

# December 2021

## US Market Structure Monthly

### US Market Microstructure Observations

- The average daily volume in US equities was 10.8B shares in December 2021, down 2.7% month over month (MoM) and down 1.8% year over year. For the full year (FY) 2021, the average daily volume was 11.4B shares, up 4.6% versus FY 2020.
- Trade reporting facility (TRF) market share decreased 2.2% MoM to 41.1%.  
Excluding the first and last half hour of the day, median spreads widened 19.1% and 15.2% MoM for S&P 500 and RUS 2000 symbols, respectively.
- Consistent with the trends in spreads, excluding the first and last half hour of the day, intraday volatility increased 22.0% and 13.5% MoM for S&P 500 and RUS 2000 symbols, respectively.
- MoM, the proportion of volume traded in the closing auction increased from 8.8% to 10.7% for RUS 2000 symbols and increased from 11.5% to 13.9% for S&P 500 symbols.

### Market Structure News

#### SEC Proposes New Rules in Connection with Security-based Swaps (SBS)

In response to the collapse of Archegos Capital Management in March 2021, the SEC proposed new rules seeking to a) prohibit fraud and manipulation tied to security-based swaps (SBS); b) prevent undue influence over the chief compliance officer of SBS dealers and major SBS participants; and c) require disclosure of identities, positions in the swaps and underlying securities, as well as related loans in connection to positions worth at least US\$300M, or the equivalent of 5% of the shares trading in an underlying stock.

<https://www.bloomberg.com/news/articles/2021-12-15/sec-moves-to-force-firms-like-archegos-to-reveal-swap-positions>  
<https://www.sec.gov/news/press-release/2021-259>

#### US Senate Confirms Behnam as Chairman of the US Commodity Futures Trading Commission (CFTC)

The US Senate voted to confirm Rostin Behnam as Chairman of the US Commodity Futures Trading Commission. Mr. Behnam has served as the Acting Chairman since January 2021

<https://www.cftc.gov/PressRoom/SpeechesTestimony/behnamstatement121621>

#### Nasdaq's North American Markets Will Shift to the Cloud but New Multi-Year Deal Ensures that Exchange Operations will Continue in New Jersey

Following its recent decision to shift its North American markets to the cloud—and in an effort to minimize potential disruptions to existing communication networks—Nasdaq is set to announce a multi-year deal that keeps the exchange operating out of the same Equinix Inc. data center in Carteret, New Jersey where it has been housed for more than a decade.

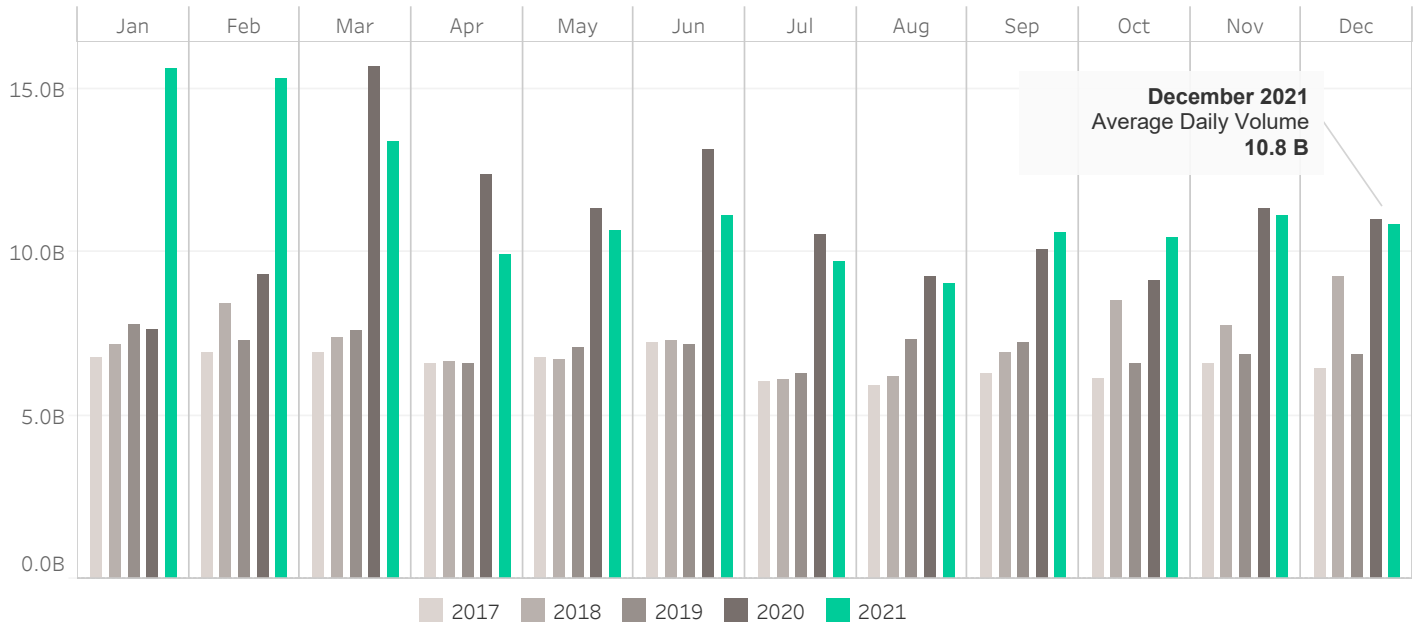
<https://www.bloomberg.com/news/articles/2021-12-15/nasdaq-s-cloud-commits-to-new-jersey-avoiding-big-trader-hassle>

