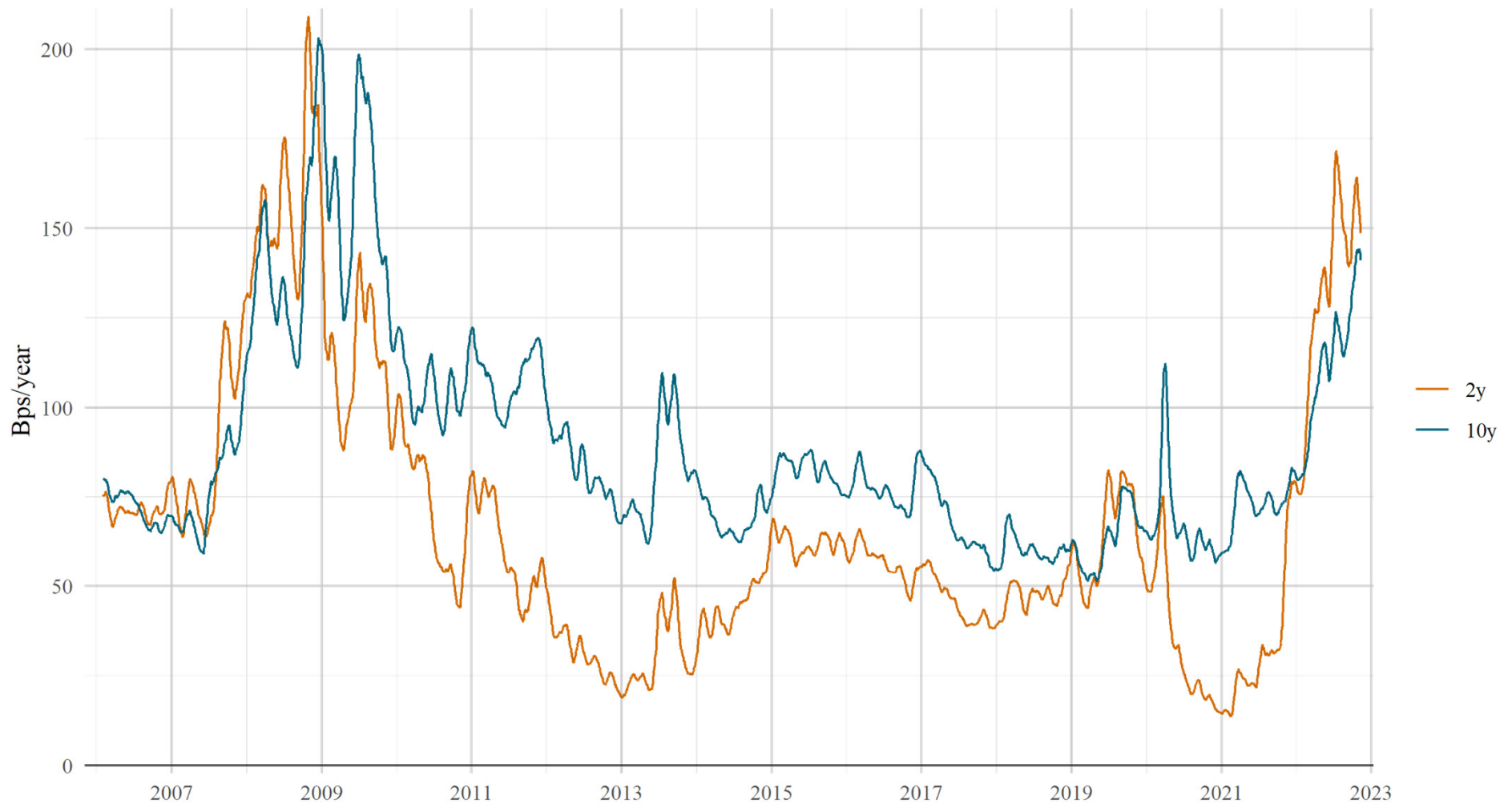




2022 U.S. Treasury Market Conference
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Figure 1: Implied yield volatility

