

March 2022

US Market Structure Monthly



US Market Microstructure Observations

- The average daily volume in US equities was 13.9B shares in March 2022, up 13.9% month over month (MoM) and up 3.7% year over year.
- Trade reporting facility (TRF) market share increased 1.3% MoM to 41.0%.
- Excluding the first and last half hour of the day, median spreads widened 3.4% MoM for S&P 500 symbols while narrowed 7.2% for RUS 2000 symbols in March 2022.
- Excluding the first and last half hour of the day, intraday volatility increased 3.7% MoM for S&P 500 symbols while decreasing 7.8% MoM for RUS 2000 symbols.
- The proportion of volume traded in the closing auction increased from 11.1% to 12.6% for S&P 500 symbols.

Market Structure News

SEC Proposes New Disclosure Requirements for SPACs

The proposed new rules would require additional disclosures about special-purpose acquisition companies (SPACs) sponsors, conflicts of interest, sources of dilution, fairness of the transactions, and projections made by SPACs and their target companies. SPACs function as a pool of funds that the sponsor can use to buy a private company. If acquired by a SPAC, the private company then can trade on a stock exchange without the traditional IPO process. The proposed rules seek to align the required disclosures of private companies in transactions involving SPACs with those required in a traditional IPO.

<https://www.wsj.com/articles/sec-considers-new-disclosure-rules-for-spacs-11648654298>

<https://www.sec.gov/news/press-release/2022-56>

SIP Operating Committees Propose Adding Odd Lot Quoted to Market Data Feeds

The operating committees for the Consolidated Tape Association (CTA) and Unlisted Trading Privileges (UTP) issued a proposal and are seeking comment on adding odd lot quotations to the CTA and UTP Securities Information Processors (SIPs). Under the proposal, the SIPs would publish an 'Odd Lot NBBO' when the best odd lot quotes are better than or equal to the current protected National Best Bid Best Offer (NBBO). The proposal does not include allowing for odd lot quotations to change how the current NBBO is constructed, nor would the new Odd Lot NBBO be considered a protected quote.

<https://www.globenewswire.com/news-release/2022/03/28/2411062/0/en/SIP-Operating-Committees-Seek-Comment-on-Proposal-to-Add-Odd-Lot-Quotes-to-Current-SIP-Data-Feeds.html>

SEC to Require Climate-Change Risk Disclosures

The SEC is seeking public comment for its proposals for climate-change risk disclosures. The plan would require businesses to outline the risks a warming planet poses to their operation when they file registration statements, annual reports or other documents. In some situations, there would also be disclosure requirements on emissions from a company's supply chain. The plan also requires the disclosures to be reviewed by auditors or other experts.

<https://www.bloomberg.com/news/articles/2022-03-21/sec-to-require-companies-to-disclose-pollution-under-new-plan>

<https://www.sec.gov/news/press-release/2022-46>



Market Structure News Continued

Members Exchange (MEMX) to Launch Options Exchange

MEMX, which currently operates a stock exchange that trades more than four percent (4%) market share, announced its plans to launch an options exchange in the fourth quarter, pending regulatory approval. Virtu Financial is an investor in MEMX.

<https://www.reuters.com/business/wall-street-backed-memx-launch-options-exchange-2022-03-15/>

