

June 2022

US Market Structure Monthly



US Market Microstructure Observations

- The average daily volume in US equities was 12.8B shares in June 2022, down 3% month over month (MoM) and up 15% year over year (YoY).
 - Average daily volume in sub-\$1 securities in June 2022 increased 14% MoM and increased 171% YoY.
- Trade reporting facility (TRF) market share increased 1.1% MoM to 41.3% in June 2022.
- Excluding the first and last half hour of the day, median spreads declined 12% and 14% MoM for S&P 500 and RUS 2000 symbols, respectively, in June 2022.
- The percentage of the day's volume executing on the close increased to 13.1% from 10.9% MoM for S&P500 names, and 10.8% from 9.1% MoM for Russell 2000 names. The increases were driven by the S&P's quarterly rebalance and Russell's annual rebalance during the month of June...

Market Structure News

SEC Mulling Major Equity Market Structure Changes

SEC Chair Gary Gensler unveiled several potential equity market structure changes during the Piper Sandler Global Exchange and FinTech Conference in early June. During his remarks, the Chair highlighted that he had asked the SEC staff over the past year to “take a holistic, cross-market view of how we could update our rules and drive greater efficiencies in our equity markets, particularly for retail investors” and discussed the staff’s work across six areas.

- Minimum pricing increments
- National best bid and offer
- Disclosure of order execution quality
- Best execution
- Order-by-order competition
- Payment for order flow, exchange rebates and related access fees

Potential proposals are expected this October and would be subject to the customary rulemaking processes.

The ideas mentioned by Chair Gensler include using auction mechanisms for allowing for order-by-order competition for retail orders, incorporating odd lots in protected quotes, allowing exchanges to quote in sub-penny price increments, lowering exchange access fees and enhancing Rule 605 disclosures. Virtu has been a vocal advocate for many of these changes .

A wide range of market participants from the buy-side, sell-side, and retail brokers expressed concerns about mandating auctions and quoting in tenth of a penny increments, citing the potential increase in retail investment costs and potential harm to the NBBO.

<https://www.sec.gov/news/speech/gensler-remarks-piper-sandler-global-exchange-conference-060822>

<https://virtu-www.s3.amazonaws.com/uploads/documents/comment-letter-virtu-financial-petition-for-rulemaking-to-amend-sec-rule-605-092021.pdf>

<https://www.wsj.com/articles/sec-considers-routing-equity-trades-into-competitive-auctions-gensler-says-11654705854>

<https://www.cnn.com/2022/06/08/us-sec-chief-gary-gensler-unveils-plan-to-overhaul-wall-street-stock-trading.html>



Nasdaq and Blackrock Ask the SEC to Not Move Forward with Its Climate Disclosure Plan

Nasdaq and Blackrock have submitted letters to the SEC urging it to scale back or drop its proposal to require publicly traded companies to disclose more on their business' effects on the climate. In its letter, Blackrock said the new rules would increase compliance costs and may make it harder for investors to discern important information about a company's earnings. As well as increased compliance costs, Nasdaq pointed out that the SEC should not require larger companies to disclose greenhouse gas emissions of their products or the firms in their supply chains, given the difficulty in quantifying such emissions.

<https://www.bloomberg.com/news/articles/2022-06-21/blackrock-calls-on-sec-to-change-climate-risk-disclosure-plan>

<https://www.bloomberg.com/news/articles/2022-06-15/nasdaq-urges-sec-not-to-move-ahead-with-climate-disclosure-plan>

Courts Rule in Favor of Major Exchange Groups on SEC's Market Data Rules

Nasdaq, NYSE, and CBOE Global Markets won their federal court challenge against the SEC's 2020 market data overhaul proposal, ruling that the agency exceeded its authority by requiring non-exchange firms to serve on SIP governance committees. Despite this victory, the court did not vacate other parts of the overhaul plan contested by the exchange groups.

<https://www.wsj.com/articles/nasdaq-nyse-win-court-battle-with-sec-over-market-data-11657056514>

SEC to Propose New Rules for Retail Brokers' Digital Engagement Practices

The SEC plans to propose new rules before the end of this year to curtail what the agency calls the 'gamification of trading' in retail brokers' applications. The rules will focus on the behavior prompts and data analytics used by retail brokers to promote trading among their client bases. Virtu filed a response to the SEC's August 2021 Request for Information about Digital Engagement Practices , urging the SEC to refrain from taking steps that would jeopardize the many benefits that retail investors enjoy in the current regulatory framework and instead, embrace innovation and focus on advancing the investor experience rather than stifling it.

