction volumes (1-5 year maturities)

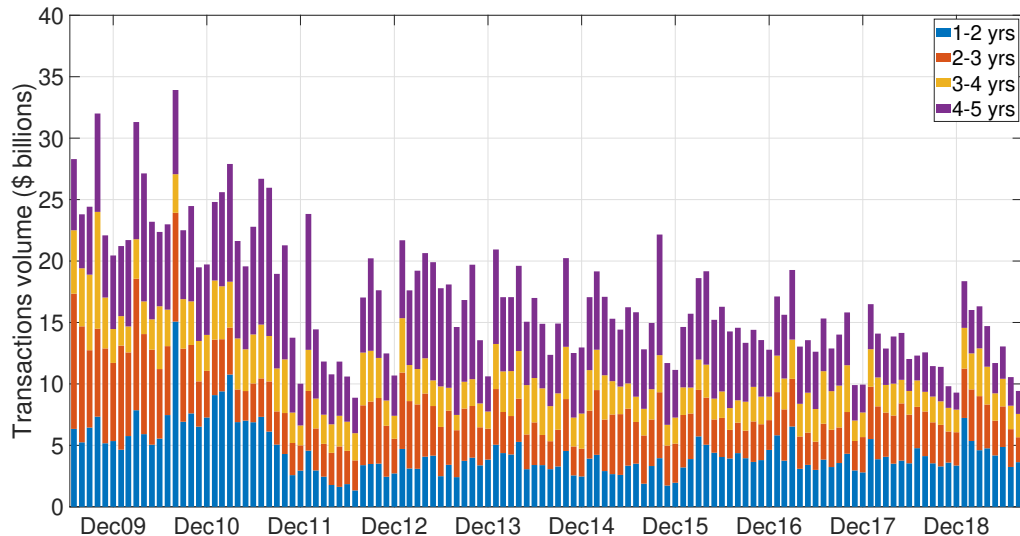
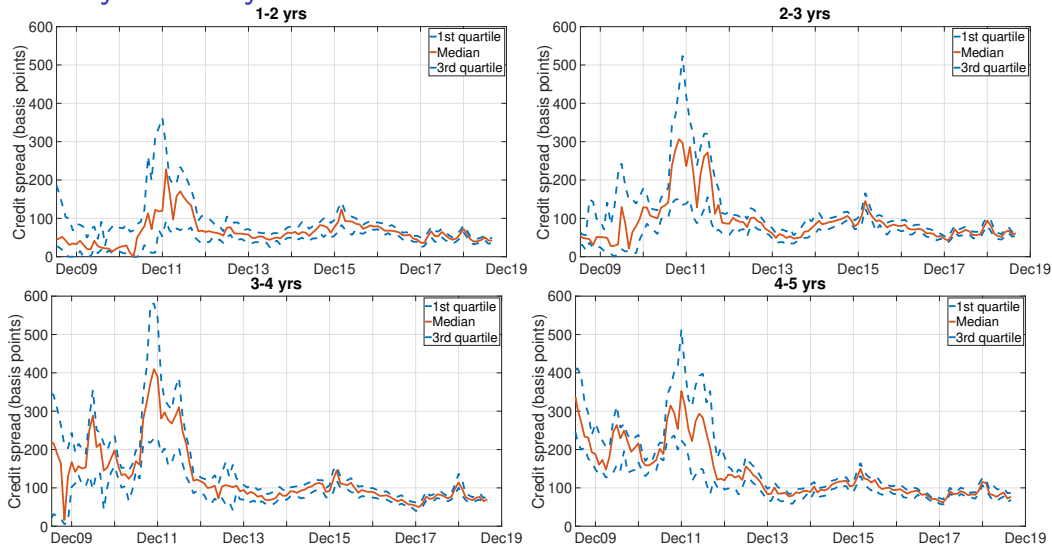


Figure: Transactions volumes by month and maturity range (TRACE, transactions above \$250K)

# Spreads by maturity



**Figure:** Transaction-volume-weighted credit spreads of U.S. banks and BHCs, by maturity range, and the associated interquartile range of spreads. Underlying data: TRACE, transactions above \$250K.

