

# April 2020 US Market Structure Monthly



## US Market Microstructure Observations

- The average daily volume in US equities decreased by 21% month over month to 12.3b shares in April 2020, still an 86% increase year over year.
- Trade reporting facilities (TRF) market share increased despite the continued elevated volatility, from 36.6% in March 2020 to 41.6% in April 2020. A large increase in TRF prints were observed at either the best bid or offer, while intra-spread TRF prints only saw a marginal increase.

### TRF Market Share by Price-Points and Time of Day



Source data: Virtu Financial

- The median quote size during the first 30 minutes of trading increased year over year, but stayed at lower levels after the first 30 minutes of trading. The median quote size for S&P 500 symbols in the last half hour of trading remained at half the level versus a year ago.
- Median spreads decreased month over month, in particular for the last half hour of trading, where S&P 500 and RUS 2000 symbols saw a 40% and 24% spread narrowing. Nonetheless, spreads for the last 30 minutes are 190% and 167% higher year over year for S&P 500 and RUS 2000 symbols respectively.
- Intraday volatility decreased throughout April. The most drastic change is seen in S&P 500 symbols in the last half hour of trading, where intraday volatility more than halved compared to March. Compared to last year, intraday volatility remains multiples higher. The lower quote size, higher spread, and higher intraday volatility versus last year point to higher execution cost.
- Proportion of volume traded in the close auction volume for S&P 500 symbols saw a drop from 12% to 9.9% in March. The proportion remained stable at 9.8% in April, which is 0.3% higher compared to last year.



## Market Structure News

### **SEC Orders New Governance Plan for Market Data**

The SEC issued an order directing the equity exchanges and FINRA to submit a new National Market System plan (NMS plan) to define a new governance structure for the production and dissemination of equity market data. This is part of an ongoing effort to modernize the US national market system in order to address current conflicts of interest in the governance structure of market data, as well as improve the responsiveness of the plan to the concerns of non-SRO market participants. <https://www.sec.gov/news/press-release/2020-103>

Virtu's response to the proposed SEC order can be found below (Virtu Comment Letters on Market Structure Proposals: item 1)

### **The Members Exchange (MEMX) Receives SEC Approval**

MEMX, a new venue backed by several major Wall Street firms, received SEC approval to operate as a national securities exchange. The new exchange expects to launch sometime in 3Q 2020.

<https://www.businesswire.com/news/home/20200505005632/en/Members-Exchange-Receives-SEC-Approval-Operate-U.S.>

### **Circuit Breakers Under Review by Wall Street Firms**

Several US financial firms, including Virtu, are evaluating potential changes to recommend to the SEC on the market-wide circuit breakers, which were triggered four times in March 2020. The group's proposals could include loosening the bands that would trigger a halt during the first 15 minutes of the trading day, as well as harmonizing the rules related to trading price limits and halts between stocks and stock index futures.

<https://www.wsj.com/articles/wall-street-explores-changes-to-circuit-breakers-after-coronavirus-crash-11586952558>

### **NASDAQ Receives Approval to Alter its MELO Order Type**

Nasdaq received approval from the SEC to lower the timer for its Midpoint Extended Life (MELO) order type to 10 milliseconds from 500 milliseconds. MELO orders cannot execute against other orders until the order has rested in the order book in a marketable state for a duration equal to the timer.

<http://www.nasdaqtrader.com/TraderNews.aspx?id=ETA2020-25>

### **NYSE Requests to Ease Listing Rules**

The NYSE is in discussion with regulators to temporarily ease rules for listings due to the current market volatility caused by the COVID-19 pandemic. NYSE would like to temporarily suspend the requirements to maintain a share price greater than \$1 and an average market capitalization of greater than \$50m for 30 consecutive days.

<https://www.reuters.com/article/us-health-coronavirus-nyse/nyse-eases-listing-requirements-amid-coronavirus-market-may-hem-idUSKBN21O2B4>

### **NYSE Reopens ARCA Options Trading Floor**

The NYSE Arca Options trading floor in San Francisco partially re-opened on May 4, with reduced trading floor staff and incremental safety protocols. The NYSE trading floor in New York remains closed.