<https://www.bloomberg.com/news/articles/2022-06-22/sec-to-propose-new-rules-for-online-brokers-game-like-features>

<https://virtu-www.s3.amazonaws.com/uploads/documents/comment-letter-virtu-rfi-response-09282021.pdf>

Grayscale Sues SEC for Rejecting Its Bitcoin ETF

Grayscale Investments sued the SEC after the agency rejected its application to convert its spot bitcoin trust product into an ETF. The SEC said the proposal from Grayscale did not meet the standards necessary to prevent fraud and manipulation. Grayscale is the latest issuer to be rejected by the SEC for a spot bitcoin product. Virtu has filed a comment letter asking the SEC to approve Grayscale's ETF application.

<https://www.reuters.com/markets/us/us-sec-rejects-grayscale-spot-bitcoin-etf-application-2022-06-30/>

<https://virtu-www.s3.amazonaws.com/uploads/documents/Virtu-Financial-Regulation-GBTC-Comment-Letter-20220404.pdf>

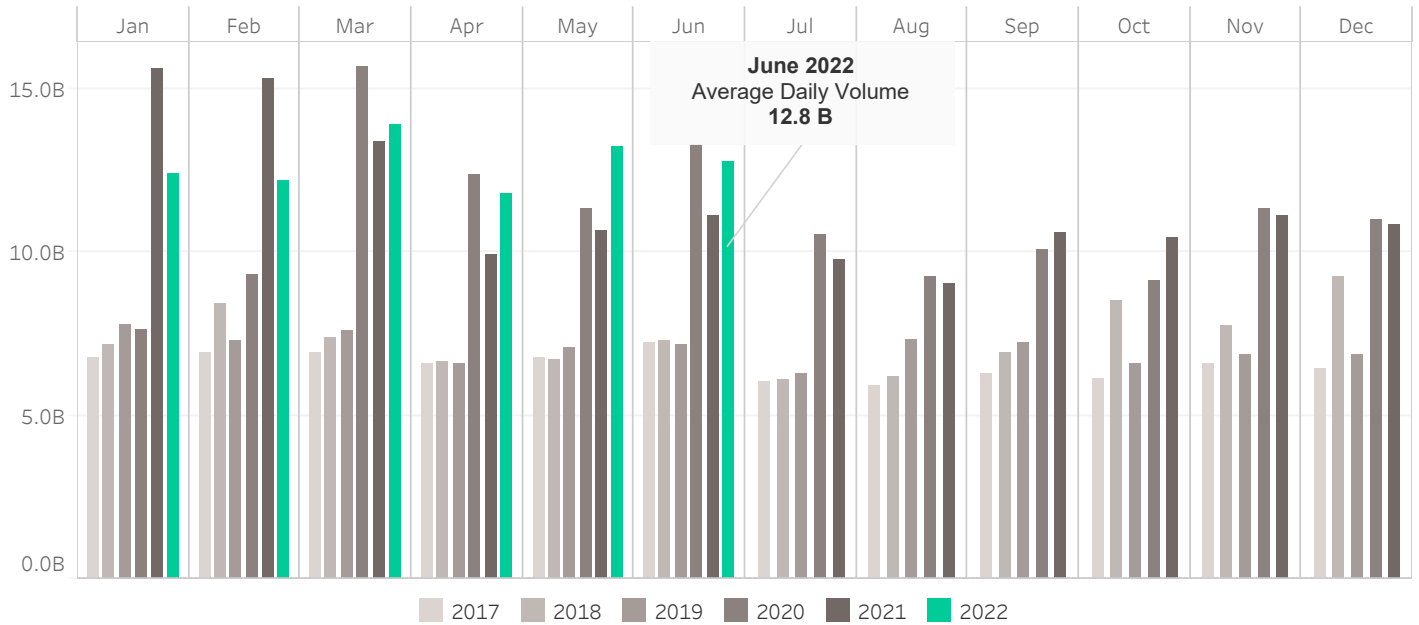
OneChronos Periodic Auction ATS Launches

In its launch announcement , OneChronos ATS shared that over a dozen broker-dealers have signed on to the platform, including Bank of Montreal and Jefferies. OneChronos ATS matches orders via periodic auctions, where approximately 10 auctions are run every second. While not mentioned in the announcement, Virtu is also signed on to the platform.