## Trailing annual issuance

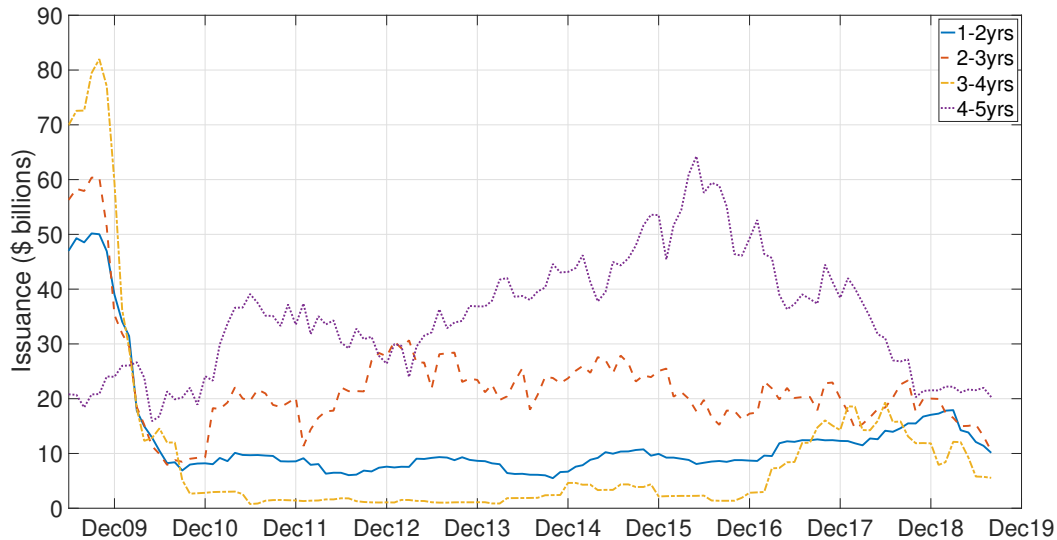
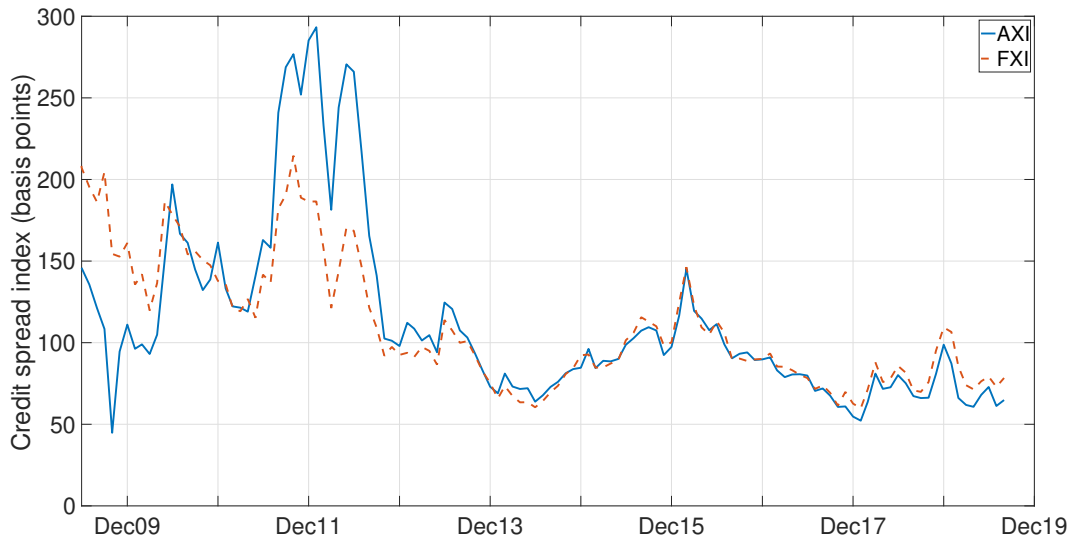


Figure: Trailing annual issuance (principal amt) in each maturity range. Underlying data: TRACE.

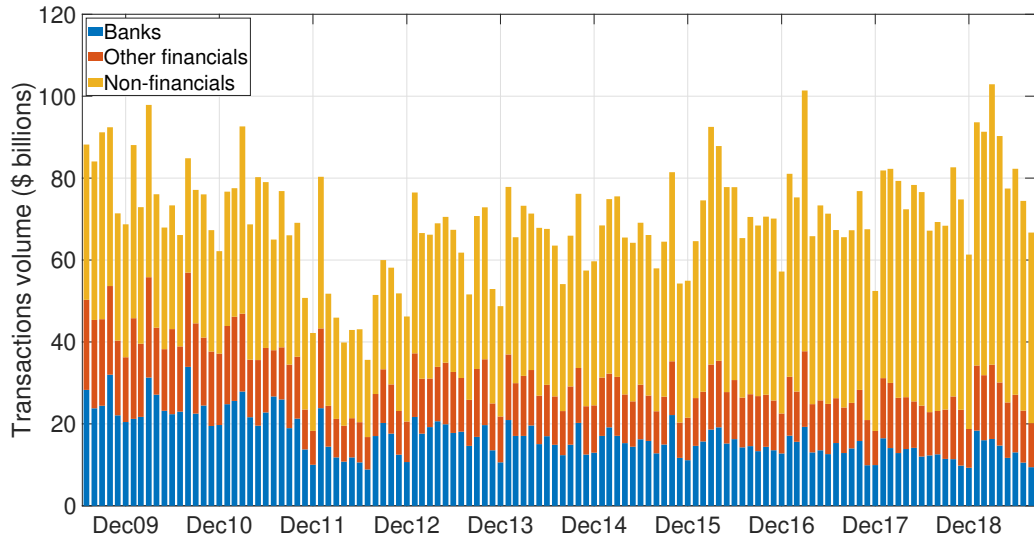


## From AXI to FXI



**Figure:** In addition to the long-term component of the AXI, the figure shows the analogous long-term component of the **Financial Conditions Credit Spread Index (FXI)** that includes all corporate bonds.

## Monthly transaction volumes by issuer type



**Figure:** Transaction volumes by month for BHCs and commercial banks (Banks), other financials and non-financials. Underlying data: TRACE, transaction above \$250K.

## Concluding remarks

- ▶ AXI is a measure of the recent cost of wholesale unsecured debt funding for publicly listed U.S. BHCs and their commercial banking subsidiaries.
- ▶ The index is a weighted average of credit spreads for unsecured debt instruments with maturities ranging from overnight to five years, with weights that reflect
  - ▶ Secondary market transaction volumes, and
  - ▶ Primary market issuance volumes
- ▶ Data filters strike a balance between (i) basing spread index computations on a homogeneous set of bonds and (ii) retaining as many observations as possible.
- ▶ Incorporating transaction data for non-bank issuers scales up the dollar volume of covered transactions by a factor of nearly 5. The resulting FXI spreads are highly correlated with AXI spreads, especially over the past few years.