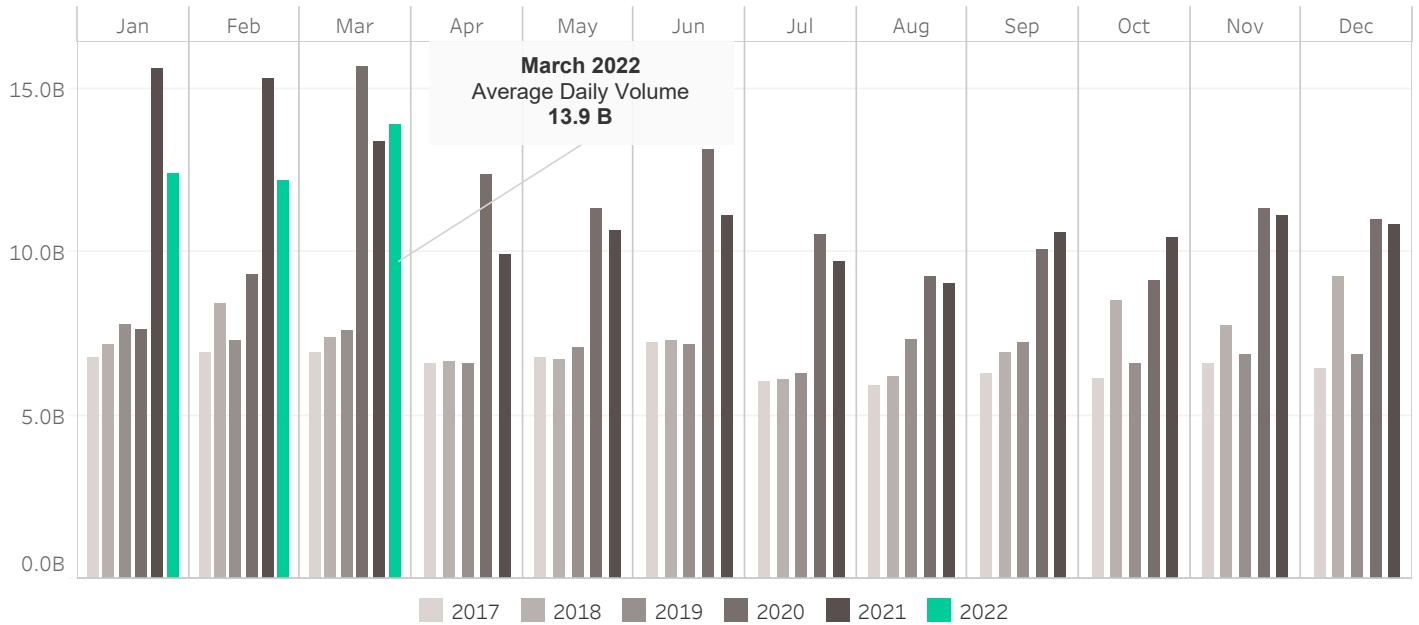
Crypto Exchange FTX US Invests in IEX

Subject to regulatory approval and other conditions, crypto exchange FTX US agreed to take a stake in IEX Group Inc., as both firms seek to collaborate to expand access to digital assets for retail and institutional investors.

<https://www.bloomberg.com/news/articles/2022-04-05/ftx-us-invests-in-flash-boys-exchange-in-crypto-trading-push>