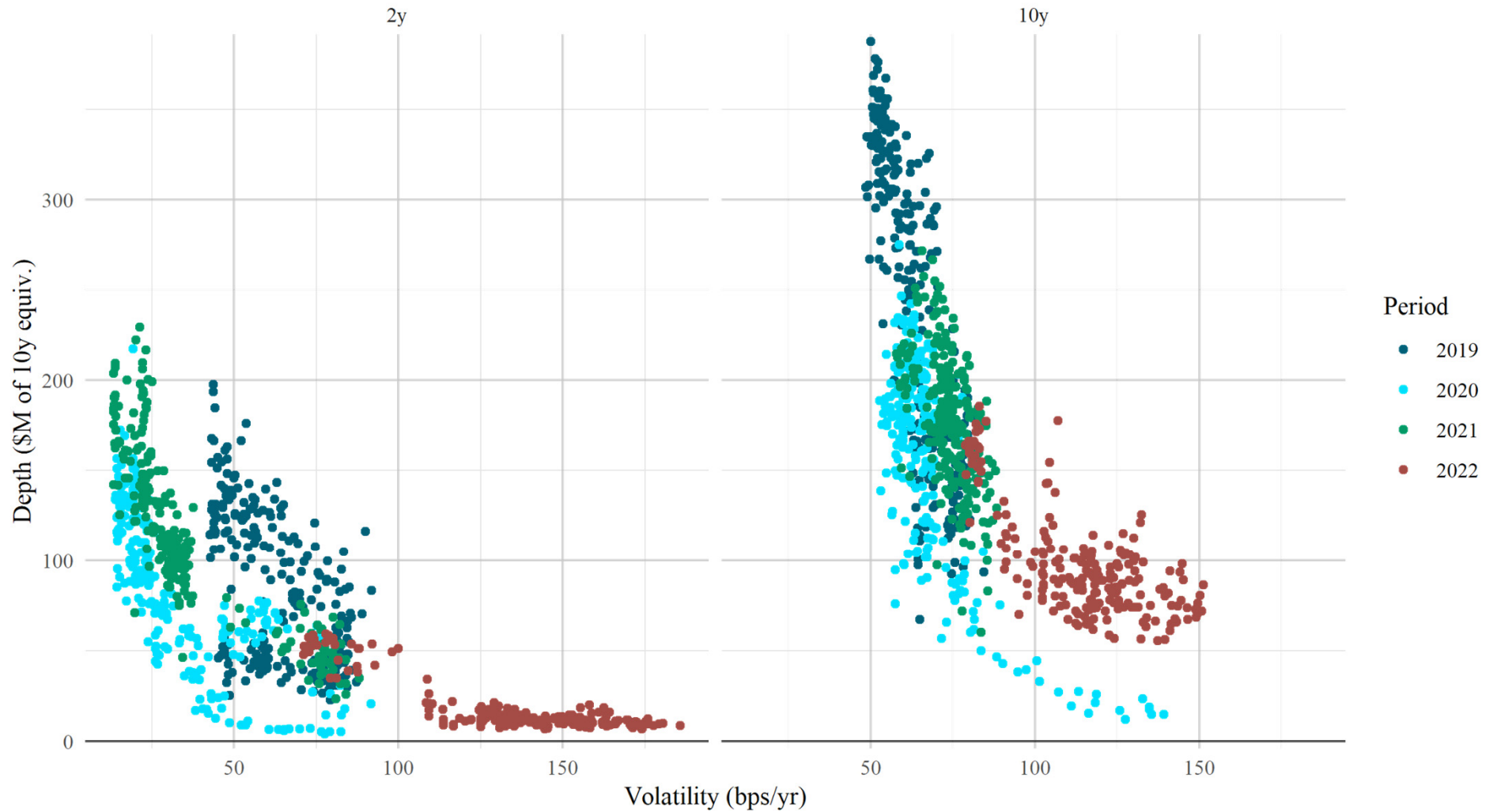
Implied volatility from 3-month expiry swaptions for 2-year and 10-year tenors; 1-month moving averages



Source: Bloomberg

Figure 2: Depth compared to volatility

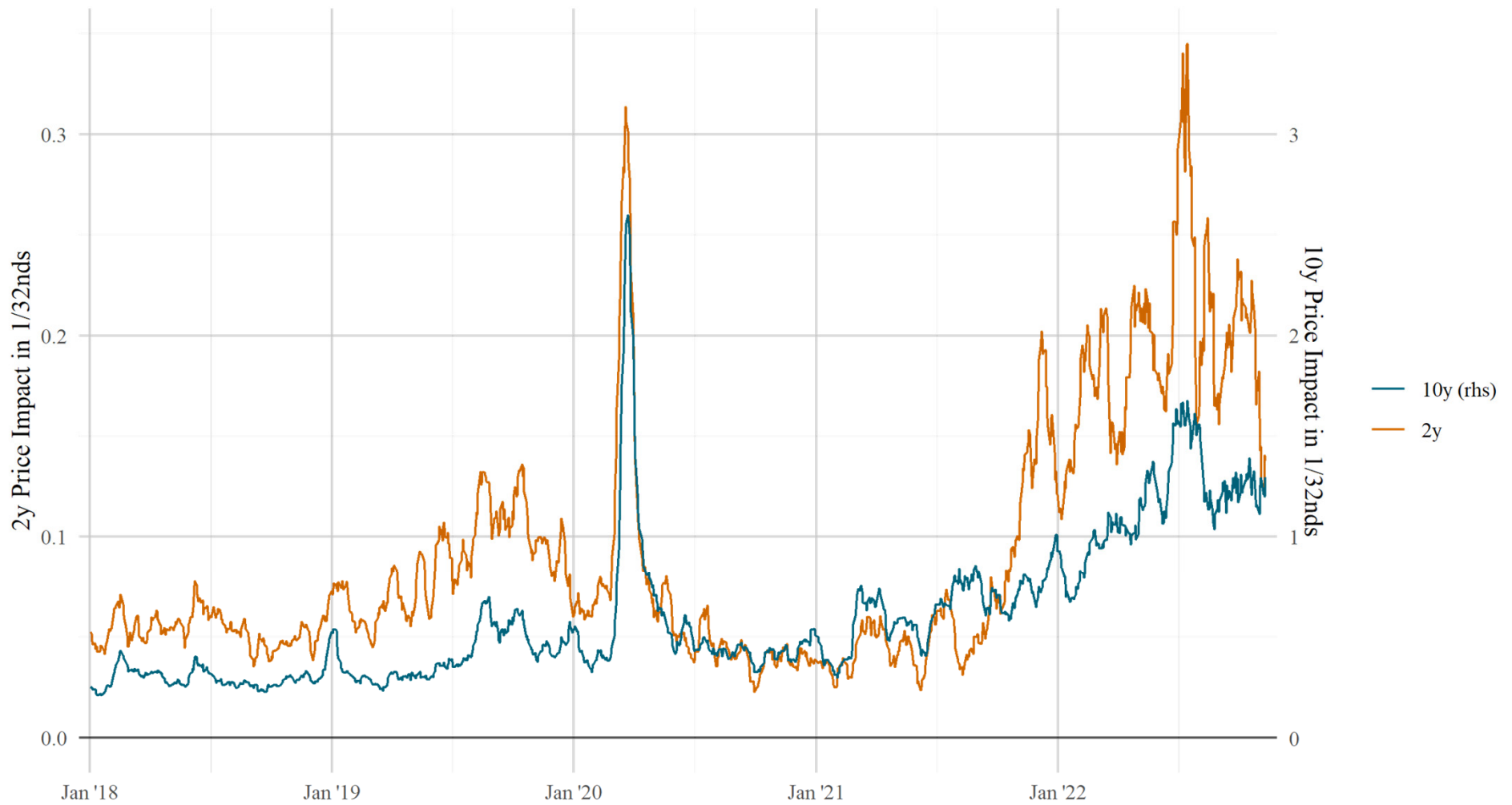
Daily observations of cash depth versus implied volatility of 3-month expiry swaptions, by tenor