<https://www.bloomberg.com/news/articles/2022-06-30/new-trading-platform-onechronos-brings-ai-auctions-to-stocks>

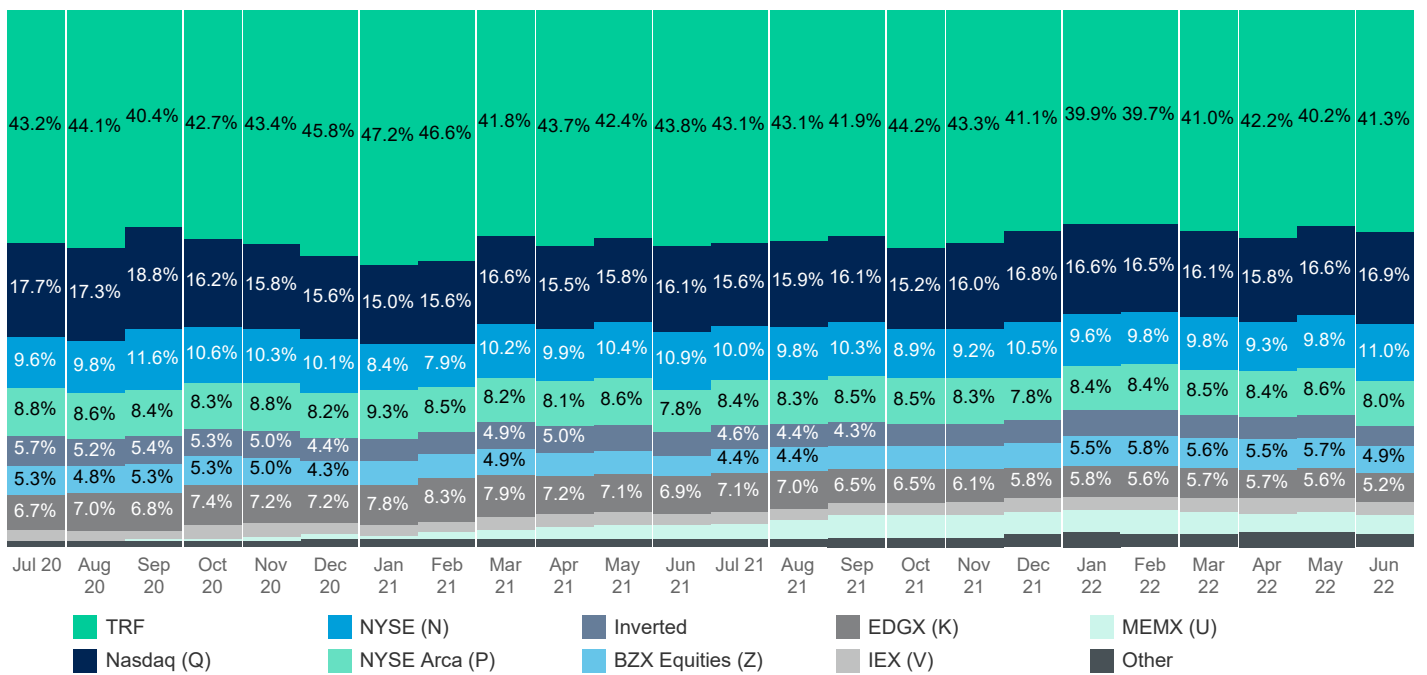


Average Daily Market Volume



Source data: Cboe Global Markets

Venue Market Share

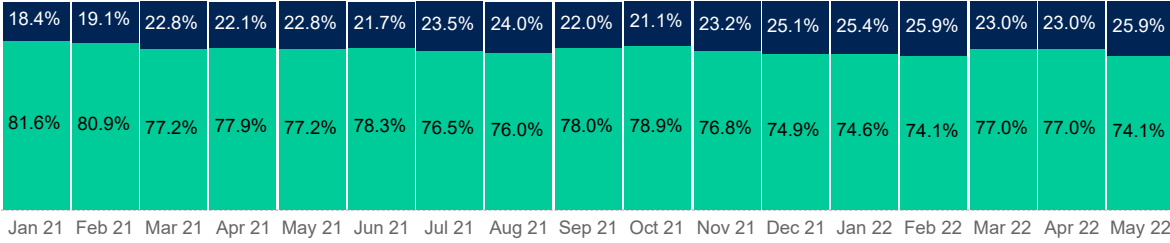


Source data: Cboe Global Markets