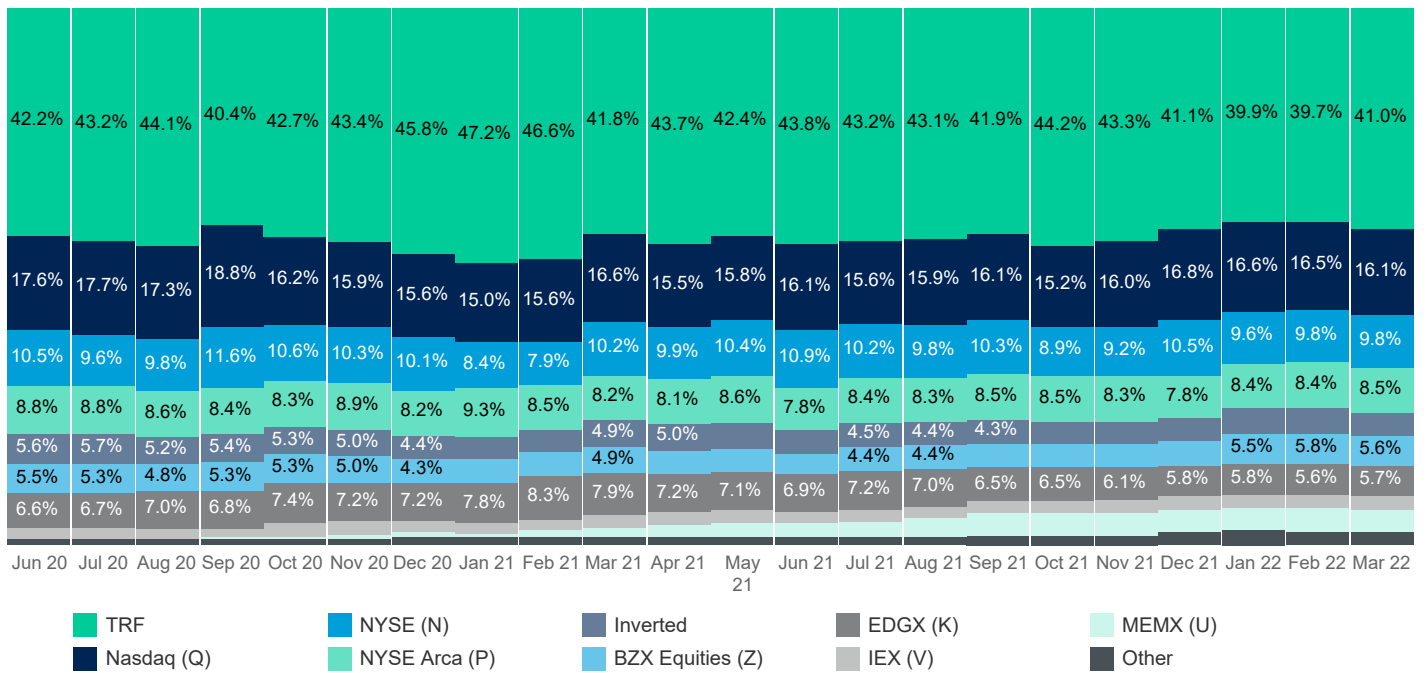


Average Daily Market Volume



Source data: Cboe Global Markets

Venue Market Share

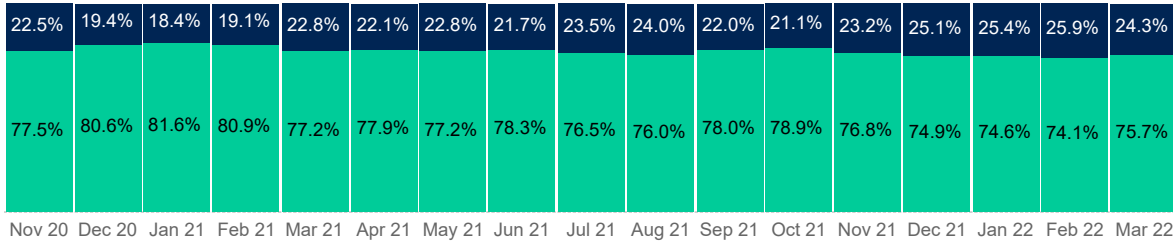


Source data: Cboe Global Markets



TRF Volume Breakdown

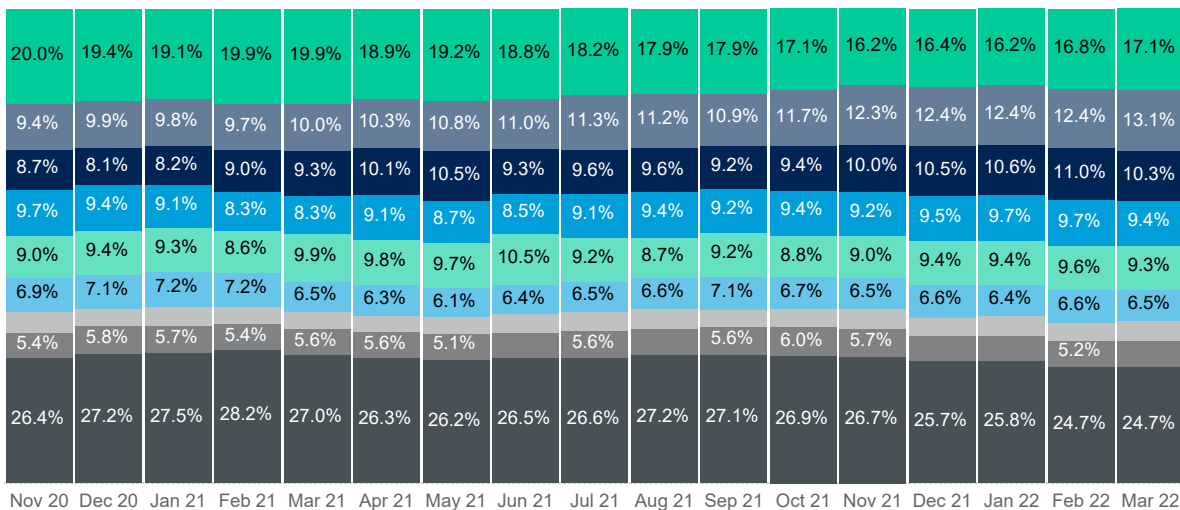
■ ATS
■ OTC Non ATS



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

