

September 2020

US Market Structure Monthly



US Market Microstructure Observations

- Average daily volume in US Equities was 10B shares in September 2020, up 8.7% month over month and 38.9% year over year.
- Trade reporting facility (TRF) market share dropped to 40.4% in September 2020, down 3.7% month over month, ending a rising streak which lasted five months. In contrast, Nasdaq and NYSE market share increased by 1.5% and 1.8% month over month, which was partially driven by the quad witch futures and options expiration, as well as several index rebalance events on September 18.
- For the last half hour of trading, the median size at the National Best Bid and Offer (NBBO) decreased by 9.5% and 3.9% month over month for S&P 500 and RUS 2000 symbols respectively in September 2020, the first drop in five months.
- Excluding the first and last half hour of the day, median spreads rose by 26.2% and 10.5% month over month for S&P 500 and RUS 2000 symbols respectively in September 2020. Spreads for S&P 500 and RUS 2000 symbols are now 29.3% and 15.2% higher respectively versus February 2020.
- Consistent with the trends in spreads, intraday volatility rose in September 2020. Excluding the first and last half hour of trading, intraday volatility for S&P 500 and RUS 2000 symbols increased by 42.4% and 18.6% respectively month over month.
- Median proportion of volume traded in the close auction volume for S&P 500 and RUS 2000 symbols increased by 1.5% and 1.7% month over month to 12% and 9.6% in September 2020. As referenced earlier, the increase in close auction volumes in September can partially be attributed to the large increase in close volumes on September 18 due to quad witch and multiple index rebalances.

Market Structure News

Wall Street Tests Alternative Data Center Sites Outside of New Jersey

In response to a bill introduced in the New Jersey legislature to impose a financial transaction tax on certain equity transactions processed in the state, major exchange groups began to test backup centers in Illinois to run their exchanges outside of New Jersey in preparation for a potential move if the new tax is signed into law. NYSE and Nasdaq plan to run select markets from Illinois for select weeks in September and October.

<https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/wall-street-begins-looking-for-alternative-data-center-sites-outside-new-jersey-60459318>

MEMX Full Rollout Delayed to October

MEMX, which launched on September 21 with trading in seven US symbols, plans to gradually phase in more symbols beginning on September 29, with a full rollout in all national market system stocks in October. (Disclosure: Virtu is an investor in MEMX)

<https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/memx-delays-full-launch-to-october-60441156>

SEC Proposes to Extend Reg ATS and SCI Rules to Treasuries

The SEC released a proposal for public comment that would enhance the level of transparency and regulatory oversight of ATSS which trade government securities. Similar to equity ATSS, the proposal would require operators of government security ATSS to file a comprehensive form on their operations, called Form ATS-G. The proposal also calls for government security ATSS to be designated as Reg SCI entities if they exceed a certain threshold in executed volume.

<https://www.sec.gov/news/press-release/2020-227>



Market Structure News (Continued)

Exchange Market Data Pricing Under Scrutiny by the U.S. Antitrust Head

Makan Delrahim, head of the US Justice Department's antitrust division, said in an interview that he is focused on potential anti-competitive behavior conducted by the major US exchange groups in regard to market data pricing. Mr. Delrahim expressed particular concern that exchanges are using their market power to hurt competition, including forcing market participants to purchase other products in addition to market data.

<https://www.bloomberg.com/news/articles/2020-09-29/wall-street-s-data-pricing-is-new-target-for-trump-antitrust-cop>

