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U.S. Treasury Market Structure and All-to-All Trading in the U.S.

Treasury Market

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The views here are of the presenter and do not necessarily represent those of the Federal Reserve Bank of New York or Federal Reserve System.

Overview

- Overview of Treasury Market Structure
- Trends in U.S. Treasury Trading
- Recent Research – All-to-All Trading in the U.S. Treasury Market
 - Background on the Inter-Agency Working Group for Treasury Market Surveillance (IAWG)
 - All-to-all trading conceptually
 - UST trading protocols that offer wider trading partners
 - Challenges to broader adoption

Overview of U.S. Treasury Market Structure

- Cash market consists of two main segments: interdealer and dealer-to-customer
- Interdealer market
 - Trading occurs mainly between dealers and principal trading firms
 - Most trading occurs on electronic platforms (e.g. Brokertec) in on-the-run coupons
 - Trading of off-the-runs and other less liquid securities in the interdealer market occurs on manual-assisted platforms (e.g. Tradeweb)
 - There is some bilateral trading between dealers and between dealers and PTFs via direct bilateral streams.
- Dealer-to-customer market
 - Trading occurs between dealers and a variety of clients, such as foreign central banks, asset managers, pension funds, hedge funds.
 - Trading occurs over electronic request-for-quote (e.g. Tradeweb, Bloomberg), direct streaming, and voice/message trades.
 - Off-the-run trading is much more common in DTC than in interdealer and as a result, DTC is more reliant on intermediation capacity than interdealer trading.