ATS Market Share

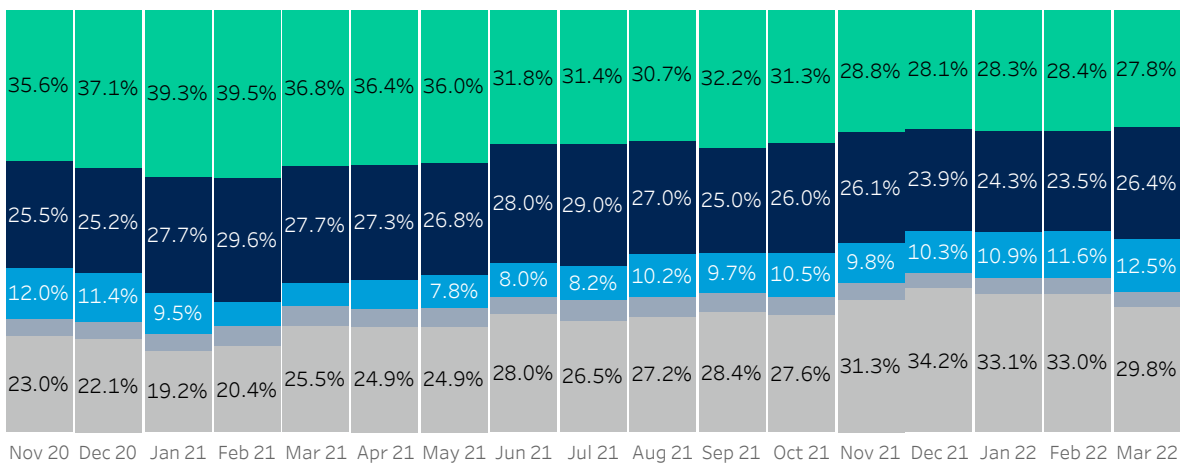
■ UBS
■ Goldman Sachs
■ Morgan Stanley
■ JP Morgan
■ Credit Suisse
■ Level
■ BIDS
■ Virtu
■ Other



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

OTC Non-ATS Market Share

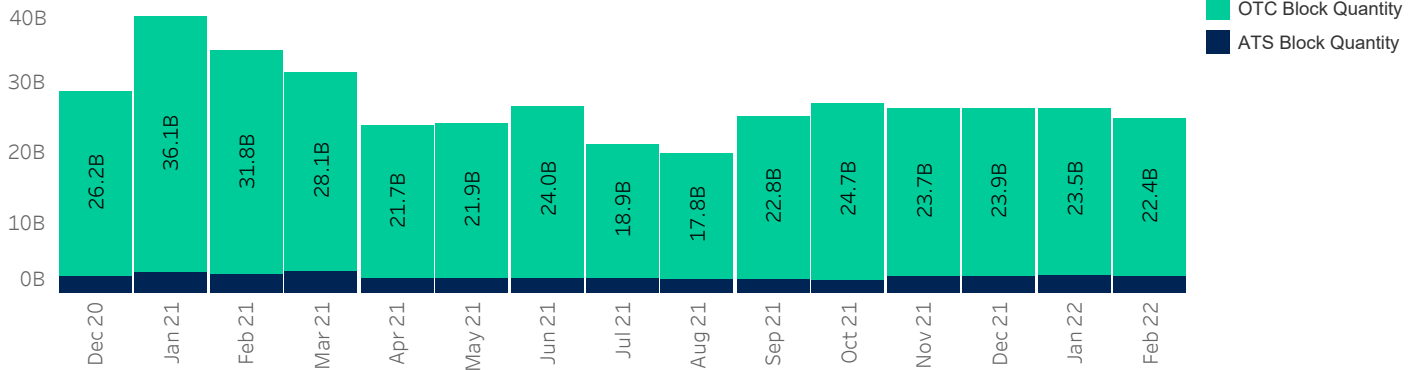
■ Citadel
■ Virtu
■ G1
■ Two Sigma
■ Other