#### Nasdaq's Plans to Offer Extended Trading Close (ETC) Orders

Pending SEC approval, Nasdaq plans to accept and execute eligible Limit on Close (LOC) and extended trading close (ETC) orders that have offsetting interest immediately following the closing auction, up to 16:05 (13:05pm for half-days). During the ETC, orders will match continuously at the Nasdaq Official Closing price (as determined by the closing cross). During this period, Nasdaq will disseminate order imbalance information on the ETC book, as well as cumulative shares traded on the ETC.

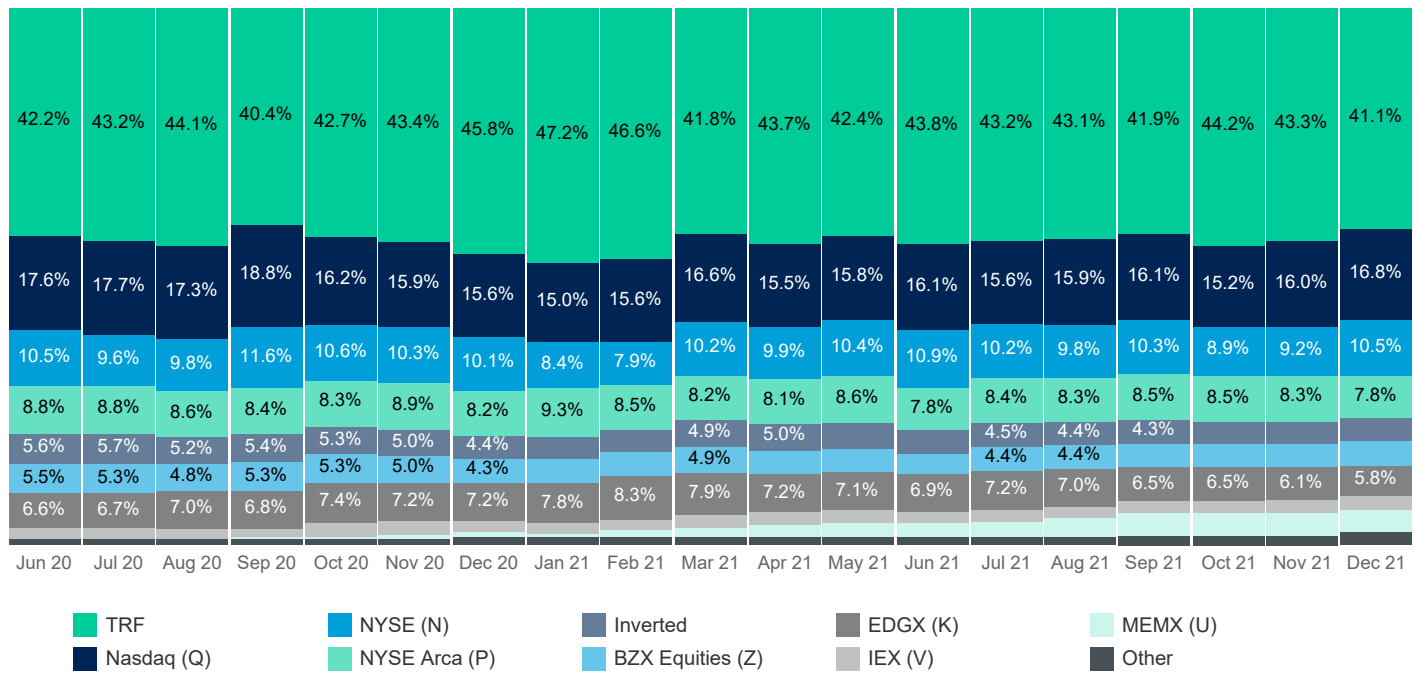
<http://www.nasdaqtrader.com/TraderNews.aspx?id=dtm2022-1>