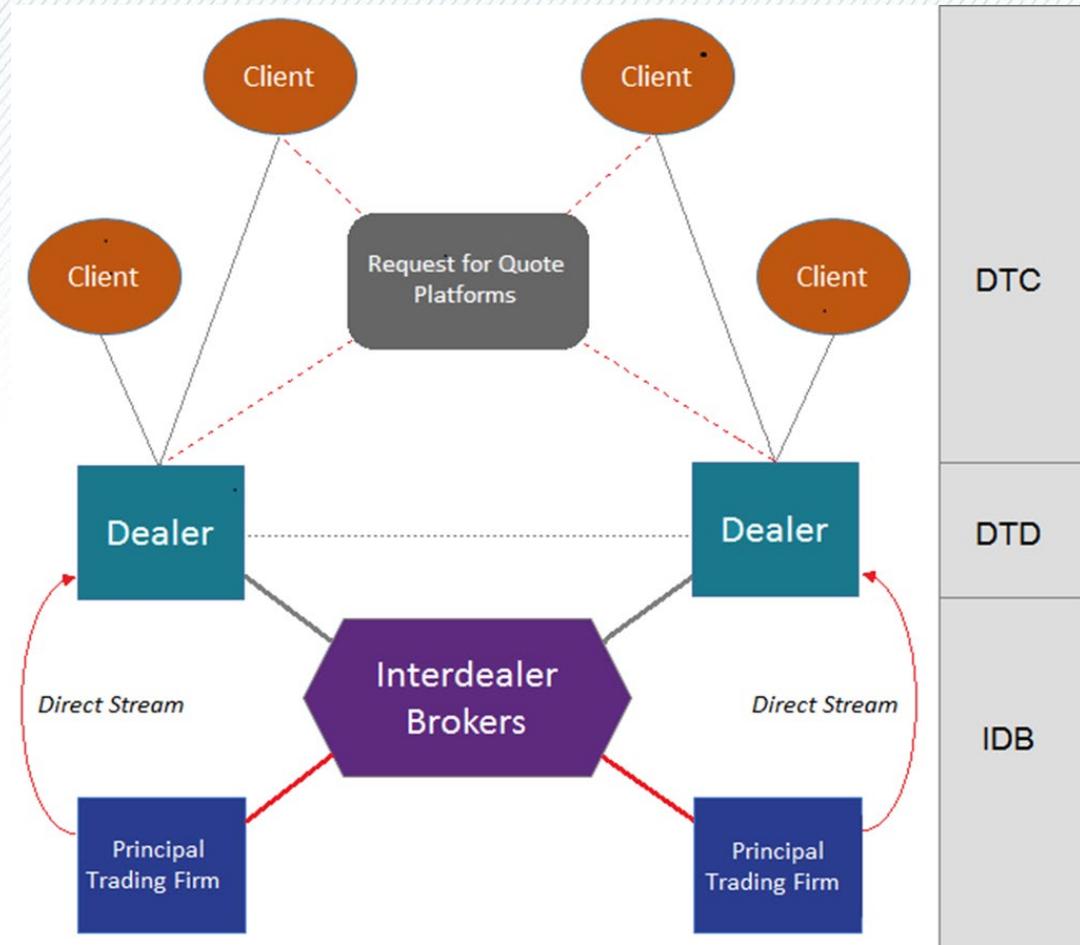


Figure Source: [Unlocking the Treasury Market through TRACE](#)

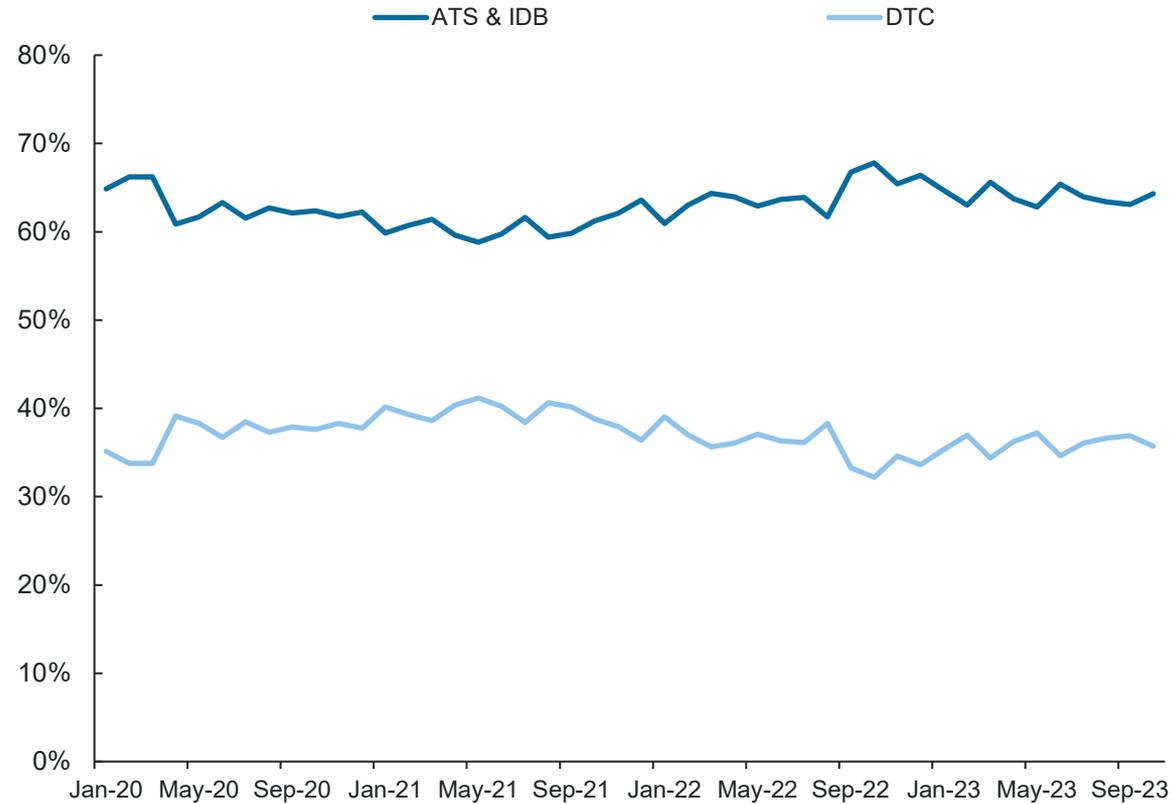
Trends in U.S. Treasury Trading

Explanation of FINRA TRACE Data

- FINRA Financial Industry Regulatory Authority is an industry organization that oversees U.S. broker-dealers.
- FINRA Treasury TRACE Aggregate Statistics provides trading volume in U.S. Treasury securities reported to TRACE (a data collection engine).
- Data was published in a weekly format from 2020 until February 2023, and in a daily format since February 2023.
- TRACE data is grouped into various maturity buckets across nominal coupons and TIPS. The On-the-Run security is generally the most recently issued Treasury security.
- Trades are broken up between “ATS and Interdealer” and “Dealer-to-Customer” categories.
 - “ATS and Interdealer” includes the sell side of a trade when the trade is executed on an alternative trading system (ATS) or a trade executed between FINRA members outside of an ATS (excluding buy/sell trades to ATS).
 - “Dealer-to-Customer” includes all trades (buys and sells) reported by a FINRA member against a non-member or a non-member affiliate.
- Volume as calculated by TRACE is the sum of trade sizes on a day as measured by par value.