Source: FINRA, NMS Tier 1 & 2 Securities

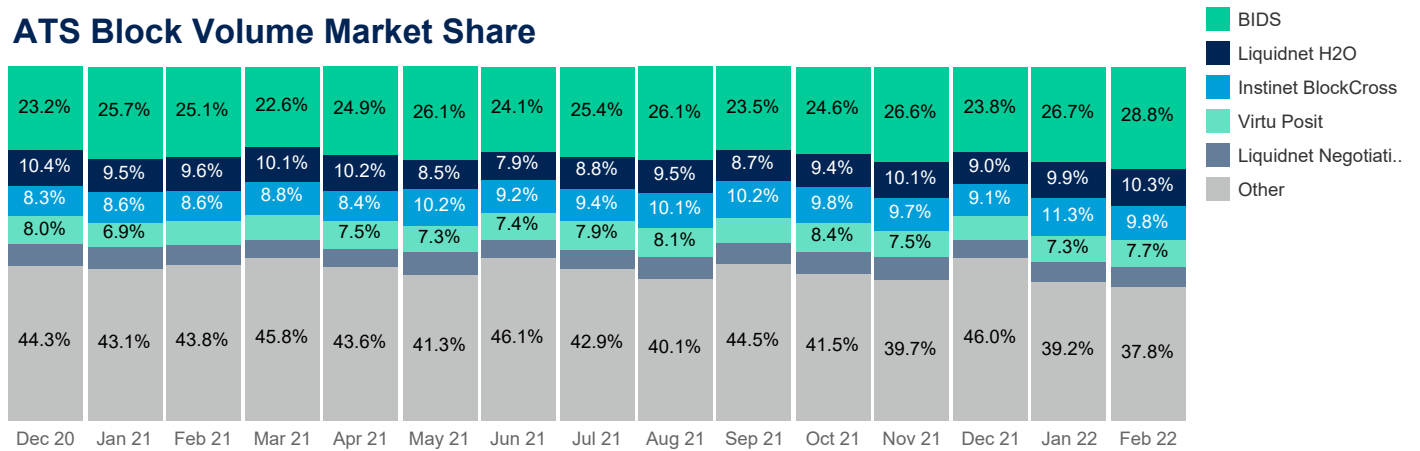


TRF Block Volume Breakdown (Shares)