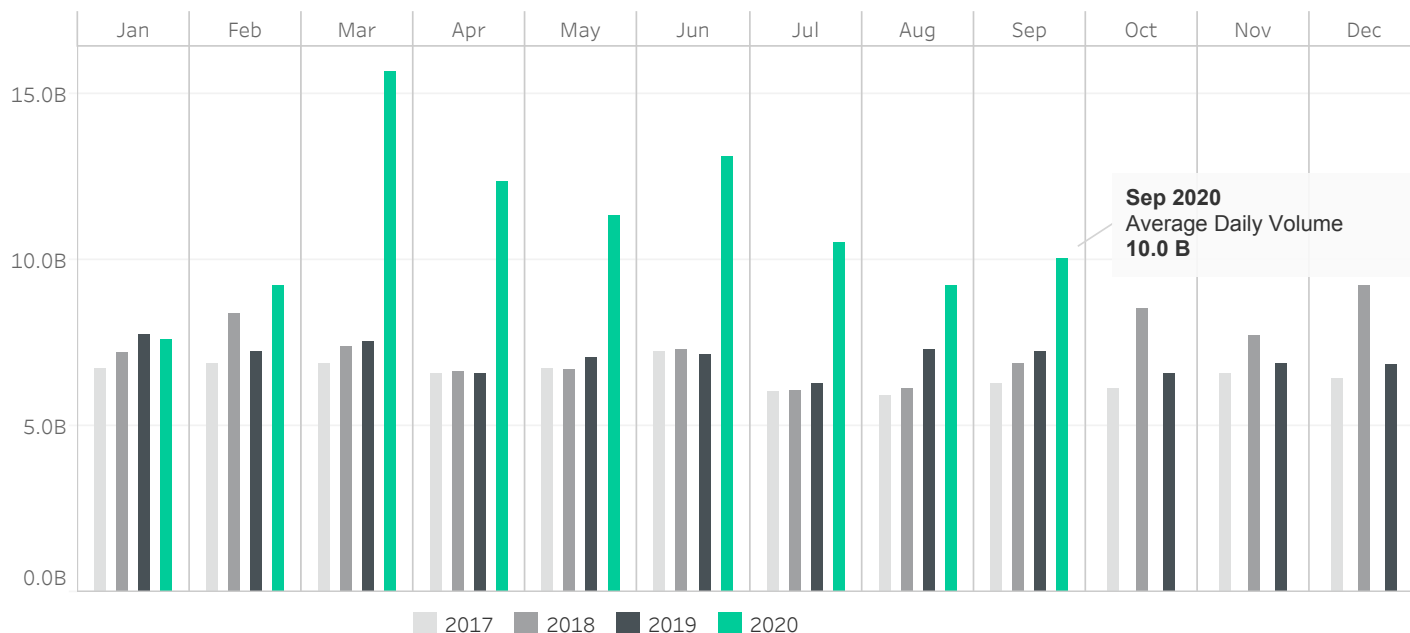
SEC Adopts Amendments to Enhance Retail Investor Protections

The amended rule to Exchange Act Rule 15c2-11 is designed to enhance disclosure and investor protection in the OTC market by ensuring that broker-dealers do not publish quotations for an issuer's security when current issuer information is not publicly available, subject to certain exceptions.