<https://www.reuters.com/article/health-coronavirus-nyse/nyse-to-reopen-options-trading-floor-in-san-francisco-on-may-4-idUSL2N2CG2JE>



## New Virtu Comment Letters on Market Structure Proposals

### 1. National Market System (NMS) Proposed Order on Securities Information Processor (SIP) Governance (January 8, 2020)

The proposed order would direct the equities exchanges and FINRA to file with the SEC a new NMS plan designed to increase transparency and address conflicts of interest and other issues presented by the current governance structure of the existing NMS plans. The proposed order describes the specific proposed governance provisions that the SEC preliminarily believes would address these issues. If the SEC decides to issue an order after considering public input, the NMS plan participants would be required to submit a new plan, which would then be published for public comment before the SEC takes any definitive action on a new plan.

- Virtu submitted a letter in support on February 25, 2020: . The letter can be found here:

<https://www.sec.gov/comments/4-757/4757-6865359-210617.pdf>

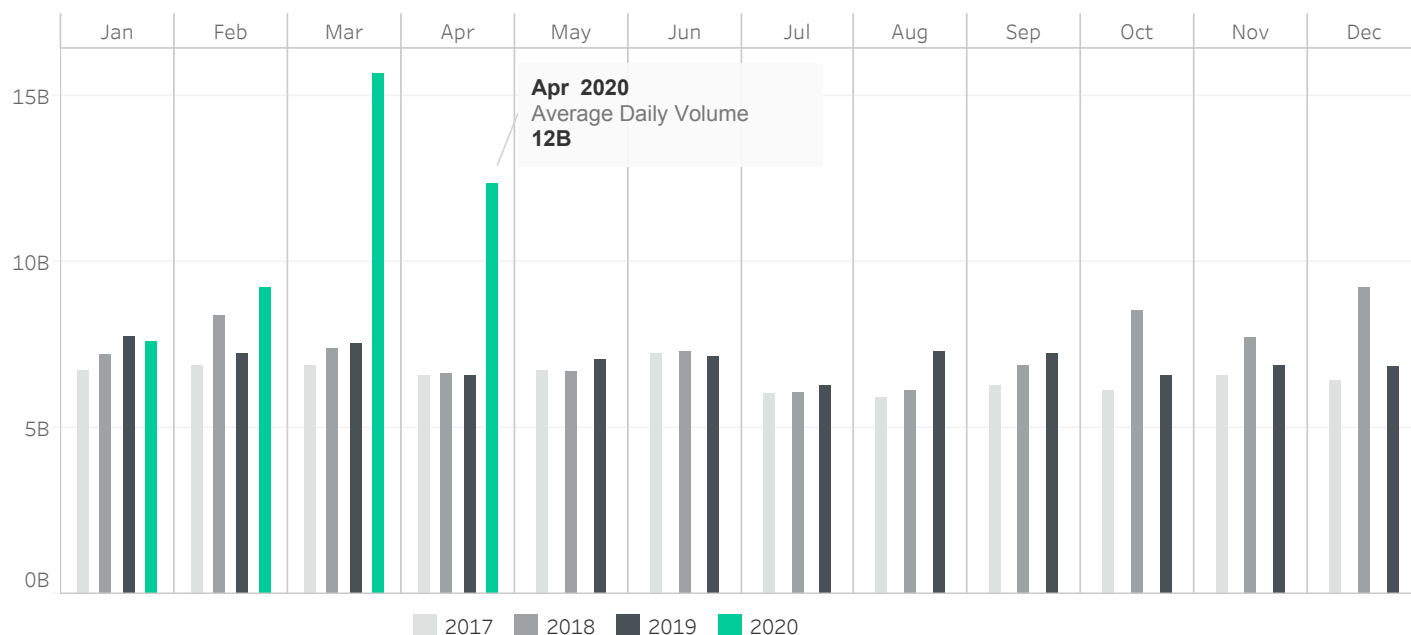
- SIFMA also filed submitted a letter in support: which can be found here:

<https://www.sec.gov/comments/4-757/4757-6891502-210885.pdf>

**Update:** On May 6, 2020, the SEC issued as order directing the equities exchanges and FINRA to submit a new NMS plan on market data within 90 days. Upon submission, the new plan will be made available for public comment prior to the SEC taking action.