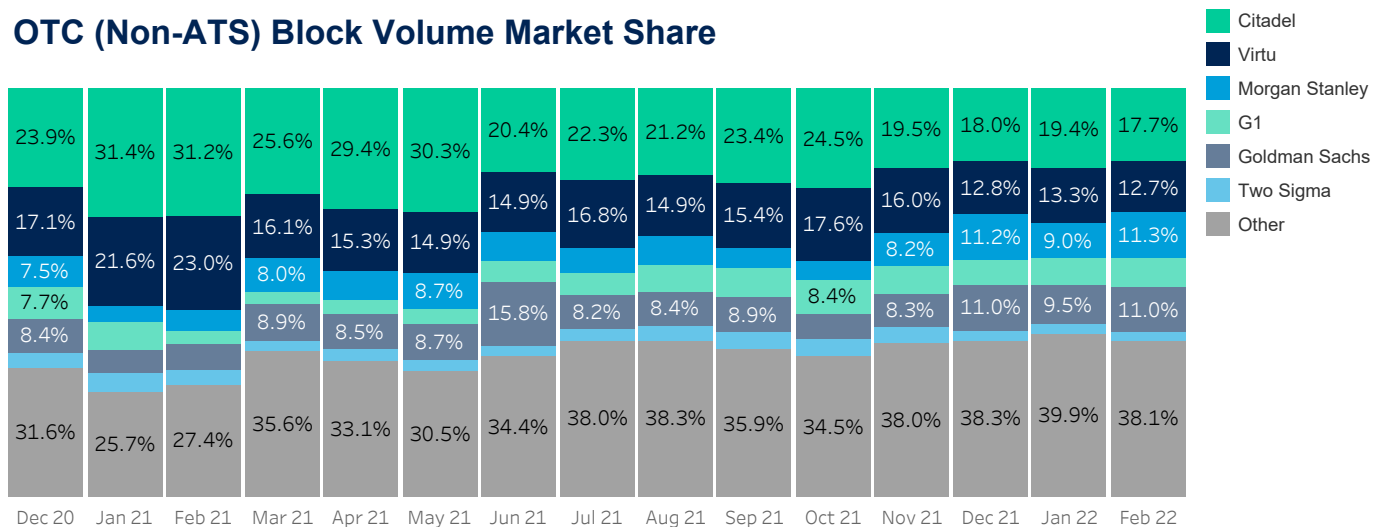
Source: FINRA

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

		1Q 21	2Q 21			3Q 21			4Q 21			1Q 22		
		Mar 21	Apr 21	May 21	Jun 21	Jul 21	Aug 21	Sep 21	Oct 21	Nov 21	Dec 21	Jan 22	Feb 22	Mar 22
First 30 Min	SP500	191	188	184	178	177	176	171	170	172	187	184	187	186
	RUS2000	222	231	225	217	222	221	214	207	201	220	224	225	230
Mid Day	SP500	195	198	193	197	190	193	184	181	183	192	188	193	185
	RUS2000	207	216	211	213	210	215	208	205	209	219	225	230	234
Last 30 Min	SP500	217	225	224	239	232	238	219	210	213	208	200	199	195
	RUS2000	225	238	235	243	240	249	236	232	238	242	244	246	254

Spread Bps

First 30 Min	SP500	13.2	10.3	10.2	8.1	9.7	9.9	9.3	11.1	12.3	13.9	14.2	13.6	13.9
	RUS2000	67.0	57.7	56.8	45.0	52.7	51.5	45.7	47.3	50.2	58.4	57.4	56.9	53.8
Mid Day	SP500	5.6	4.4	4.3	3.5	4.1	4.0	4.1	4.3	4.7	5.6	5.7	5.9	6.1
	RUS2000	27.7	23.1	22.6	18.0	19.9	18.8	18.2	18.7	21.0	24.2	24.9	25.0	23.2
Last 30 Min	SP500	3.8	3.1	3.1	2.6	2.9	2.7	2.8	3.0	3.1	3.7	3.8	4.1	3.9
	RUS2000	20.8	17.5	16.9	14.1	14.4	14.2	14.3	14.8	15.6	18.0	18.6	19.1	17.1

One Minute Volatility Bps

First 30 Min	SP500	18.8	14.5	16.4	12.8	14.5	14.2	14.8	15.3	15.9	17.3	20.0	19.6	20.0
	RUS2000	25.8	18.4	21.6	15.9	19.3	18.8	18.6	17.7	18.9	22.2	23.2	23.6	22.6
Mid Day	SP500	7.9	5.4	6.1	4.5	5.3	4.8	5.4	5.2	5.0	6.1	7.6	8.1	8.4
	RUS2000	9.3	5.9	6.5	4.9	6.2	5.3	5.7	5.2	5.2	5.9	7.1	7.7	7.1
Last 30 Min	SP500	8.8	6.2	7.1	5.2	5.7	5.3	6.2	6.1	5.5	7.2	9.0	10.1	9.0
	RUS2000	11.8	7.5	8.6	6.5	7.2	6.6	7.7	7.2	7.3	9.1	10.0	10.8	8.6