Sources: BrokerTec; Bloomberg; U.S. Treasury

Figure 3: Price impact

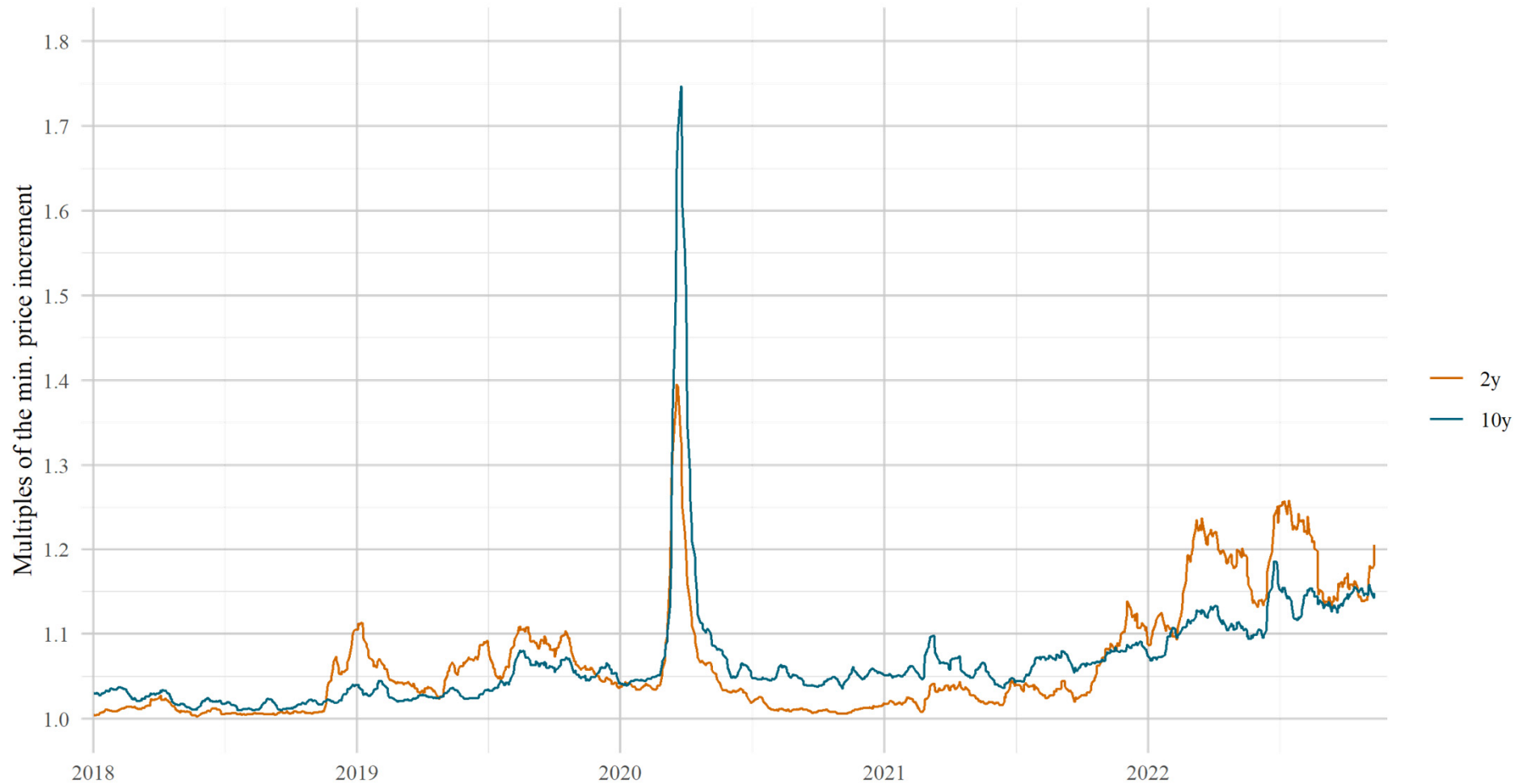
Based on daily estimated price changes in 1/32nds per \$100M net buys from 8am to 4pm on BrokerTec; 10-day moving averages