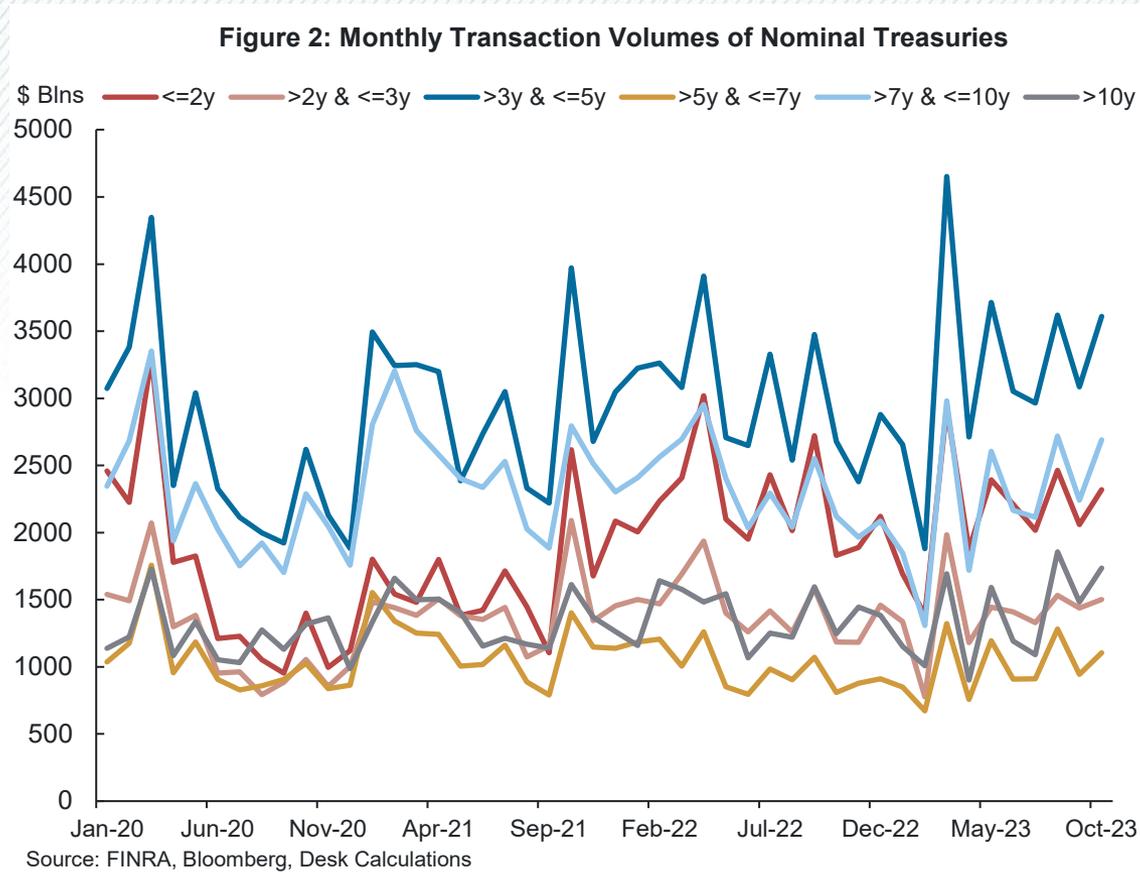
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Figure 1: Share of Monthly Transaction Volumes of On-the-run Nominal Treasuries