TRF Volume Breakdown

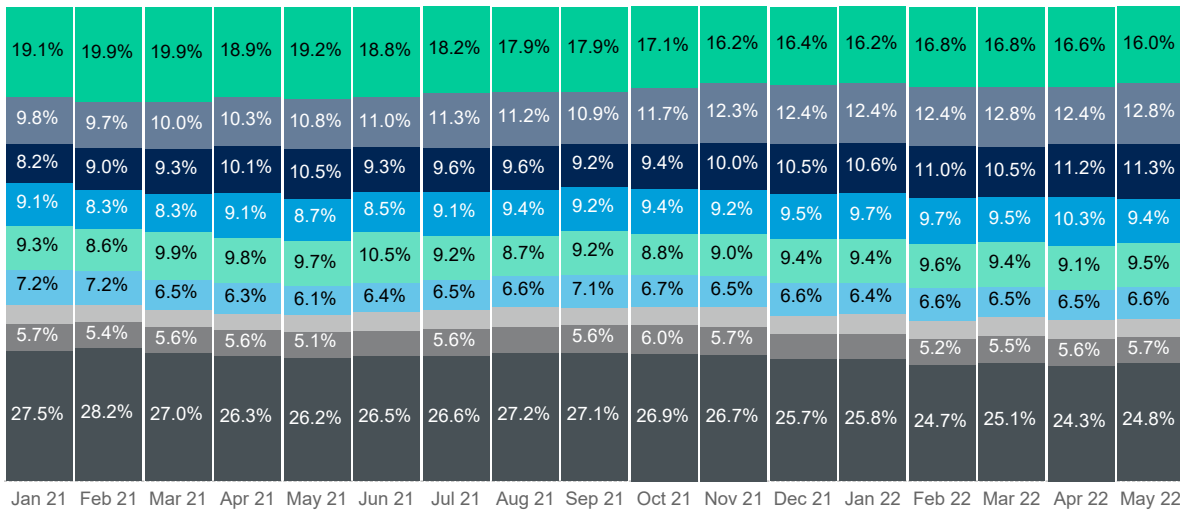
■ ATS
■ OTC Non ATS



Tier1 and Tier2 only; Excludes Dealerweb, Source data: FINRA

ATS Market Share

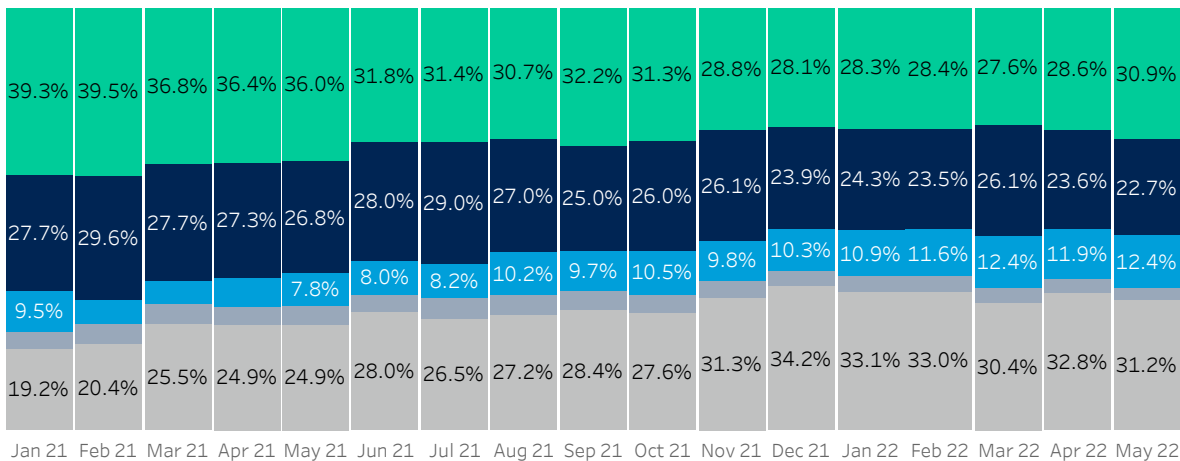
■ UBS
■ Goldman Sachs
■ Morgan Stanley
■ JP Morgan
■ Credit Suisse
■ Level
■ BIDS
■ Virtu
■ Other