## Average Daily Market Volume



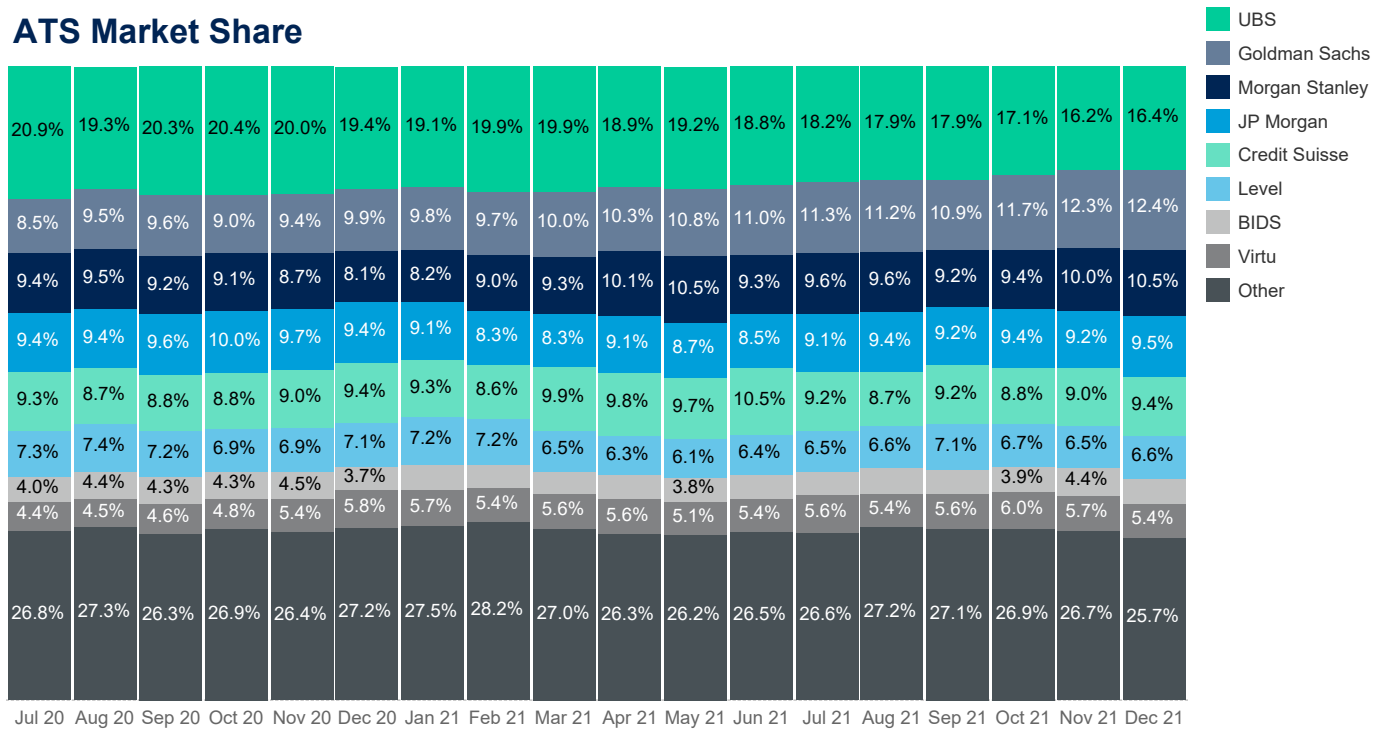
Source data: Cboe Global Markets

## Venue Market Share



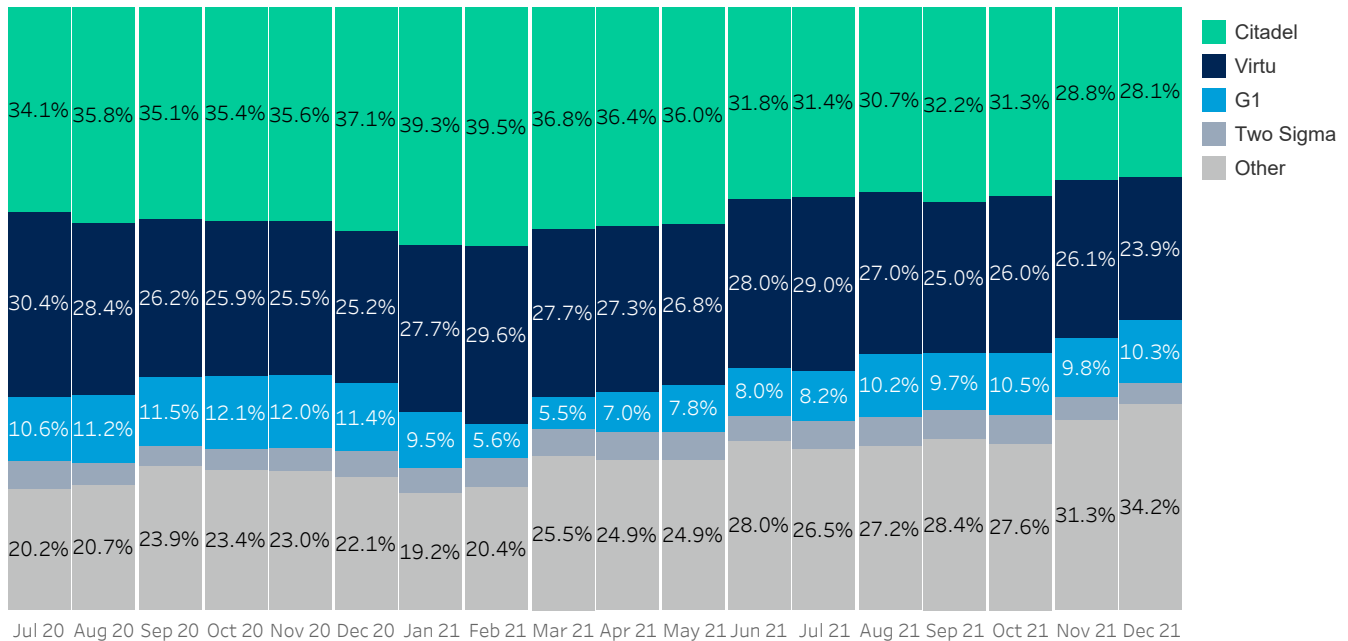