Sources: BrokerTec; U.S. Treasury

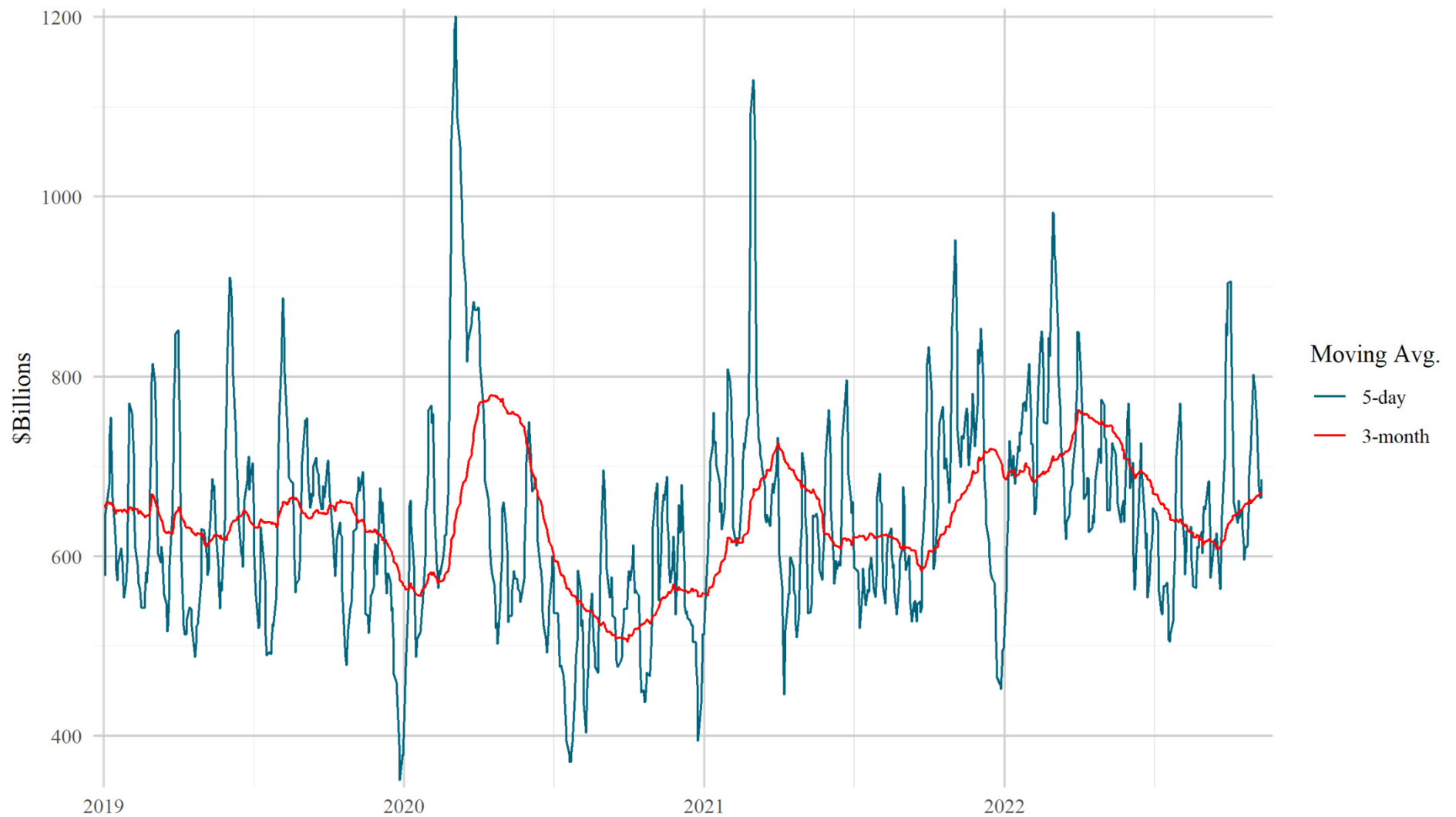
Figure 4: Bid-ask spreads

Based on daily average bid-ask spreads from 8am to 4pm on BrokerTec;
Normalized based on minimum price increments; 10-day moving averages