<https://www.sec.gov/news/press-release/2020-212>

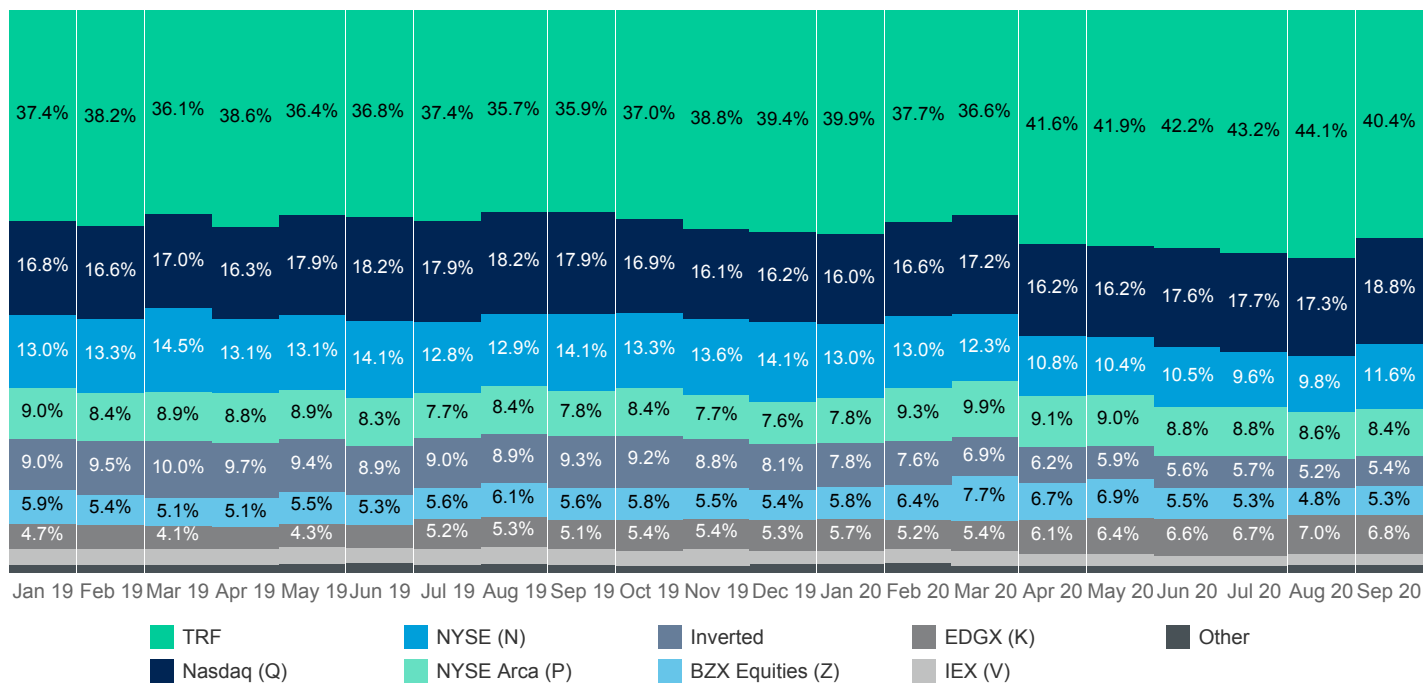


Average Daily Market Volume



Source data: Cboe Global Markets

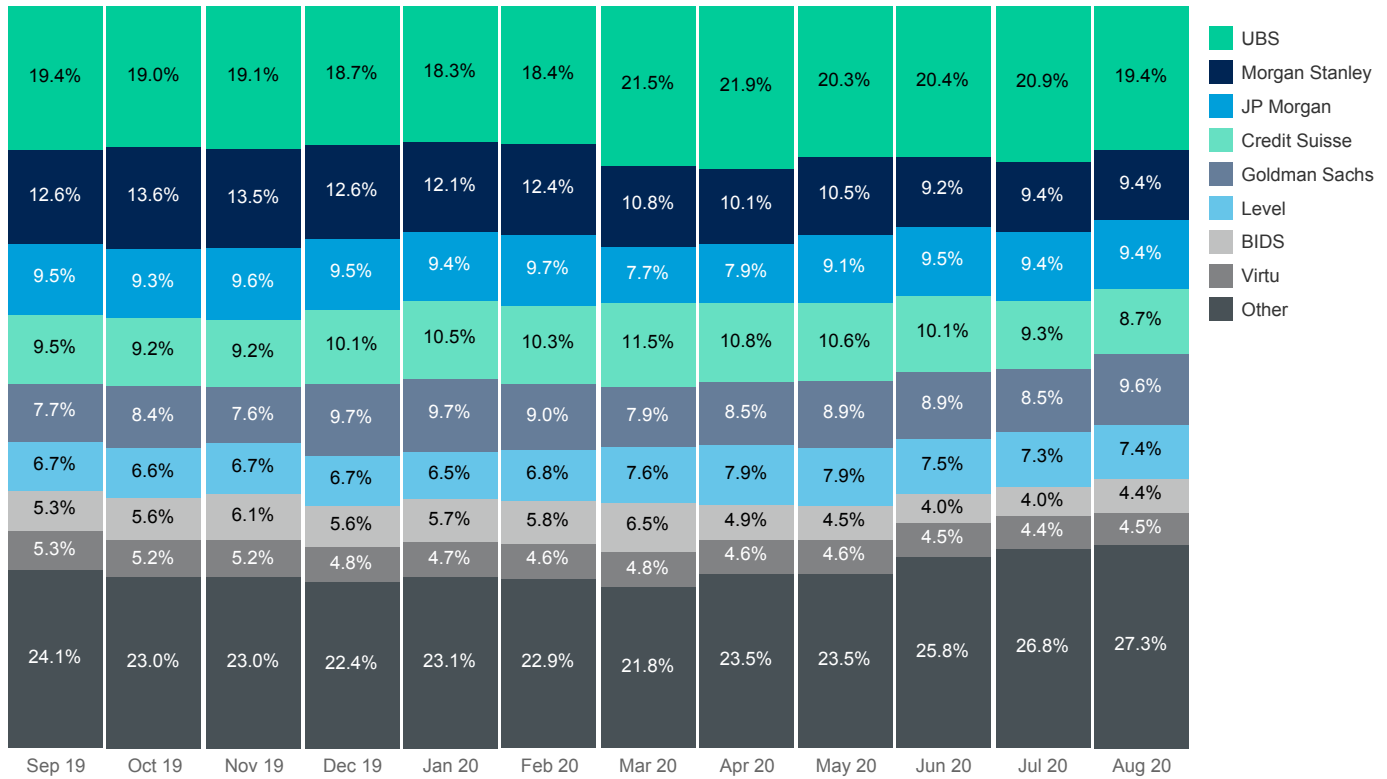