Excludes Dealerweb, OTC; Venues rolled up to firm level; Source data: FINRA

OTC Non-ATS Market Share

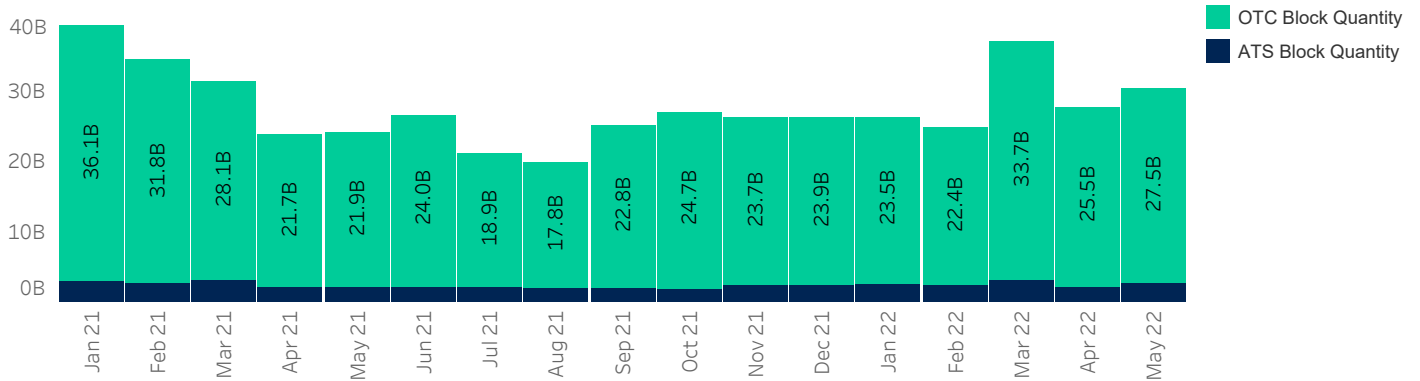
■ Citadel
■ Virtu
■ G1
■ Two Sigma
■ Other



Source: FINRA, NMS Tier 1 & 2 Securities

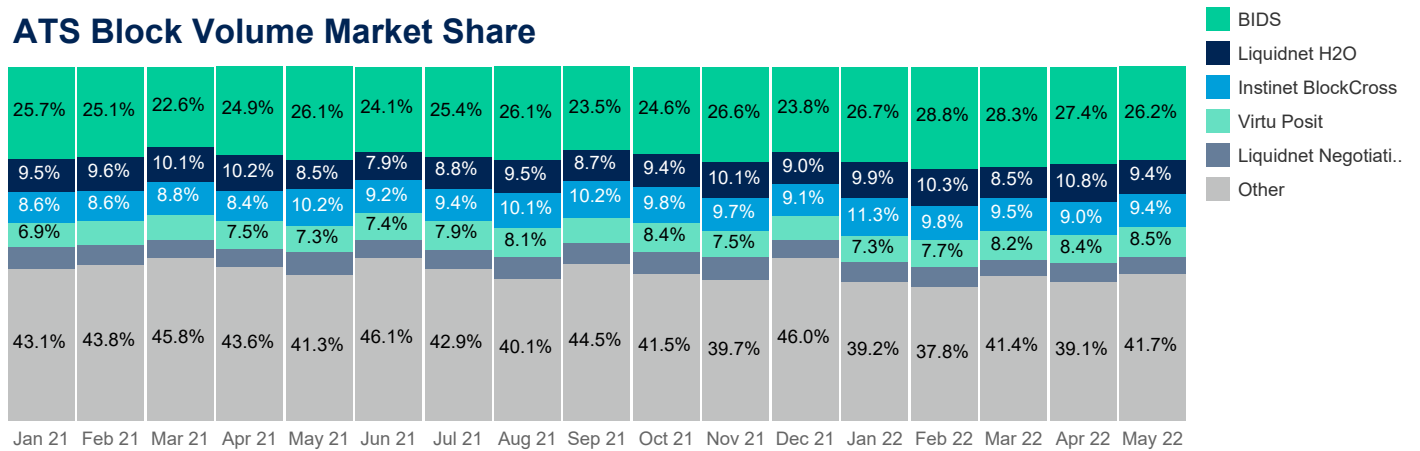


TRF Block Volume Breakdown (Shares)