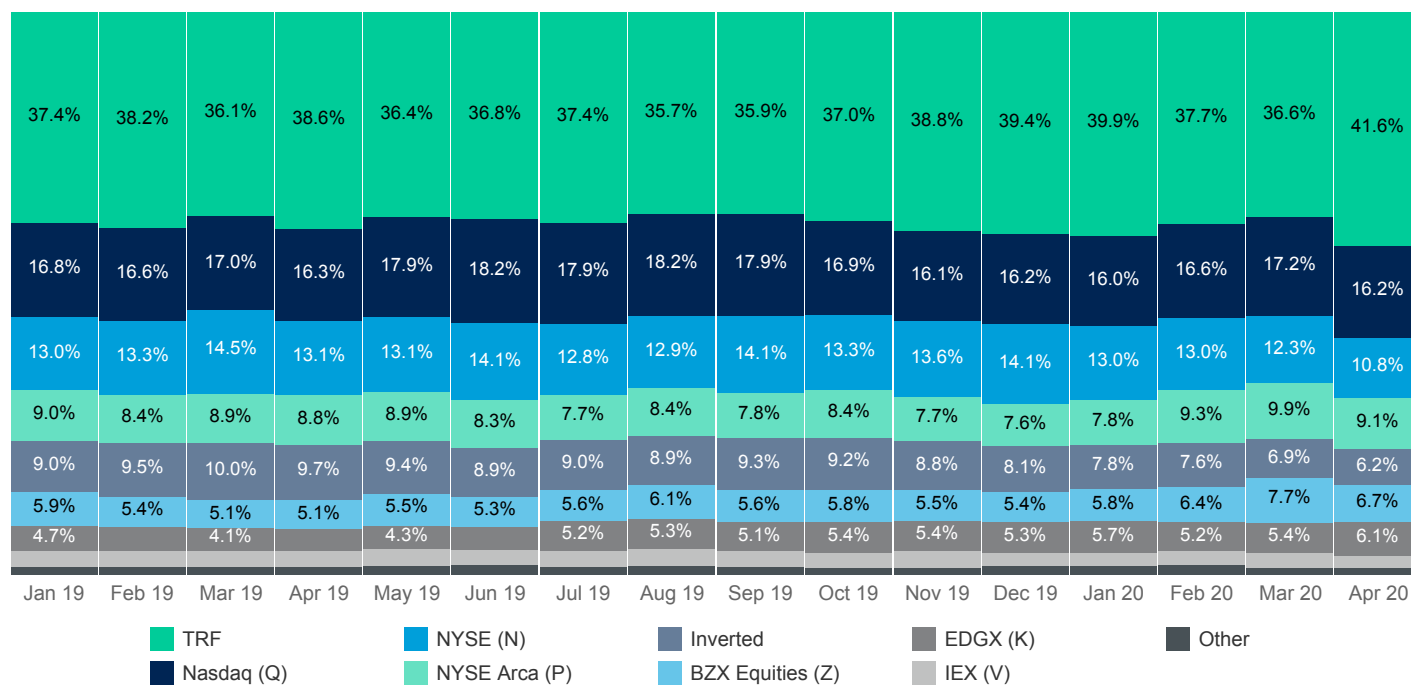


## Average Daily Market Volume



Source data: Cboe Global Markets

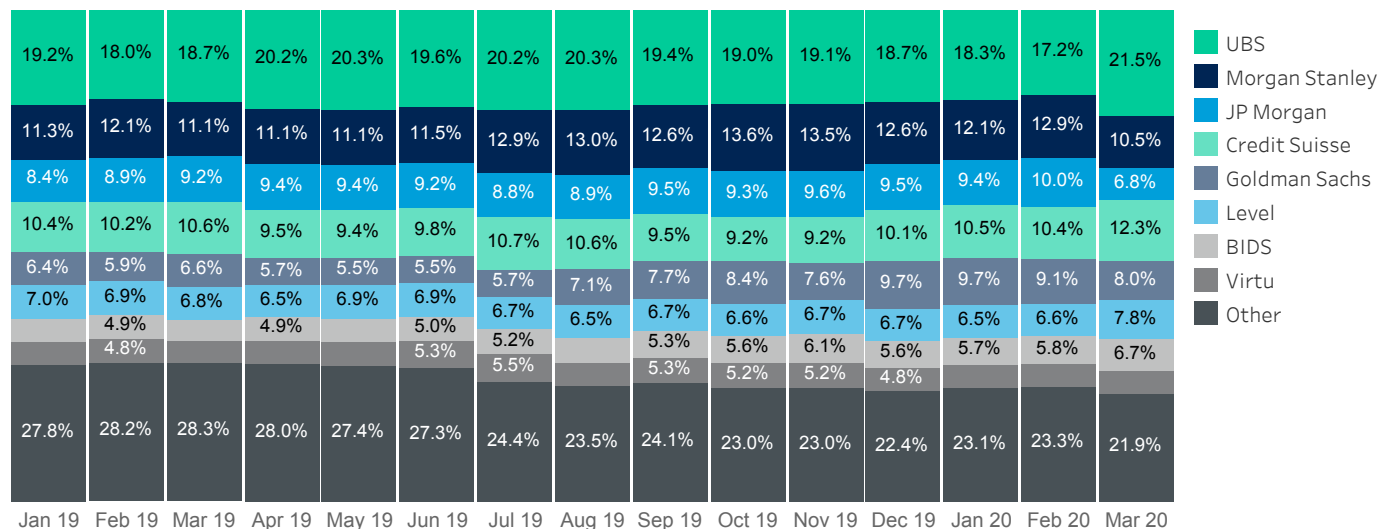
## Venue Market Share



Source data: Cboe Global Markets

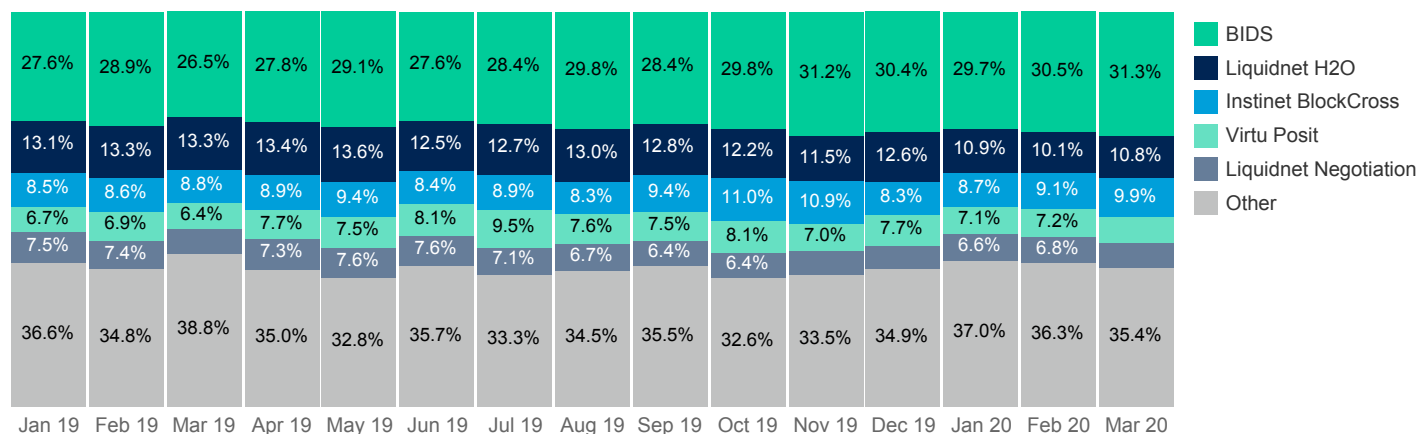


## ATS Market Share



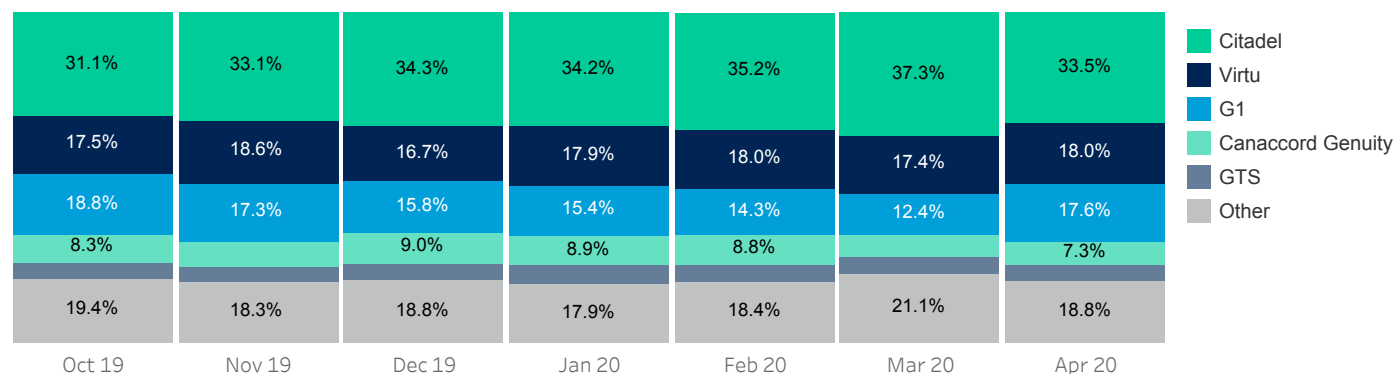
Excludes Dealerweb, OTC; Venues rolled up to firm level; Source data: FINRA

## ATS Block Volume Market Share



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

## OTC Non-ATS Market Share



Source data: FINRA



## Quotesize in Shares

	2Q 19			3Q 19			4Q 19			1Q 20			2Q 20
	Apr 19	May 19	Jun 19	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 19	Jan 20	Feb 20	Mar 20	Apr 20