Venue Market Share



Source data: Cboe Global Markets

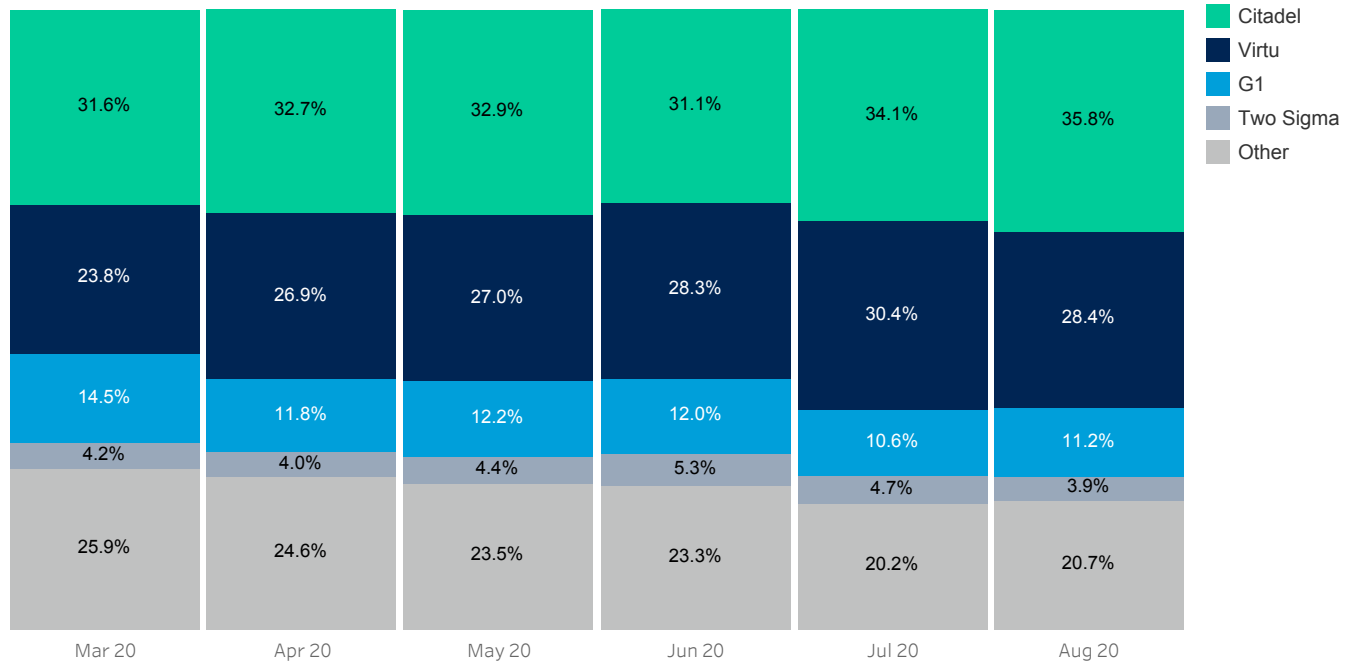


ATS Market Share



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