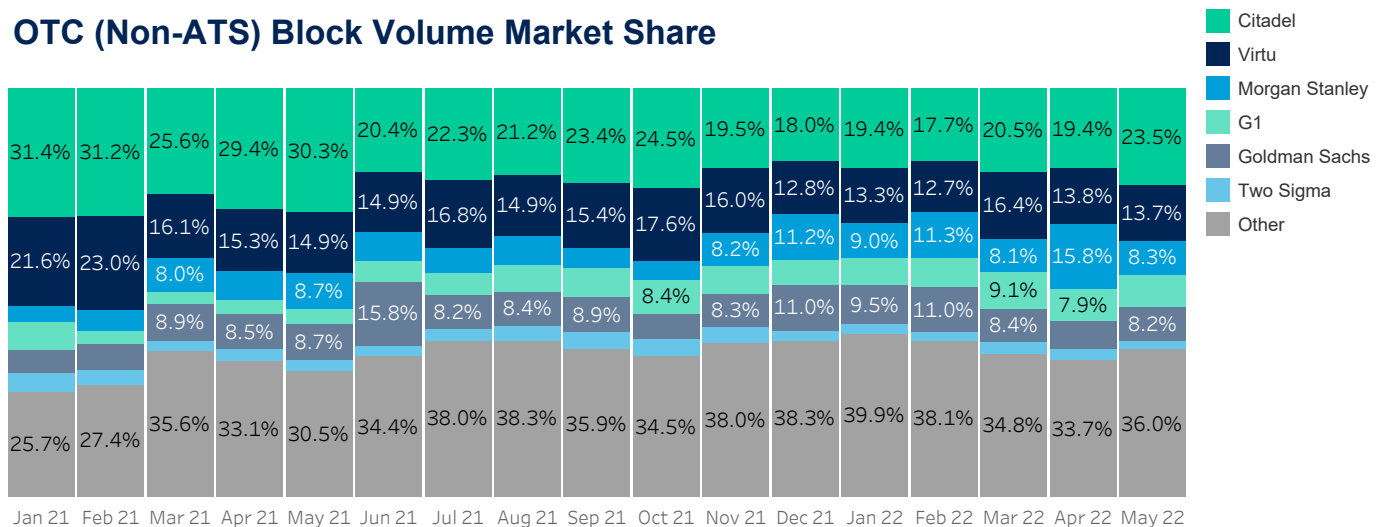
Source: FINRA

ATS Block Volume Market Share



Excludes Dealerweb; Blocks defined as >10K shares; Source data: FINRA

OTC (Non-ATS) Block Volume Market Share



Blocks defined as >10K shares; Source data: FINRA



Quotesize in Shares

		2Q 21	3Q 21			4Q 21			1Q 22			2Q 22		
		Jun 21	Jul 21	Aug 21	Sep 21	Oct 21	Nov 21	Dec 21	Jan 22	Feb 22	Mar 22	Apr 22	May 22	Jun 22
First 30 Min	SP500	178	177	176	171	170	172	187	184	187	186	180	196	195
	RUS2000	217	222	221	214	207	201	220	224	225	230	236	250	243
Mid Day	SP500	197	190	193	184	181	183	192	188	193	185	176	186	190
	RUS2000	213	210	215	208	205	209	219	225	230	234	232	234	246
Last 30 Min	SP500	239	232	238	219	210	213	208	200	199	195	190	190	198
	RUS2000	243	240	249	236	232	238	242	244	246	254	255	259	276

Spread Bps

First 30 Min	SP500	8.1	9.7	9.9	9.3	11.1	12.3	13.9	14.2	13.6	13.9	13.4	15.1	13.5
	RUS2000	45.0	52.7	51.5	45.7	47.3	50.2	58.4	57.4	56.9	53.8	51.3	57.0	50.4
Mid Day	SP500	3.5	4.1	4.0	4.1	4.3	4.7	5.6	5.7	5.9	6.1	5.5	6.5	5.7
	RUS2000	18.0	19.9	18.8	18.2	18.7	21.0	24.2	24.9	25.0	23.2	22.5	25.0	21.6
Last 30 Min	SP500	2.6	2.9	2.7	2.8	3.0	3.1	3.7	3.8	4.1	3.9	3.6	3.9	3.5
	RUS2000	14.1	14.4	14.2	14.3	14.8	15.6	18.0	18.6	19.1	17.1	16.6	18.1	16.2

One Minute Volatility Bps

First 30 Min	SP500	12.8	14.5	14.2	14.8	15.3	15.9	17.3	20.0	19.6	20.0	20.2	24.0	21.4
	RUS2000	15.9	19.3	18.8	18.6	17.7	18.9	22.2	23.2	23.6	22.6	21.7	26.9	24.1
Mid Day	SP500	4.5	5.3	4.8	5.4	5.2	5.0	6.1	7.6	8.1	8.4	8.2	9.9	8.3
	RUS2000	4.9	6.2	5.3	5.7	5.2	5.2	5.9	7.1	7.7	7.1	6.8	9.0	6.8
Last 30 Min	SP500	5.2	5.7	5.3	6.2	6.1	5.5	7.2	9.0	10.1	9.0	9.1	10.8	9.0
	RUS2000	6.5	7.2	6.6	7.7	7.2	7.3	9.1	10.0	10.8	8.6	8.8	9.8	8.1