Sources: BrokerTec; U.S. Treasury

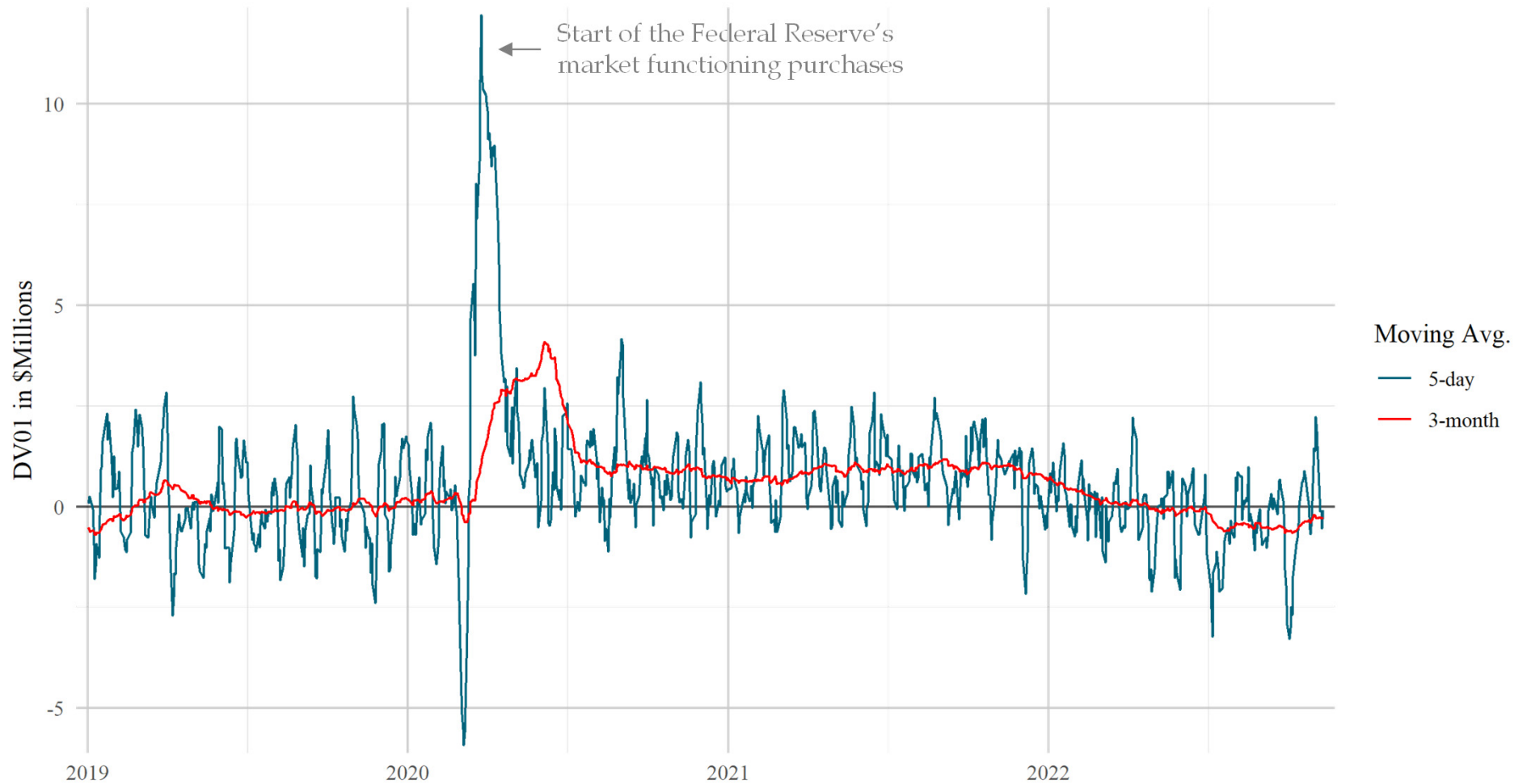
Figure 5: Total transaction volumes



Sources: FINRA TRACE; U.S. Treasury

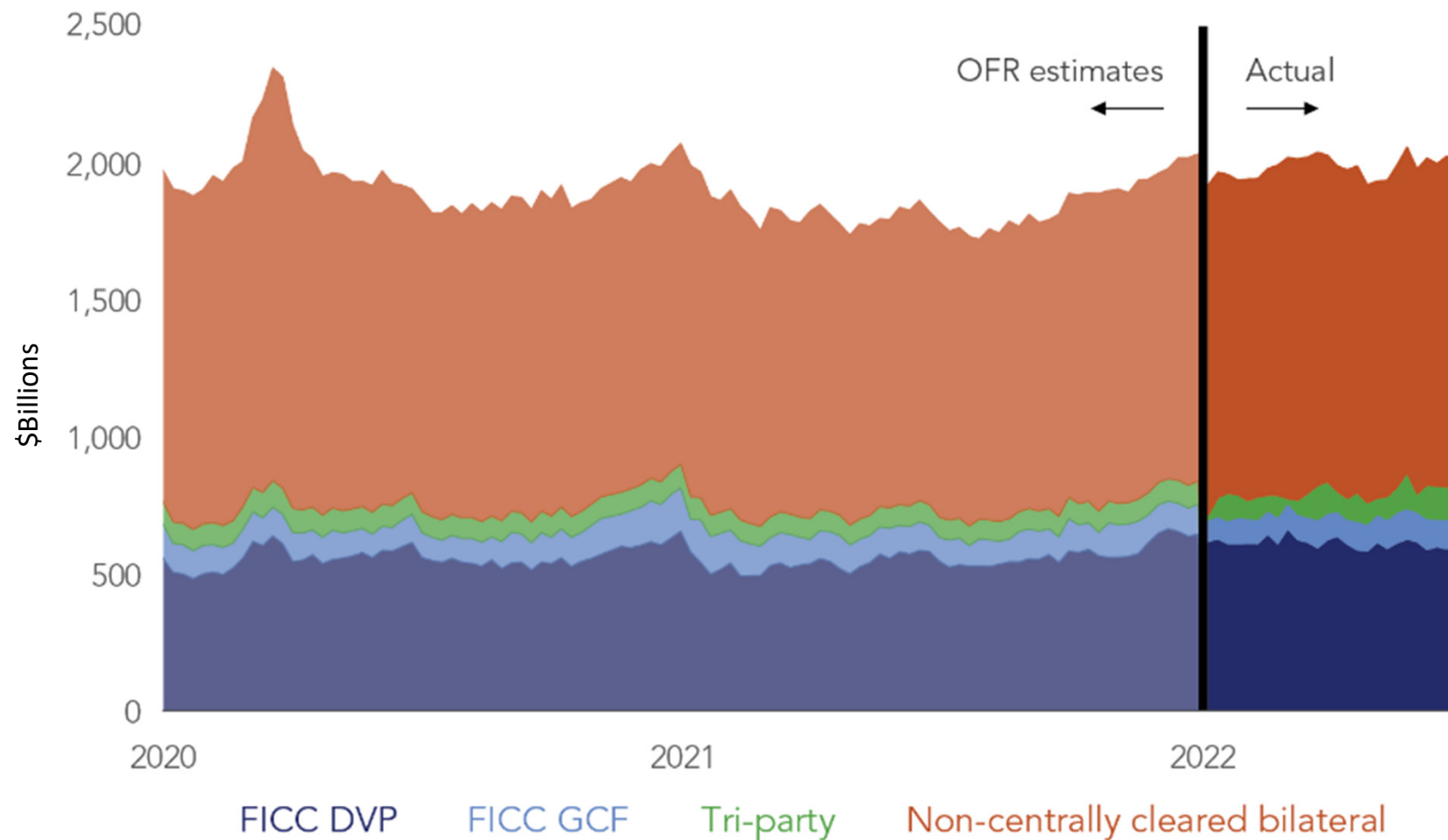
Figure 6: Net customer buys of deep off-the-runs