Source data: Cboe Global Markets

## ATS Market Share



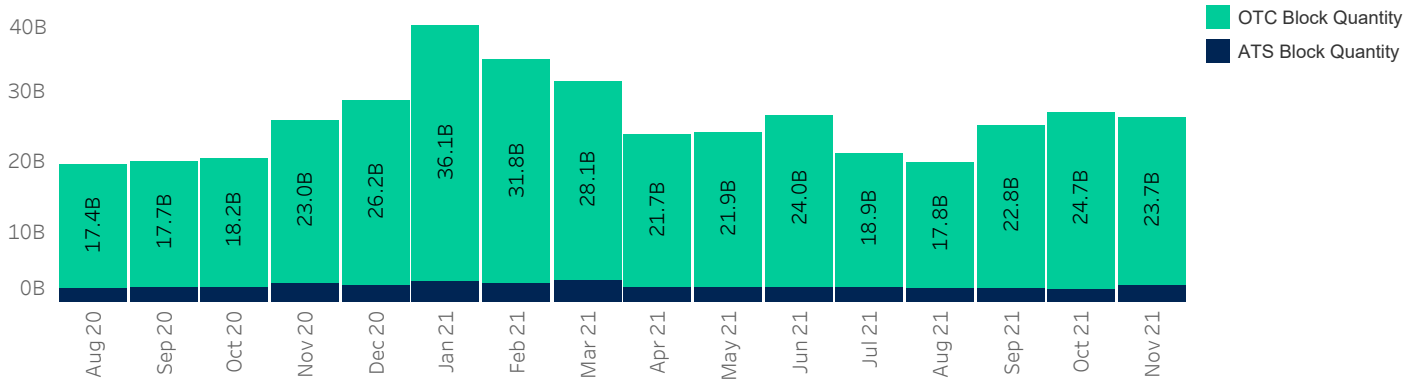
Excludes Dealerweb, OTC; Venues rolled up to firm level; Source data: FINRA