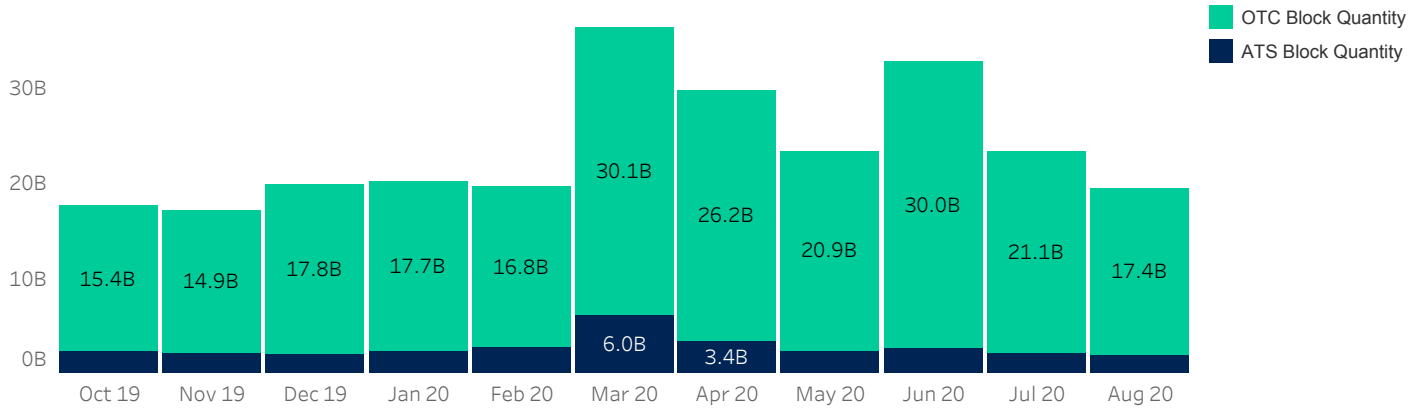
OTC Non-ATS Market Share



Source: FINRA, NMS Tier 1 & 2 Securities

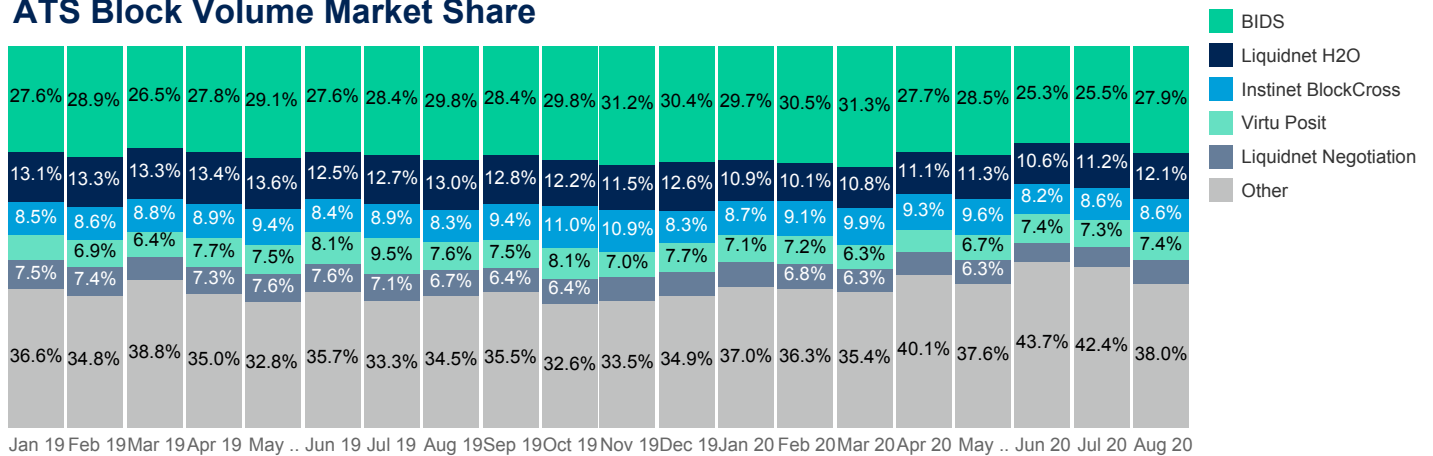


TRF Block Volume Breakdown (Shares)