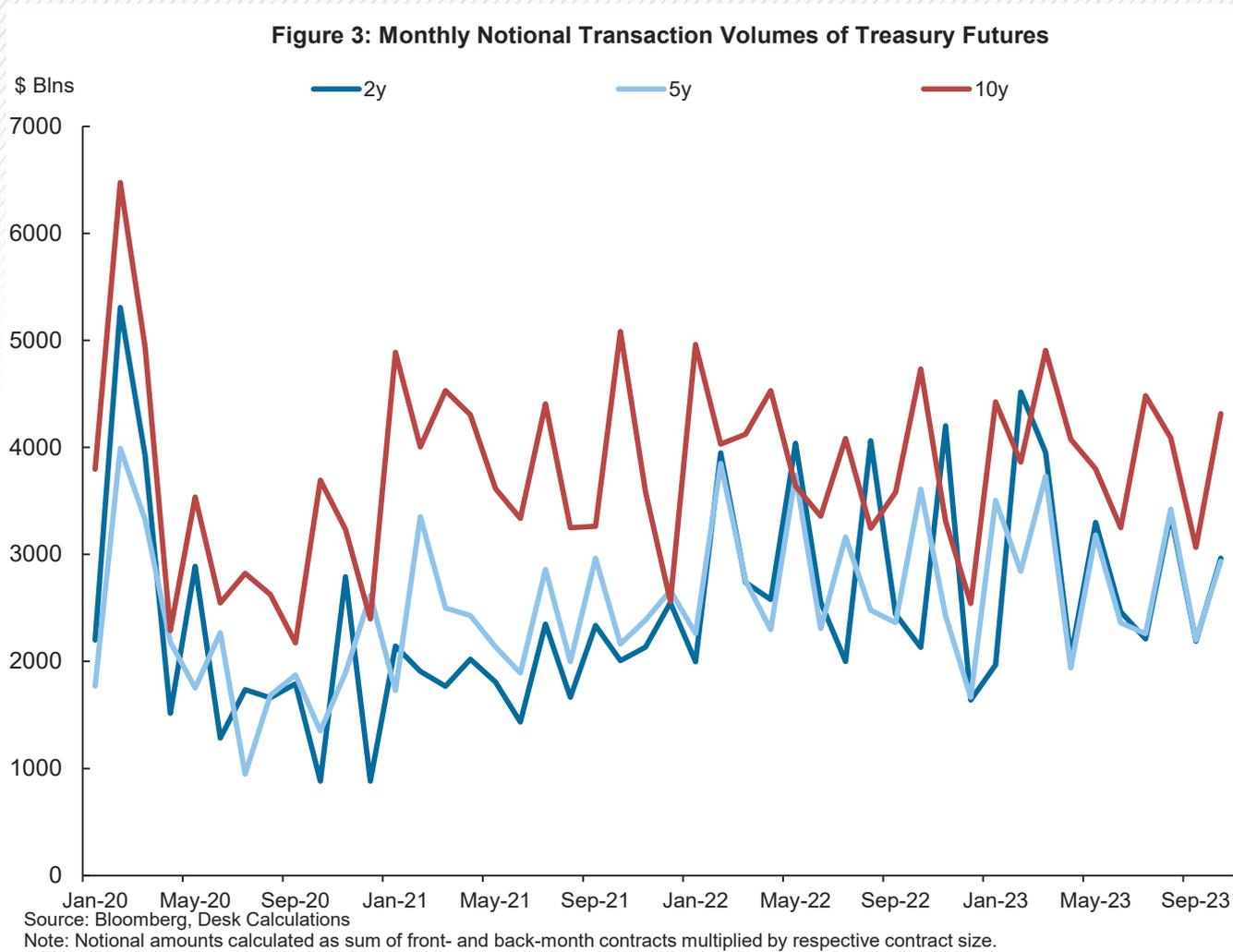


Source: FINRA, Bloomberg, Desk Calculations

Trends in U.S. Treasury Trading

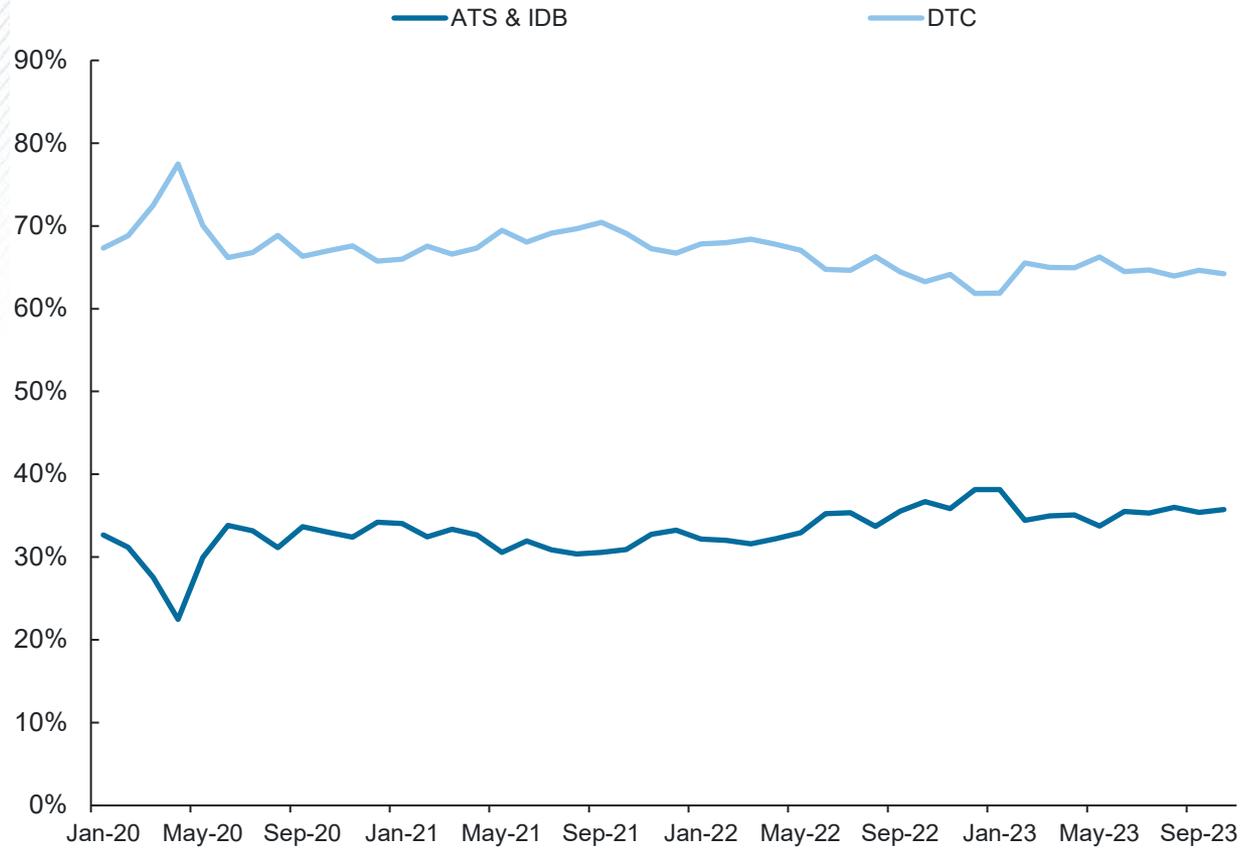


Trends in U.S. Treasury Trading



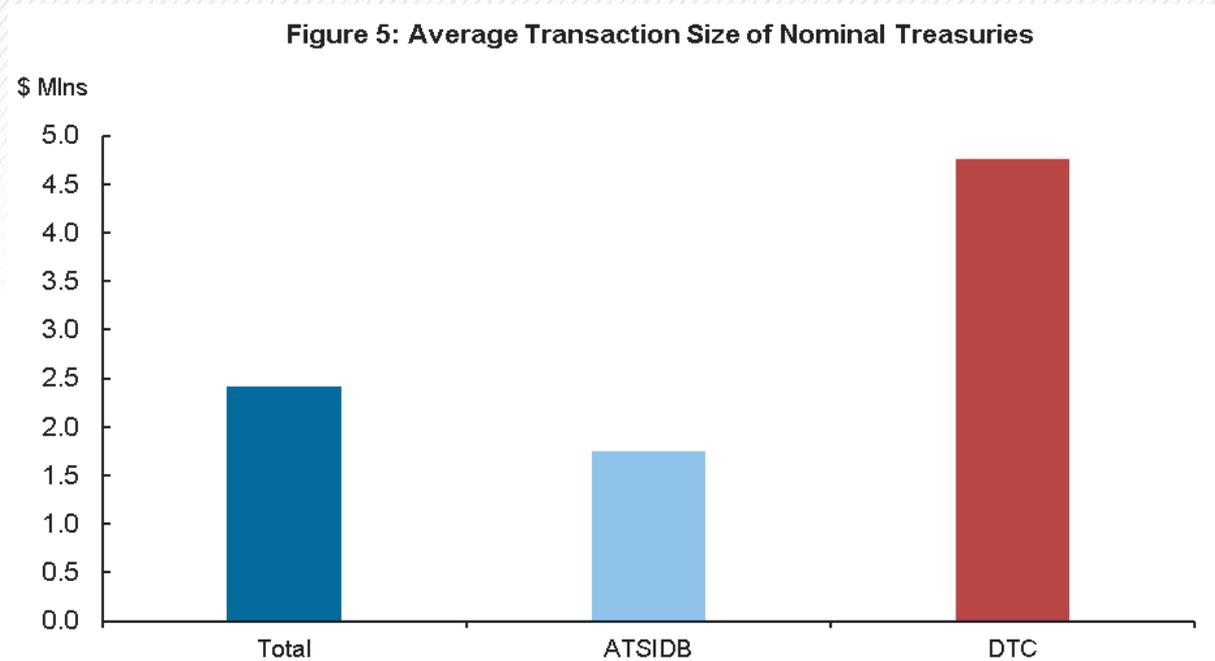
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Figure 4: Share of Monthly Transaction Volumes of Off-the-run Nominal Treasuries



Source: FINRA, Bloomberg, Desk Calculations

Trends in U.S. Treasury Trading



Source: FINRA, Desk calculations
Note: Monthly period begins Feb. 28, 2023 to Oct. 31, 2023

Inter-Agency Working Group for Treasury Market Surveillance (IAWG)

- The Inter-Agency Working Group for Treasury Market Surveillance (IAWG) was formed in 1992 in response to auction bidding scandal, and today includes the U.S. Treasury Department, SEC, CFTC, Federal Reserve Board, and New York Fed. Each member has separate authorities and activities with respect to the Treasury market.
- The IAWG is designed to strengthen interagency coordination and monitoring of the Treasury market. Over recent years the IAWG has focused on the changing structure and increased strains in the U.S. Treasury market.