Percent ADV by Time of Day

Open	SP500	1.1%	1.2%	1.1%	1.0%	1.1%	1.1%	1.0%	1.0%	1.0%	0.9%	1.1%	1.0%	1.0%
	RUS2000	0.8%	1.0%	0.9%	0.9%	0.9%	0.9%	0.8%	0.7%	0.8%	0.8%	0.7%	0.7%	0.7%
First 30 Min	SP500	9.5%	10.0%	9.7%	9.7%	9.5%	9.7%	9.2%	9.2%	9.3%	9.1%	9.3%	9.3%	9.4%
	RUS2000	7.9%	8.9%	8.8%	8.5%	8.3%	8.5%	8.2%	7.5%	8.1%	8.0%	7.6%	8.2%	7.6%
Last 30 Min	SP500	18.5%	18.3%	18.3%	18.2%	18.8%	18.3%	18.4%	18.7%	19.1%	19.0%	19.0%	18.6%	19.2%
	RUS2000	19.4%	19.8%	19.5%	19.6%	19.1%	19.4%	19.8%	20.3%	21.0%	20.1%	19.6%	19.7%	19.8%
Close	SP500	12.3%	12.5%	10.7%	11.7%	12.1%	11.5%	13.9%	11.5%	11.1%	12.6%	11.8%	10.9%	13.1%
	RUS2000	10.0%	9.9%	8.9%	9.7%	10.1%	8.8%	10.7%	8.9%	9.7%	10.2%	10.6%	9.1%	10.8%

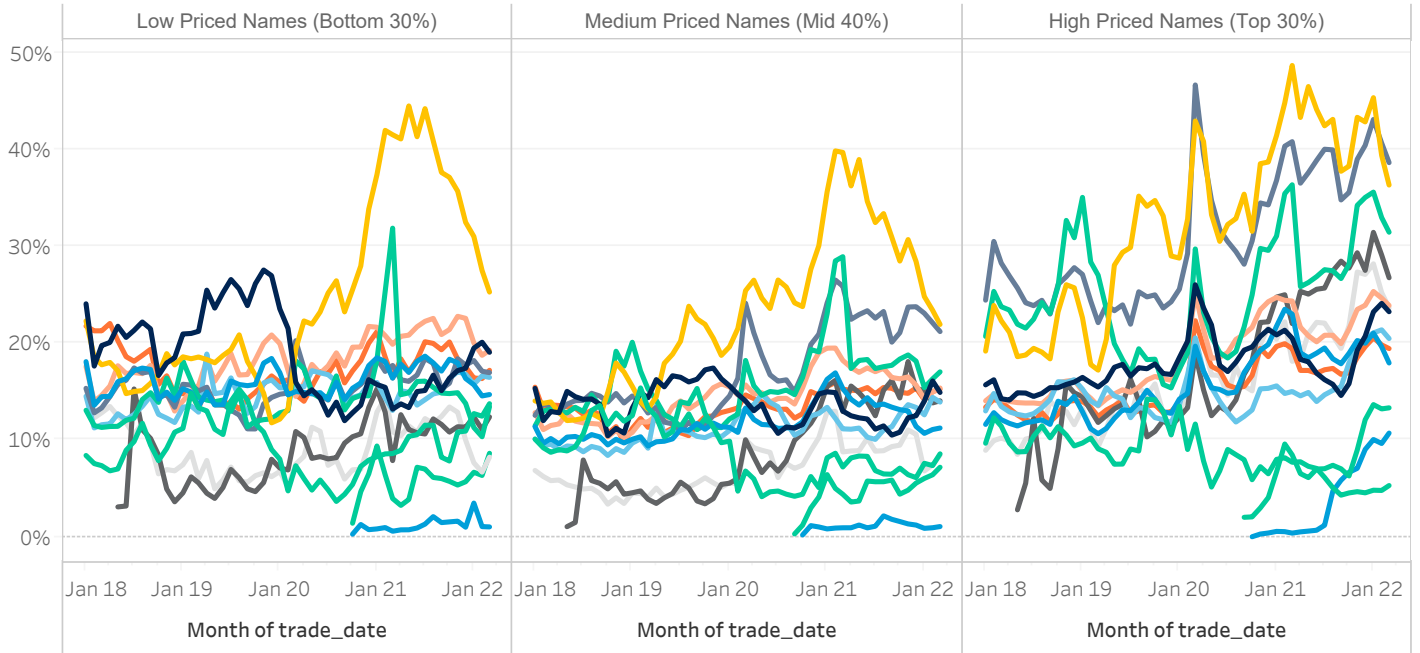
Median used for all metrics

One minute volatility is calculated using the difference between the high and low price within a one minute time bin, divided by that bin's VWAP