## OTC Non-ATS Market Share



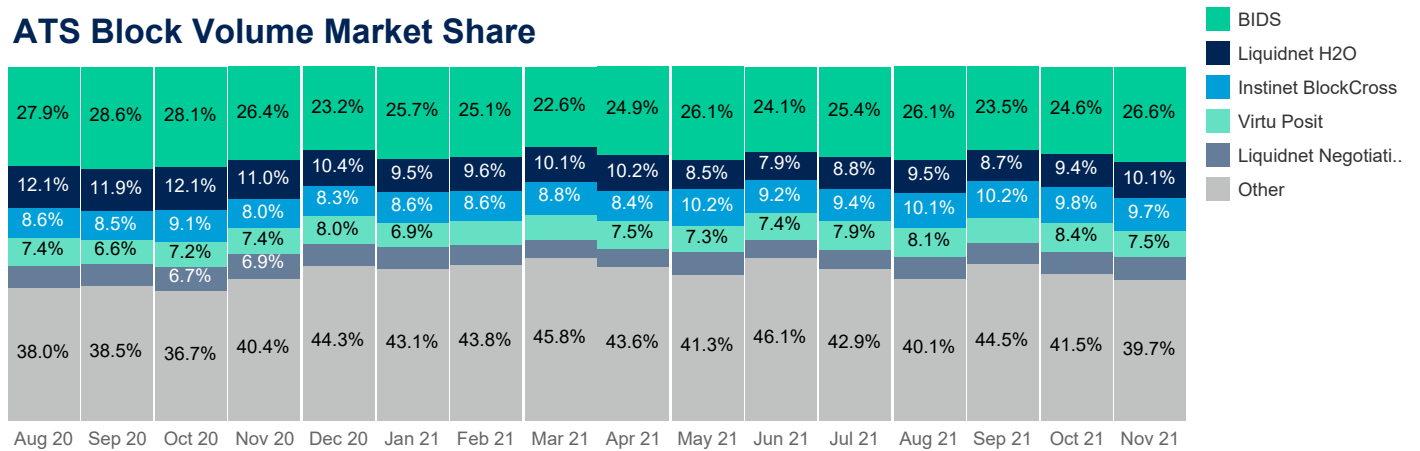
Source: FINRA, NMS Tier 1 & 2 Securities