Percent ADV by Time of Day

Open	SP500	1.1%	1.3%	1.2%	1.1%	1.2%	1.1%	1.0%	1.1%	1.1%	1.0%	1.0%	1.0%	0.9%
	RUS2000	0.9%	0.9%	0.9%	0.8%	1.0%	0.9%	0.9%	0.9%	0.9%	0.8%	0.7%	0.8%	0.8%
First 30 Min	SP500	9.2%	9.6%	9.7%	9.5%	10.0%	9.7%	9.7%	9.5%	9.7%	9.2%	9.2%	9.3%	9.1%
	RUS2000	8.4%	8.1%	8.4%	7.9%	8.9%	8.8%	8.5%	8.3%	8.5%	8.2%	7.5%	8.1%	8.0%
Last 30 Min	SP500	17.6%	17.8%	18.4%	18.5%	18.3%	18.3%	18.2%	18.8%	18.3%	18.4%	18.7%	19.1%	19.0%
	RUS2000	18.6%	19.3%	19.3%	19.4%	19.8%	19.5%	19.6%	19.1%	19.4%	19.8%	20.3%	21.0%	20.1%
Close	SP500	11.9%	13.2%	11.1%	12.3%	12.5%	10.7%	11.7%	12.1%	11.5%	13.9%	11.5%	11.1%	12.6%
	RUS2000	9.2%	9.5%	8.7%	10.0%	9.9%	8.9%	9.7%	10.1%	8.8%	10.7%	8.9%	9.7%	10.2%