4+ off-the-run nominal coupons in the dealer-to-customer segment;
Includes outright operations by the Federal Reserve System



Sources: FINRA TRACE; U.S. Treasury

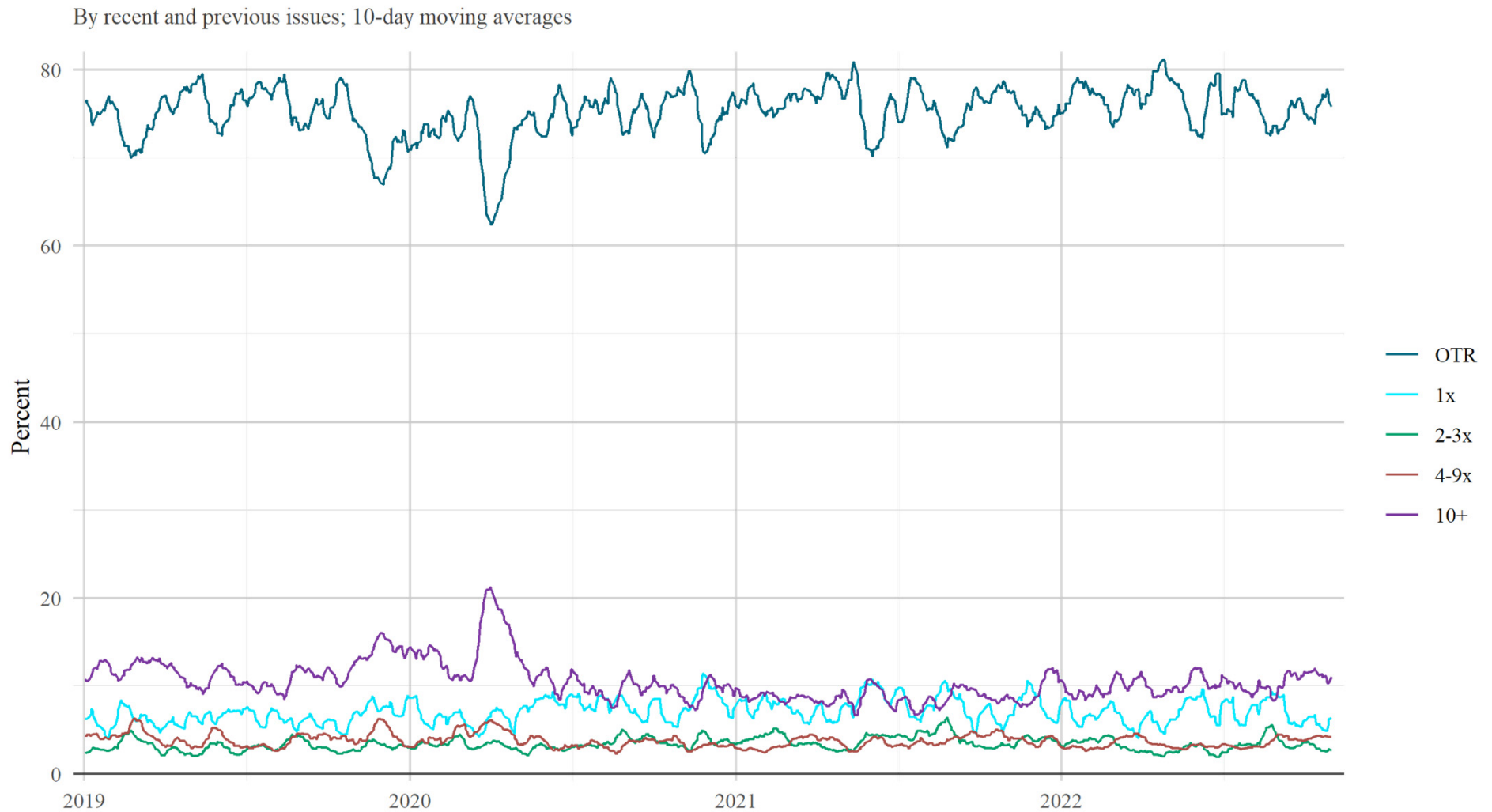
Figure 7: Primary dealer reverse repo outstanding by market