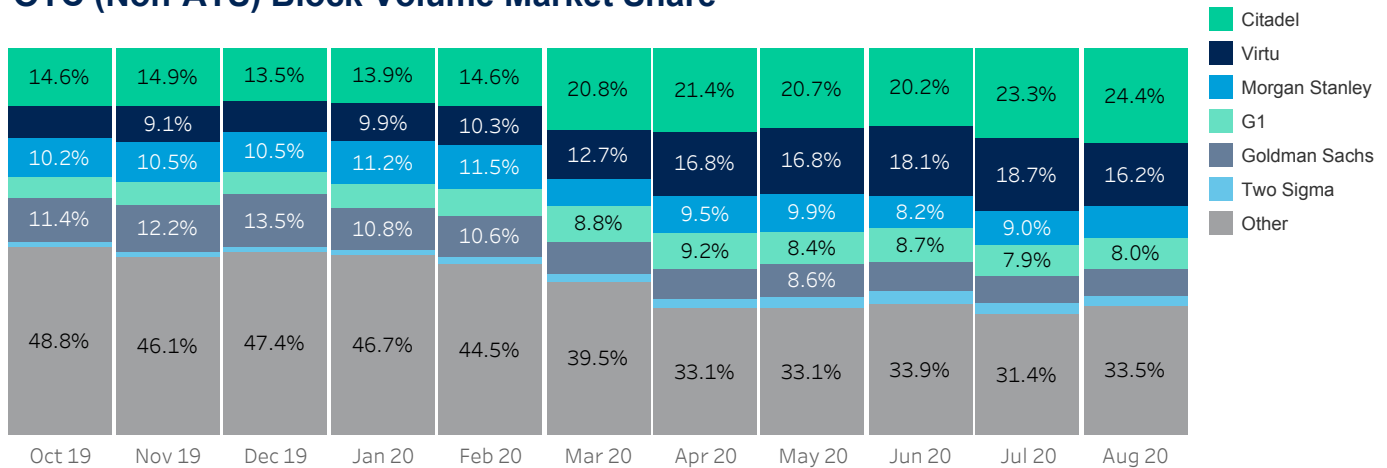
Source: FINRA

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



Quote size in Shares

		3Q 19			4Q 19			1Q 20			2Q 20			3Q 20		
		Sep 19	Oct 19	Nov 19	Dec 19	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20	Jul 20	Aug 20	Sep 20		
First 30 Min	SP500	173	175	178	178	176	185	185	184	196	200	207	205	204		
	RUS2000	192	200	200	195	193	204	200	194	200	206	209	207	207		
Mid Day	SP500	202	201	210	212	199	194	174	177	197	204	212	220	215		
	RUS2000	219	219	224	219	210	216	200	198	209	218	227	235	233		
Last 30 Min	SP500	296	277	302	290	254	240	193	200	229	229	242	264	239		
	RUS2000	272	268	279	266	250	264	233	228	239	243	264	283	272		

Spread Bps

First 30 Min	SP500	8.6	8.9	8.2	7.5	7.7	9.8	28.1	19.4	11.8	11.0	10.4	9.6	11.0
	RUS2000	45.7	44.3	41.0	36.4	36.3	43.7	108.1	87.0	65.2	56.7	50.6	41.8	44.7
Mid Day	SP500	3.7	3.7	3.2	3.1	3.4	4.1	13.1	8.4	5.7	5.3	4.8	4.2	5.3
	RUS2000	17.2	16.5	15.3	14.0	14.5	16.4	42.5	34.8	25.0	23.3	20.2	17.1	18.9
Last 30 Min	SP500	2.2	2.4	2.1	2.1	2.3	2.5	9.7	5.8	4.2	3.8	3.3	3.0	3.6
	RUS2000	12.0	11.7	11.1	10.8	10.9	11.2	33.2	25.1	19.3	18.2	15.4	13.5	15.0

One Minute Volatility Bps

First 30 Min	SP500	13.3	12.5	11.6	10.6	11.2	14.6	53.4	32.8	24.5	23.3	19.5	16.0	20.1
	RUS2000	16.6	15.2	16.1	14.8	15.4	16.9	45.1	40.8	33.2	31.3	25.3	23.7	26.0
Mid Day	SP500	4.8	4.6	3.9	3.4	4.3	5.6	27.7	14.4	9.6	9.7	7.6	5.9	8.4
	RUS2000	5.3	4.8	4.2	3.8	4.7	5.7	21.8	16.4	11.9	11.5	9.1	7.0	8.3
Last 30 Min	SP500	4.7	5.1	4.1	4.0	5.1	6.1	36.1	17.0	11.5	11.5	8.9	6.9	9.9
	RUS2000	5.0	5.1	4.3	4.4	5.3	5.8	28.0	20.1	15.0	14.8	10.2	7.7	9.9