First 30 Min SP500	173	170	178	179	174	173	175	178	178	176	185	185	184
RUS2000	183	194	192	200	200	192	200	200	195	193	204	200	194
Mid Day SP500	228	208	215	219	201	202	201	210	212	199	194	174	177
RUS2000	206	213	213	224	227	219	219	224	219	210	216	200	198
Last 30 Min SP500	397	313	329	331	266	296	277	302	290	254	240	193	200
RUS2000	275	264	273	285	281	272	268	279	266	250	264	233	228

## Spread Bps

First 30 Min SP500	6.7	7.9	8.2	7.4	9.5	8.6	8.9	8.2	7.5	7.7	9.8	28.1	19.4
RUS2000	38.0	43.2	42.8	39.5	48.3	45.7	44.3	41.0	36.4	36.3	43.7	108.1	87.0
Mid Day SP500	2.9	3.7	3.5	3.0	4.1	3.7	3.7	3.2	3.1	3.4	4.1	13.1	8.4
RUS2000	13.8	16.9	16.0	14.3	17.3	17.2	16.5	15.3	14.0	14.5	16.4	42.5	34.8
Last 30 Min SP500	2.0	2.4	2.3	2.0	2.6	2.2	2.4	2.1	2.1	2.3	2.5	9.7	5.8
RUS2000	9.4	11.5	11.6	10.4	12.5	12.0	11.7	11.1	10.8	10.9	11.2	33.2	25.1

## One Minute Volatility Bps

First 30 Min SP500	11.9	14.0	13.2	11.8	15.7	13.3	12.5	11.6	10.6	11.2	14.6	53.4	32.8
RUS2000	14.4	14.8	14.8	13.6	17.5	16.6	15.2	16.1	14.8	15.4	16.9	45.1	40.8
Mid Day SP500	3.9	5.6	4.7	4.1	6.0	4.8	4.6	3.9	3.4	4.3	5.6	27.7	14.4
RUS2000	4.4	5.5	4.9	4.2	5.2	5.3	4.8	4.2	3.8	4.7	5.7	21.8	16.4
Last 30 Min SP500	4.0	6.1	5.3	4.6	6.7	4.7	5.1	4.1	4.0	5.1	6.1	36.1	17.0
RUS2000	4.2	6.1	5.3	4.5	5.8	5.0	5.1	4.3	4.4	5.3	5.8	28.0	20.1