## TRF Block Volume Breakdown (Shares)



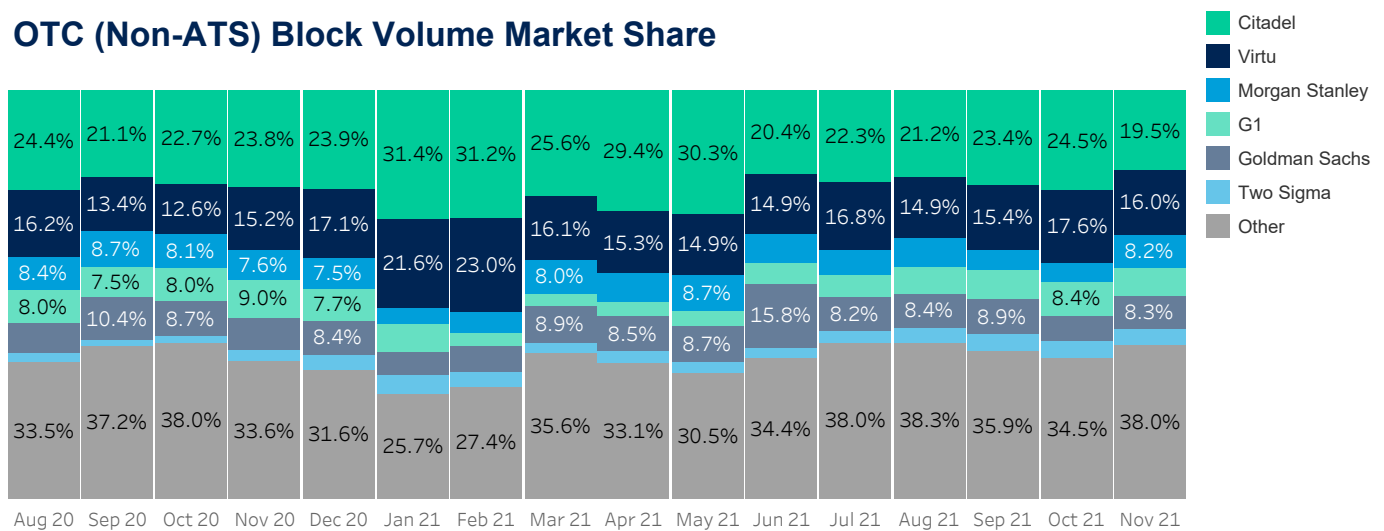
Source: FINRA

## 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

		4Q 20	1Q 21			2Q 21			3Q 21			4Q 21		
		Dec 20	Jan 21	Feb 21	Mar 21	Apr 21	May 21	Jun 21	Jul 21	Aug 21	Sep 21	Oct 21	Nov 21	Dec 21
First 30 Min	SP500	197	192	193	191	188	184	178	177	176	171	170	172	187
	RUS2000	228	216	217	222	231	225	217	222	221	214	207	201	220
Mid Day	SP500	206	201	204	195	198	193	197	190	193	184	181	183	192
	RUS2000	232	223	220	207	216	211	213	210	215	208	205	209	219
Last 30 Min	SP500	233	231	238	217	225	224	239	232	238	219	210	213	208
	RUS2000	260	250	255	225	238	235	243	240	249	236	232	238	242

## Spread Bps

First 30 Min	SP500	12.4	13.2	13.6	13.2	10.3	10.2	8.1	9.7	9.9	9.3	11.1	12.3	13.9
	RUS2000	60.3	63.2	61.8	67.0	57.7	56.8	45.0	52.7	51.5	45.7	47.3	50.2	58.4
Mid Day	SP500	5.4	5.7	5.3	5.6	4.4	4.3	3.5	4.1	4.0	4.1	4.3	4.7	5.6
	RUS2000	24.6	26.8	25.5	27.7	23.1	22.6	18.0	19.9	18.8	18.2	18.7	21.0	24.2
Last 30 Min	SP500	3.8	3.7	3.6	3.8	3.1	3.1	2.6	2.9	2.7	2.8	3.0	3.1	3.7
	RUS2000	19.1	19.7	19.3	20.8	17.5	16.9	14.1	14.4	14.2	14.3	14.8	15.6	18.0

## One Minute Volatility Bps

First 30 Min	SP500	15.3	17.5	18.7	18.8	14.5	16.4	12.8	14.5	14.2	14.8	15.3	15.9	17.3
	RUS2000	16.5	20.7	22.1	25.8	18.4	21.6	15.9	19.3	18.8	18.6	17.7	18.9	22.2
Mid Day	SP500	5.8	6.9	6.7	7.9	5.4	6.1	4.5	5.3	4.8	5.4	5.2	5.0	6.1
	RUS2000	5.3	6.6	6.9	9.3	5.9	6.5	4.9	6.2	5.3	5.7	5.2	5.2	5.9
Last 30 Min	SP500	6.8	7.6	7.3	8.8	6.2	7.1	5.2	5.7	5.3	6.2	6.1	5.5	7.2
	RUS2000	7.4	8.7	8.7	11.8	7.5	8.6	6.5	7.2	6.6	7.7	7.2	7.3	9.1