- Recent public reports include:
 - Enhancing the Resilience of the U.S. Treasury Market: 2023 Staff Progress Report (November 2023)
 - Enhancing the Resilience of the U.S. Treasury Market: 2022 Staff Progress Report (November 2022)
 - Recent Disruptions and Potential Reforms in the U.S. Treasury Market: A Staff Progress Report (November 2021)
 - Joint Staff Report on October 15, 2014 (July 2015)

Recent Research – All-to-All Trading in the U.S. Treasury Market

- Collaborated with colleagues from the New York Fed, Board of Governors, and U.S. Treasury to co-author “All to All Trading in the U.S. Treasury Market,” a New York Fed Staff Report.
- Leveraged market outreach conducted by the Inter-Agency Working Group for Treasury Market Surveillance (IAWG).
- We discuss what all-to-all trading would mean for the cash secondary Treasury market, the benefits it might bring, and the conditions that might make adoption of the protocol more likely.
- We also review several trading protocols operating in the Treasury market that widen the field of trading partners and discuss the challenges to broader adoption of such protocols.

All-to-All Trading in Concept

- “All-to-all trading” is a term used by market observers to describe a range of trading protocols that, in their purest form, would enable any market participant to trade directly with any other market participant.
- Some have argued that increased use of all-to-all trading in the U.S. Treasury market could improve liquidity as it may increase the amount of liquidity providers any one market participant can trade with.
- For example, in a situation where dealer intermediation capacity is constrained, all-to-all would allow market participants with offsetting trading needs to trade without going through a dealer.
- Another potential benefit of all-to-all trading could be increased transparency around pricing.
- Some argue that all-to-all trading would be more likely to come about in the Treasury market if central clearing were to be used more broadly, as central clearing would reduce the need to set up separate clearing arrangements with each trading counterparty.