## Percent ADV by Time of Day

Open SP500	1.0%	0.9%	0.9%	1.0%	1.0%	0.9%	1.0%	1.0%	1.1%	1.1%	1.1%	1.0%	1.1%
RUS2000	0.7%	0.7%	0.7%	0.7%	0.8%	0.8%	0.8%	0.8%	0.8%	0.9%	0.9%	0.8%	0.8%
First 30 Min SP500	8.9%	8.7%	8.2%	8.4%	8.0%	8.0%	7.6%	8.0%	7.7%	7.9%	8.6%	8.2%	8.7%
RUS2000	6.8%	7.0%	6.7%	6.7%	6.9%	6.8%	6.6%	7.2%	7.1%	7.3%	7.2%	6.3%	7.0%
Last 30 Min SP500	18.8%	18.8%	18.8%	18.9%	18.4%	18.3%	18.7%	18.8%	18.4%	18.0%	17.9%	18.3%	17.7%
RUS2000	19.9%	20.2%	19.6%	19.7%	19.4%	18.9%	19.5%	19.5%	19.3%	18.8%	18.6%	19.9%	18.9%
Close SP500	9.5%	9.7%	11.0%	9.9%	11.4%	11.6%	10.4%	11.4%	13.5%	13.8%	12.0%	9.9%	9.8%
RUS2000	7.3%	7.3%	8.1%	7.8%	8.8%	9.0%	8.0%	7.8%	10.0%	9.4%	8.1%	9.0%	8.9%