Note: Non-centrally cleared bilateral reverse repo is calculated as a residual using Primary Dealer aggregates less Fixed Income Clearing Corporation GCF and DVP reverse repo by primary dealers and estimated tri-party reverse repo.

Sources: FRBNY Primary Dealer Statistics, OFR Cleared Repo Collection, Office of Financial Research

Figure 8: Relative trading of nominal coupons

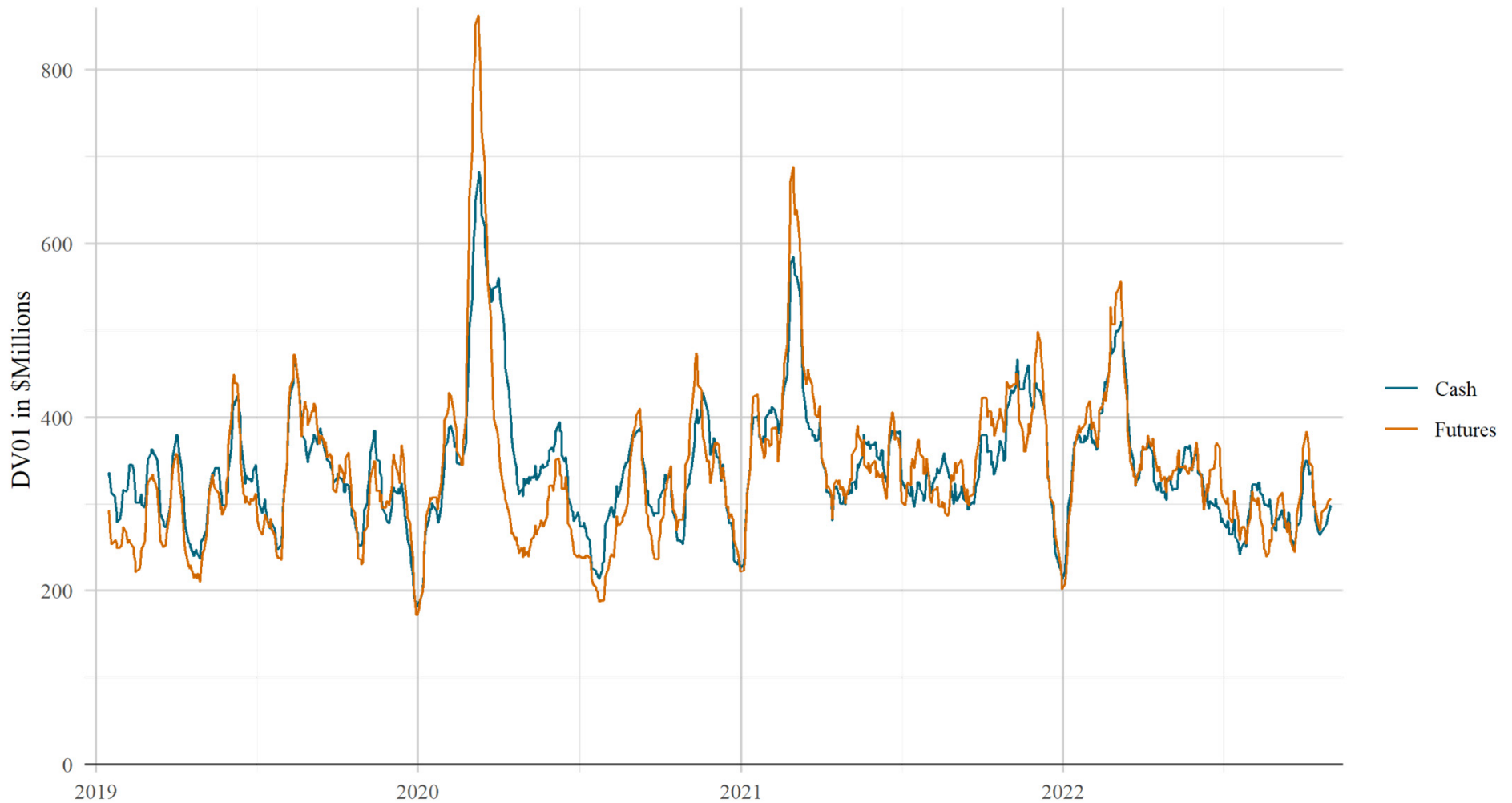


OTR = on-the-run; 1x, 2-3x, 4-9x, and 10+ indicate various off-the-runs

Sources: FINRA TRACE; U.S. Treasury