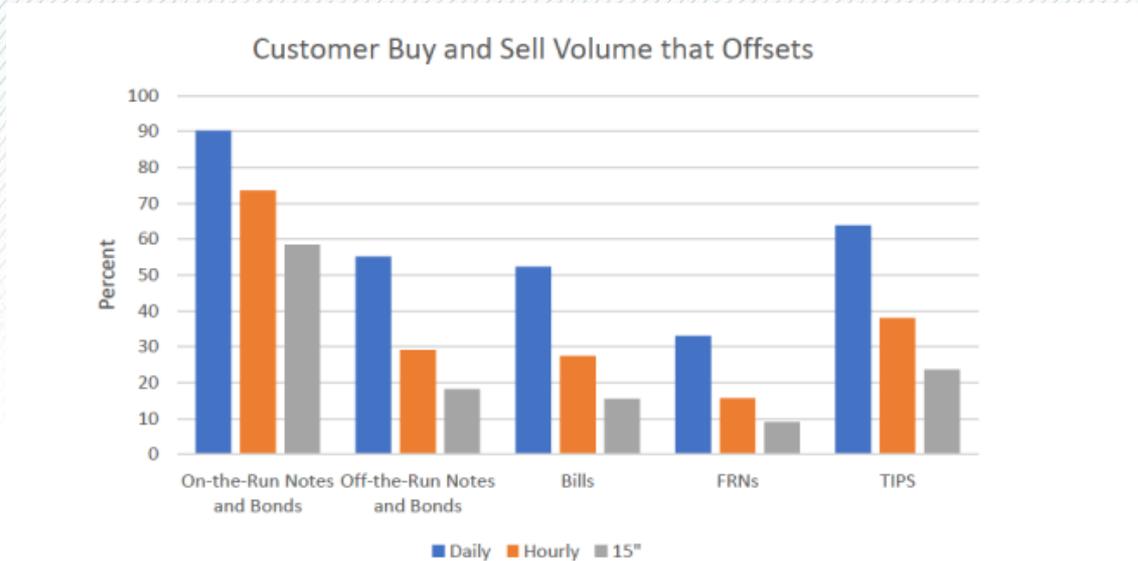
Trading protocols in the U.S. Treasury market that offer a broader set of trading partners

Trading Protocol	Description	Securities Traded	Trade Size Increment	Role of Trading Platform	Counterparty Disclosure
Anonymous Request for Quote	Customer sends out order to all liquidity providers on the platform set up for anonymous RFQ	Currently, on-the-runs	Customizable	Principal to both sides of the trade	All Anonymous
Central Limit Order Book	Liquidity providers offer various bid and offer prices and quantities, which liquidity consumers can select and execute.	On-the-runs	Standardized (\$1 million increment)		
Anonymous Streaming	Liquidity providers stream live prices for securities, which can be executed on	On-the-runs	Usually standardized		
Match Auctions	Market participants participate in scheduled auctions to match offsetting orders in specific securities	Less liquid securities (off-the-runs, TIPS)	Customizable		

Challenges to Broader Adoption

- Given the anonymous nature of these trading protocols, the trading platforms stand in between the trades. This concentrates clearing and settlement risk with the platforms. Depending on how these risks are managed, this could increase systemic risk for the Treasury market more broadly.
- Some account types prefer to have disclosed counterparties, to maintain counterparty relationships and to obtain (what they believe to be) preferential pricing
 - However, studies of MarketAxess Open Trading protocol in corporate bonds showed that it improved pricing overall.
- Experience in 2020 showed a great need to increase the ability to smoothly trade less liquid securities like off-the-runs. However, the protocols as currently constructed are primarily focused on trading fewer and more liquid securities (like on-the-runs).
- A broad-based move to all-to-all trading could potentially result in dealers reducing their participation in the Treasury market due to decreased profitability.