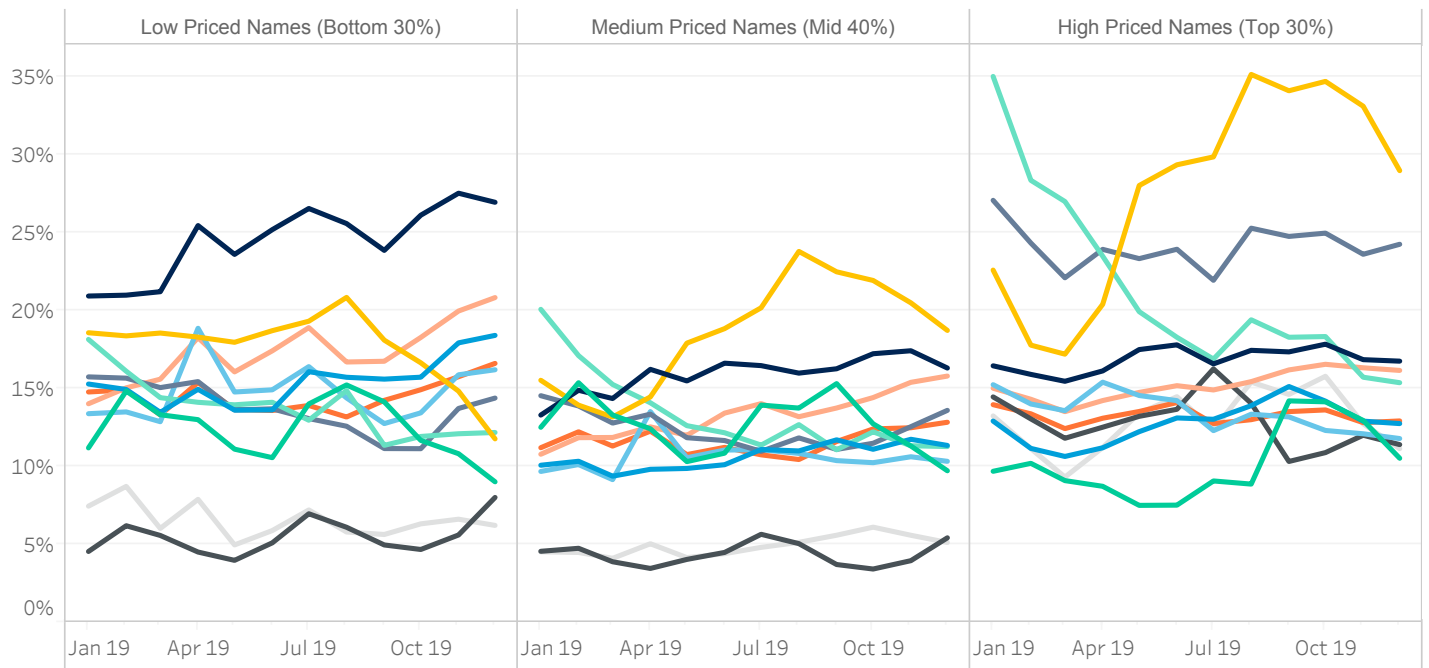
Median used for all metrics

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

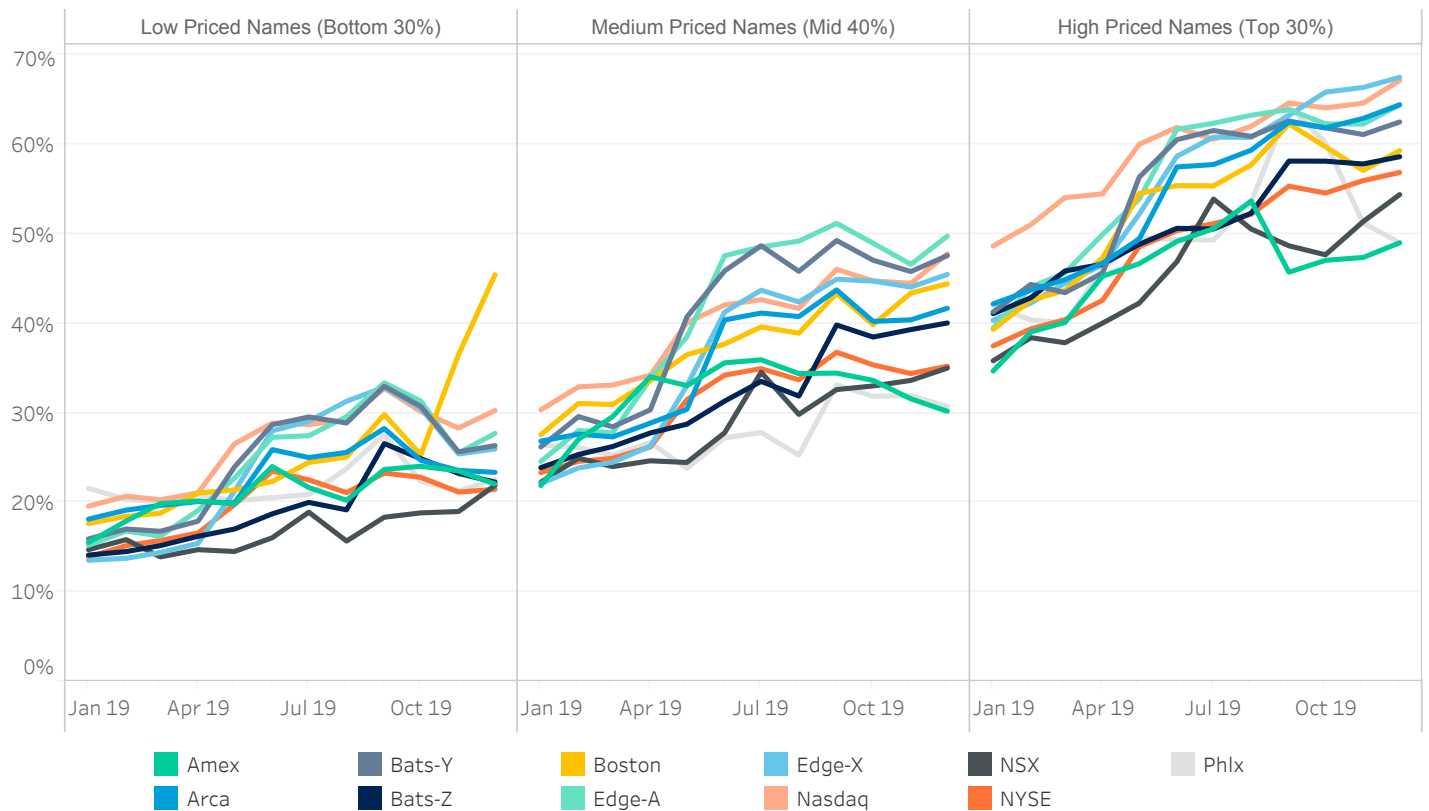
Source data: Virtu Financial



## Hidden Trades Proportion by Price and Venue



## Oddlot Trades Proportion by Price and Venue



Source data: SEC



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