## Percent ADV by Time of Day

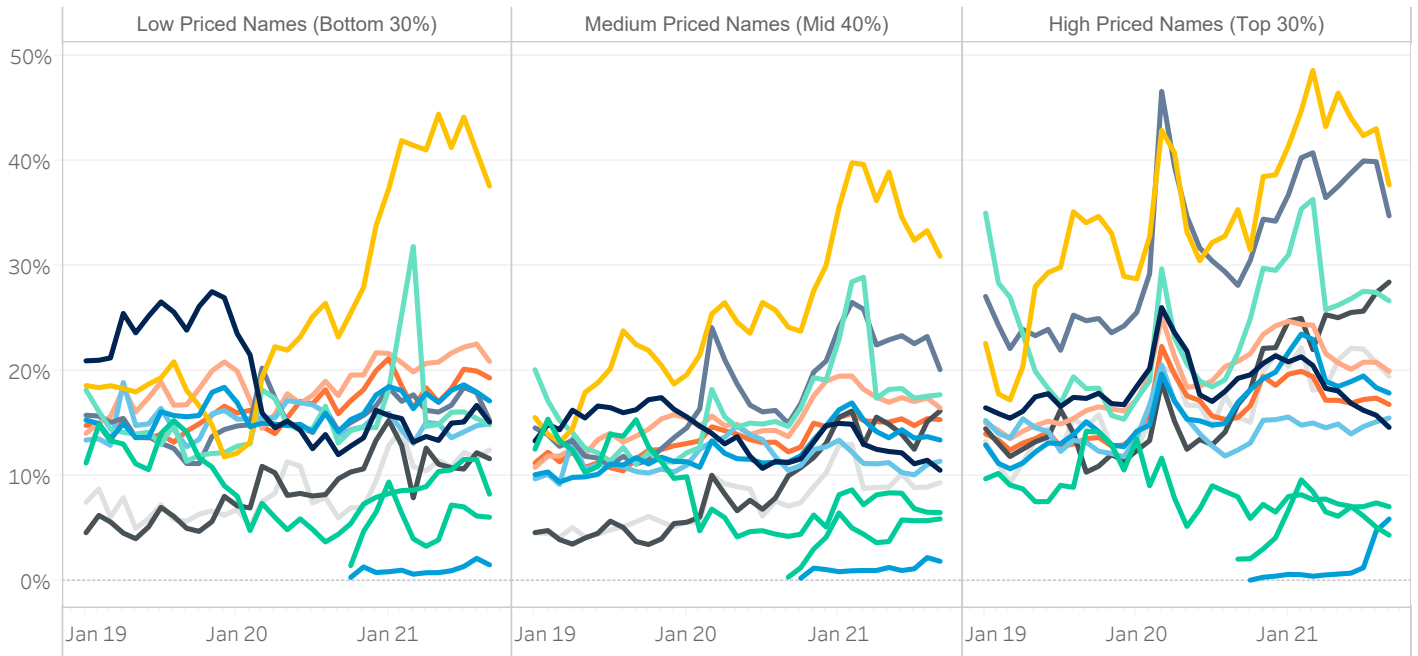
Open	SP500	1.1%	1.3%	1.2%	1.1%	1.3%	1.2%	1.1%	1.2%	1.1%	1.0%	1.1%	1.1%	1.0%
	RUS2000	0.8%	0.9%	1.0%	0.9%	0.9%	0.9%	0.8%	1.0%	0.9%	0.9%	0.9%	0.9%	0.8%
First 30 Min	SP500	9.5%	9.6%	10.1%	9.2%	9.6%	9.7%	9.5%	10.0%	9.7%	9.7%	9.5%	9.7%	9.2%
	RUS2000	7.8%	8.1%	8.7%	8.4%	8.1%	8.4%	7.9%	8.9%	8.8%	8.5%	8.3%	8.5%	8.2%
Last 30 Min	SP500	17.4%	16.9%	17.2%	17.6%	17.8%	18.4%	18.5%	18.3%	18.3%	18.2%	18.8%	18.3%	18.4%
	RUS2000	19.0%	18.5%	18.6%	18.6%	19.3%	19.3%	19.4%	19.8%	19.5%	19.6%	19.1%	19.4%	19.8%
Close	SP500	13.7%	12.0%	10.6%	11.9%	13.2%	11.1%	12.3%	12.5%	10.7%	11.7%	12.1%	11.5%	13.9%
	RUS2000	10.6%	10.0%	8.3%	9.2%	9.5%	8.7%	10.0%	9.9%	8.9%	9.7%	10.1%	8.8%	10.7%