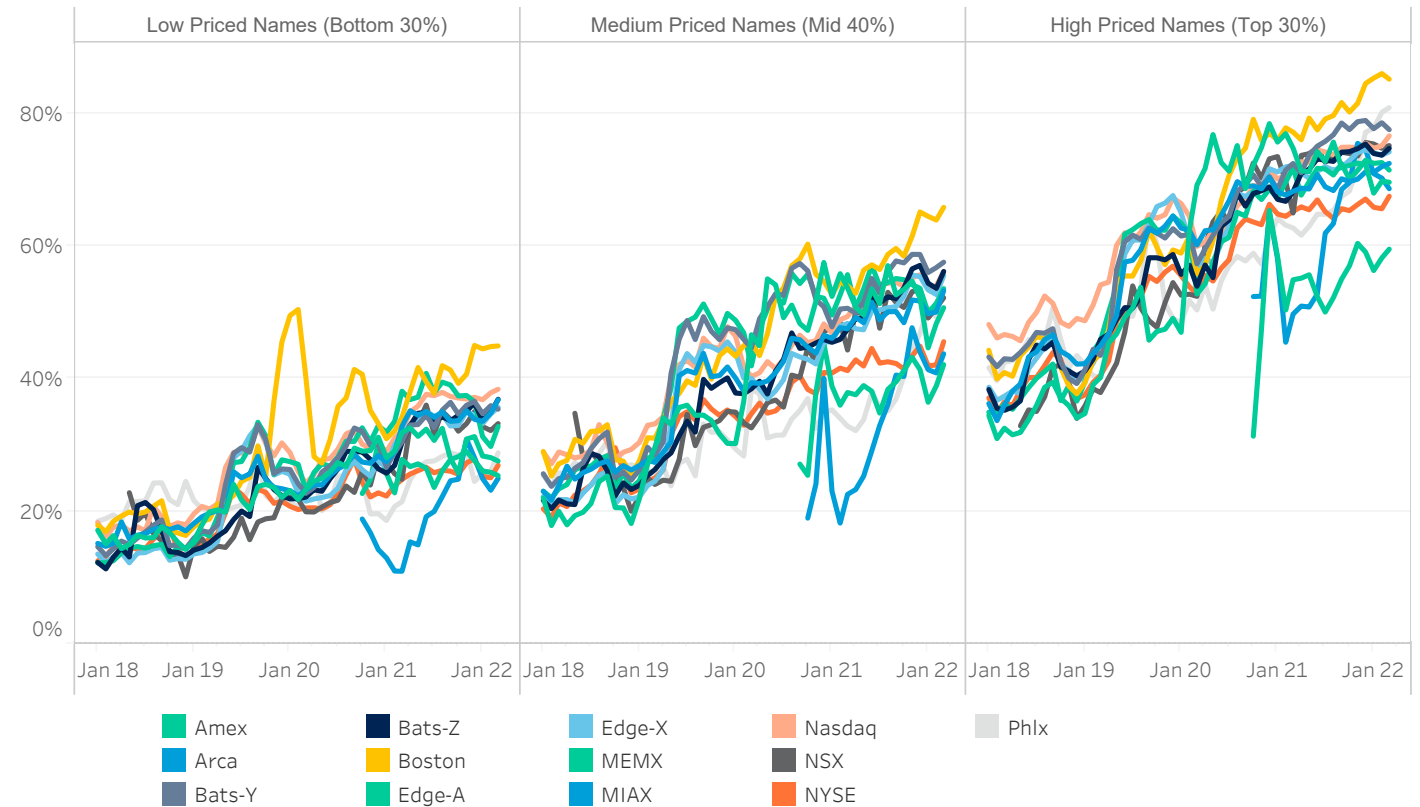
Source data: Virtu Financial



Hidden Trades Proportion by Price and Venue



Oddlot Trades Proportion by Price and Venue



Source data: SEC



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