Offsetting Buy and Sell Volume



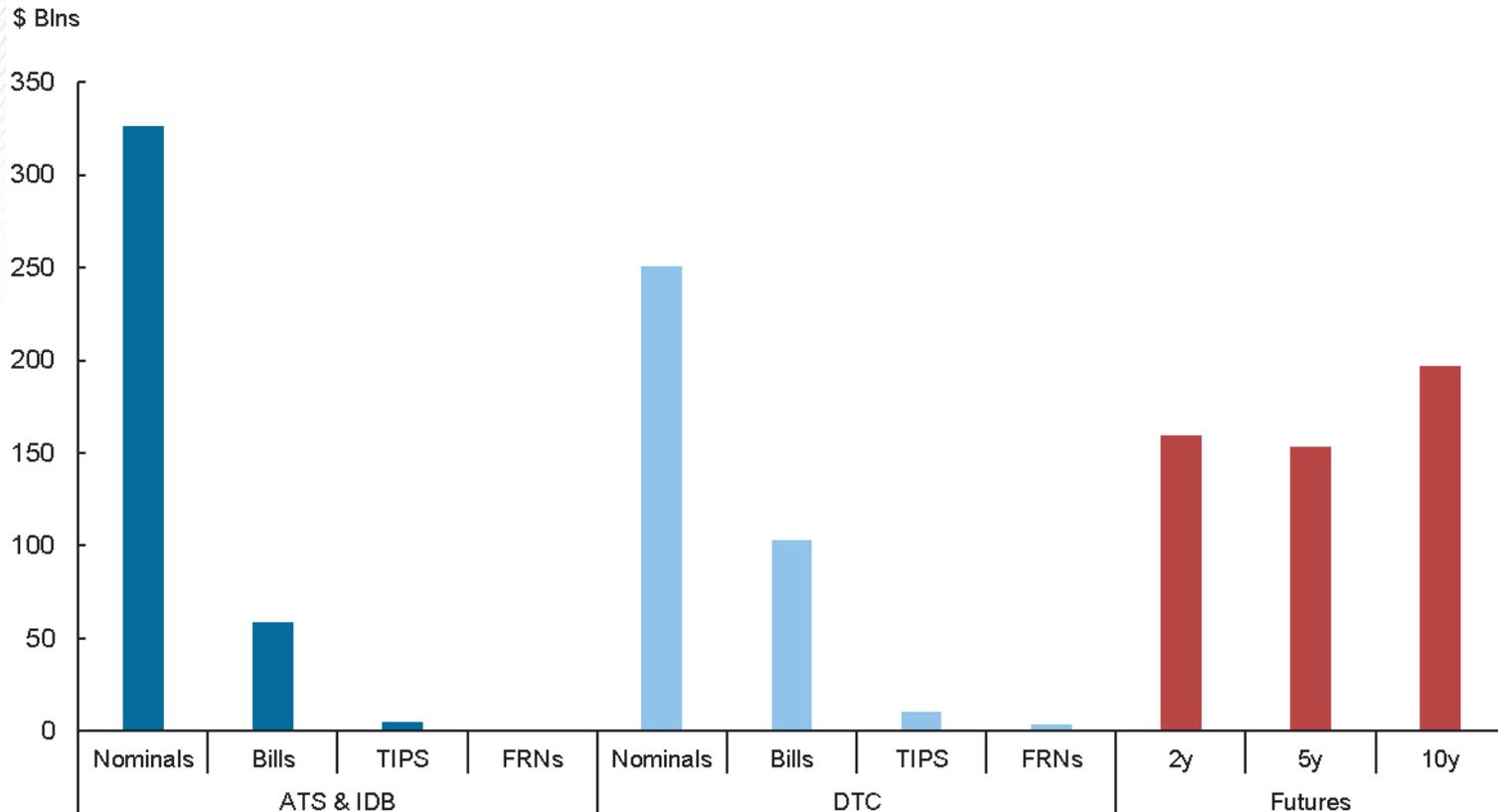
Source: Authors' calculations, based on data from FINRA TRACE.

Notes: The chart plots the percent of customer trading volume with dealers that has offsetting customer trading volume in the same security for the same settlement day within the same time interval between January 3 and June 30, 2022. As an example, if one or more customers bought \$40 million of the second off-the-run 10-year note for next-day settlement within a particular 15-minute interval and one or more customers sold \$10 million of the same security for next-day settlement within the same 15-minute interval, then we would say that \$20 million in customer trading volume offset out of a total of \$50 million traded for that security, settlement day, and interval.

Appendix

Trends in U.S. Treasury Trading

Appendix 1: Average Daily Treasury Transaction Volumes by Market Segment



Source: FINRA, Bloomberg, Desk calculations

Note: Daily period begins Feb. 13, 2023 to Nov. 9, 2023. Futures calculated in notional terms

Trends in U.S. Treasury Trading