Median used for all metrics

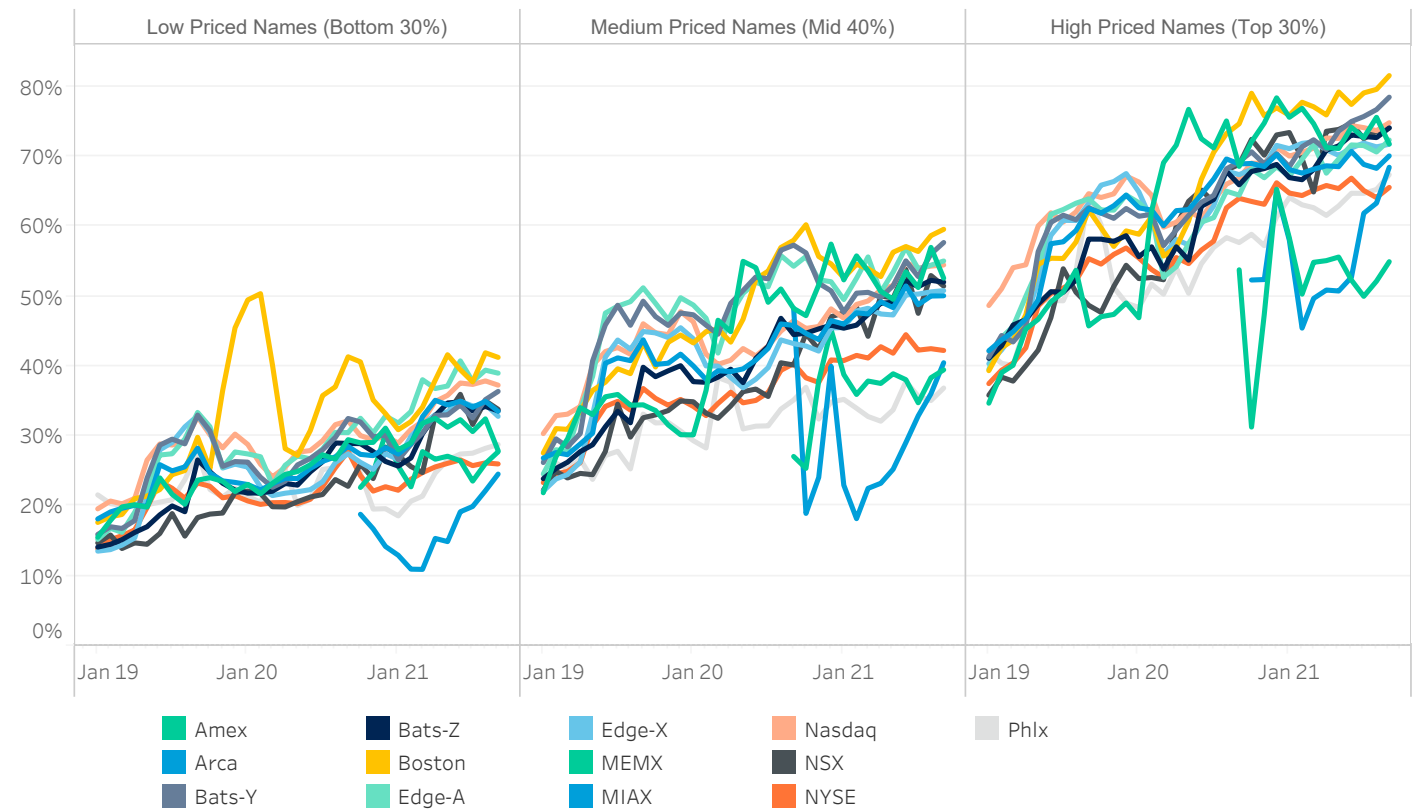
One minute volatility is calculated using the difference between the high and low price within a one minute time bin, divided by that bin's VWAP

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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