Figure 9: Trading of cash and futures

Excluding calendar and reduced tick spread trades associated with the futures roll; 10-day moving averages

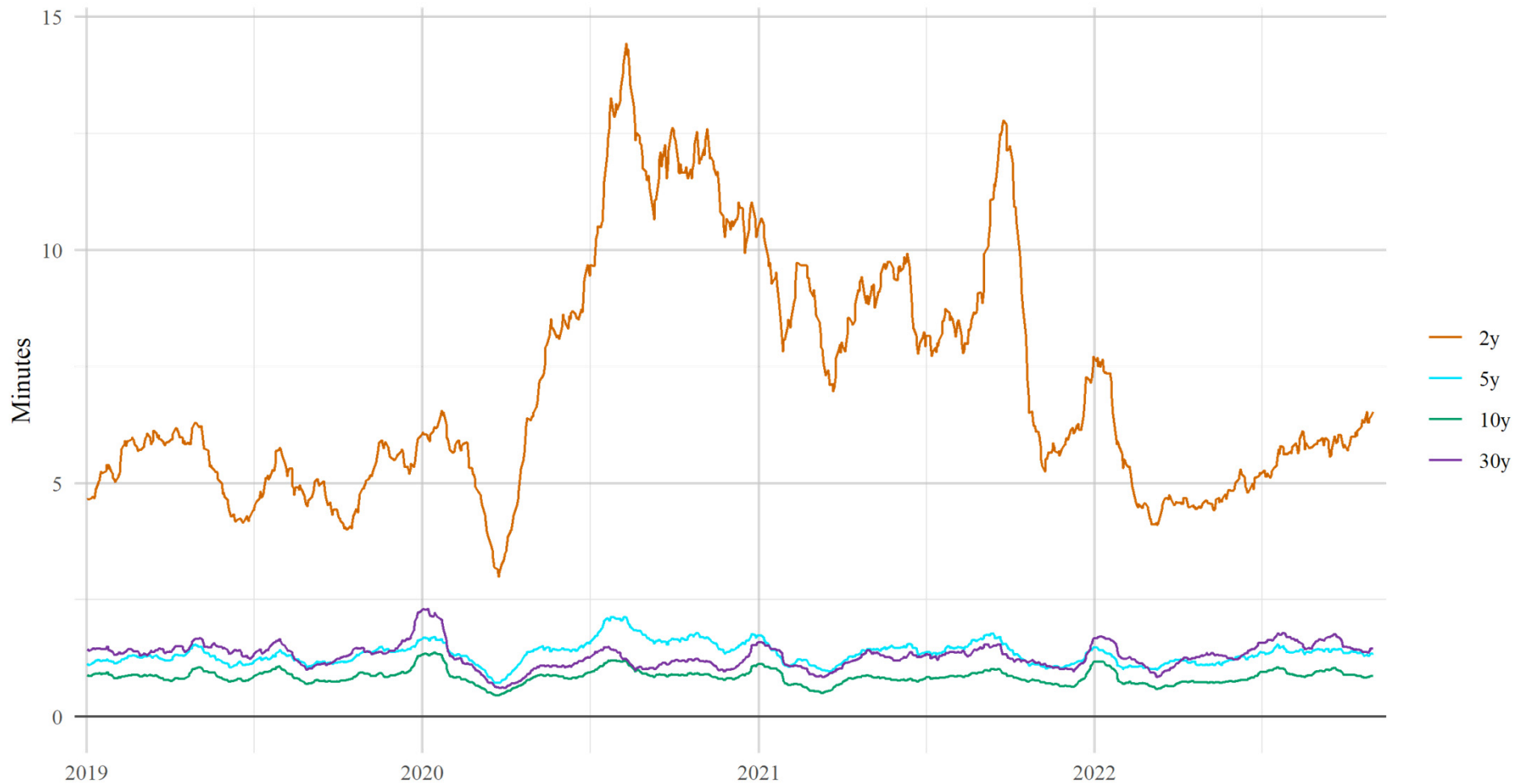


Sources: FINRA TRACE; CFTC; Bloomberg; U.S. Treasury

Figure 10: Implied minutes to transact large trades

On-the-run nominal coupons; 1-month moving averages

Based on median hourly volume each day from 8am - 4pm, and the \$100k DV01 equivalent trade size (e.g., ~\$500M for the 2y and ~\$50M for the 30y)



Sources: FINRA TRACE; U.S. Treasury