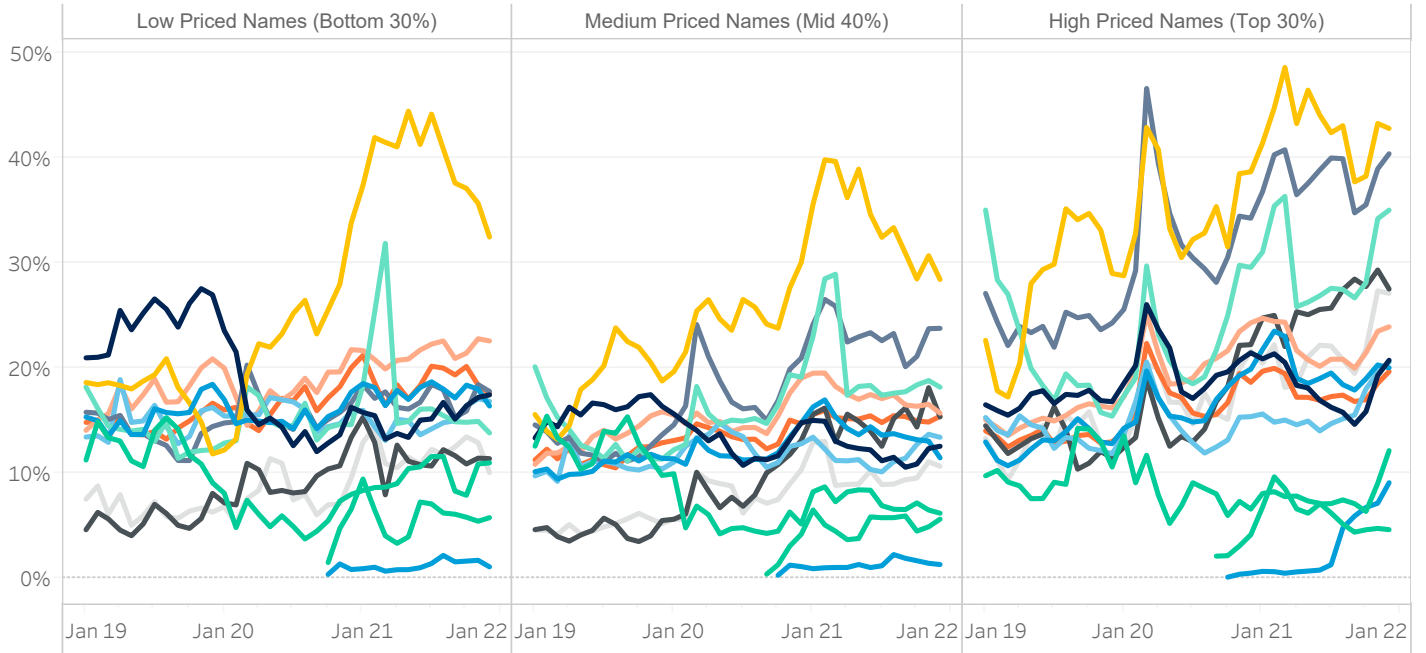
Median used for all metrics

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

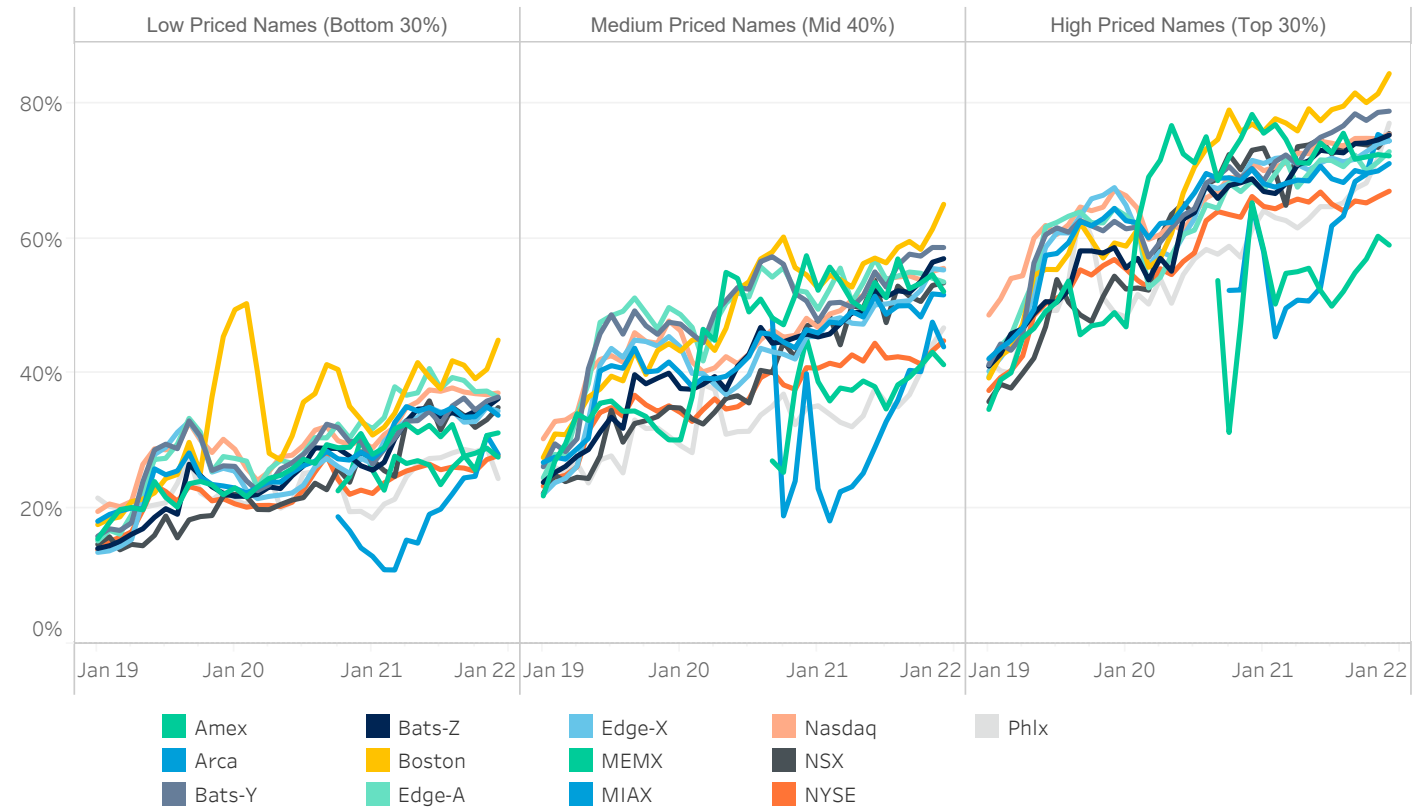
Source data: Virtu Financial



Hidden Trades Proportion by Price and Venue



Oddlot Trades Proportion by Price and Venue



Source data: SEC



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