Percent ADV by Time of Day

Open	SP500	0.9%	1.0%	1.0%	1.1%	1.1%	1.1%	1.0%	1.1%	1.0%	1.1%	1.0%	1.1%	1.0%
	RUS2000	0.8%	0.8%	0.8%	0.8%	0.9%	0.9%	0.8%	0.8%	0.9%	0.9%	0.8%	0.9%	0.8%
First 30 Min	SP500	8.0%	7.6%	8.0%	7.7%	7.9%	8.6%	8.2%	8.7%	9.4%	9.1%	9.6%	9.9%	9.5%
	RUS2000	6.8%	6.6%	7.2%	7.1%	7.3%	7.2%	6.3%	7.0%	7.9%	7.3%	7.6%	8.2%	8.0%
Last 30 Min	SP500	18.3%	18.7%	18.8%	18.4%	18.0%	17.9%	18.3%	17.7%	17.7%	17.9%	18.3%	18.7%	17.9%
	RUS2000	18.9%	19.5%	19.5%	19.3%	18.8%	18.6%	19.9%	18.9%	18.7%	18.5%	20.0%	19.8%	18.7%
Close	SP500	11.6%	10.4%	11.4%	13.5%	13.8%	12.0%	9.9%	9.8%	9.0%	10.3%	9.9%	10.5%	12.0%
	RUS2000	9.0%	8.0%	7.8%	10.0%	9.4%	8.1%	9.0%	8.9%	8.3%	8.9%	9.4%	7.9%	9.6%

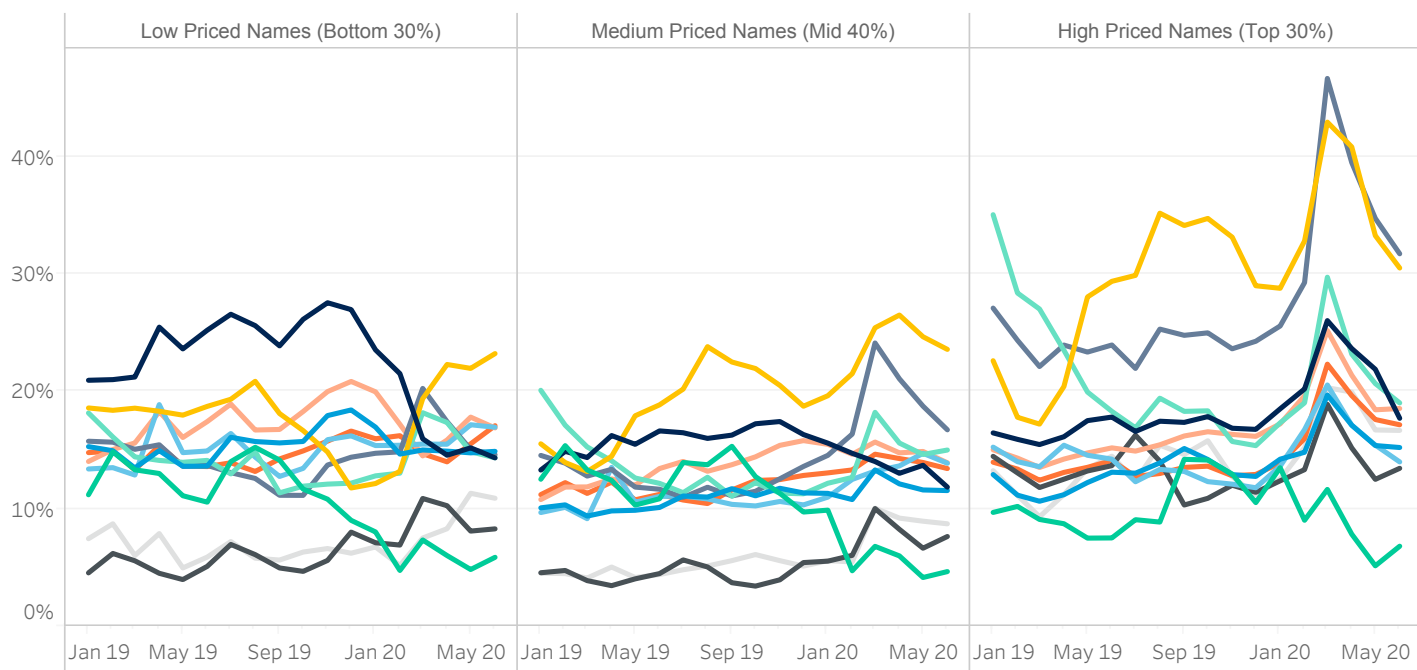
Median used for all metrics

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

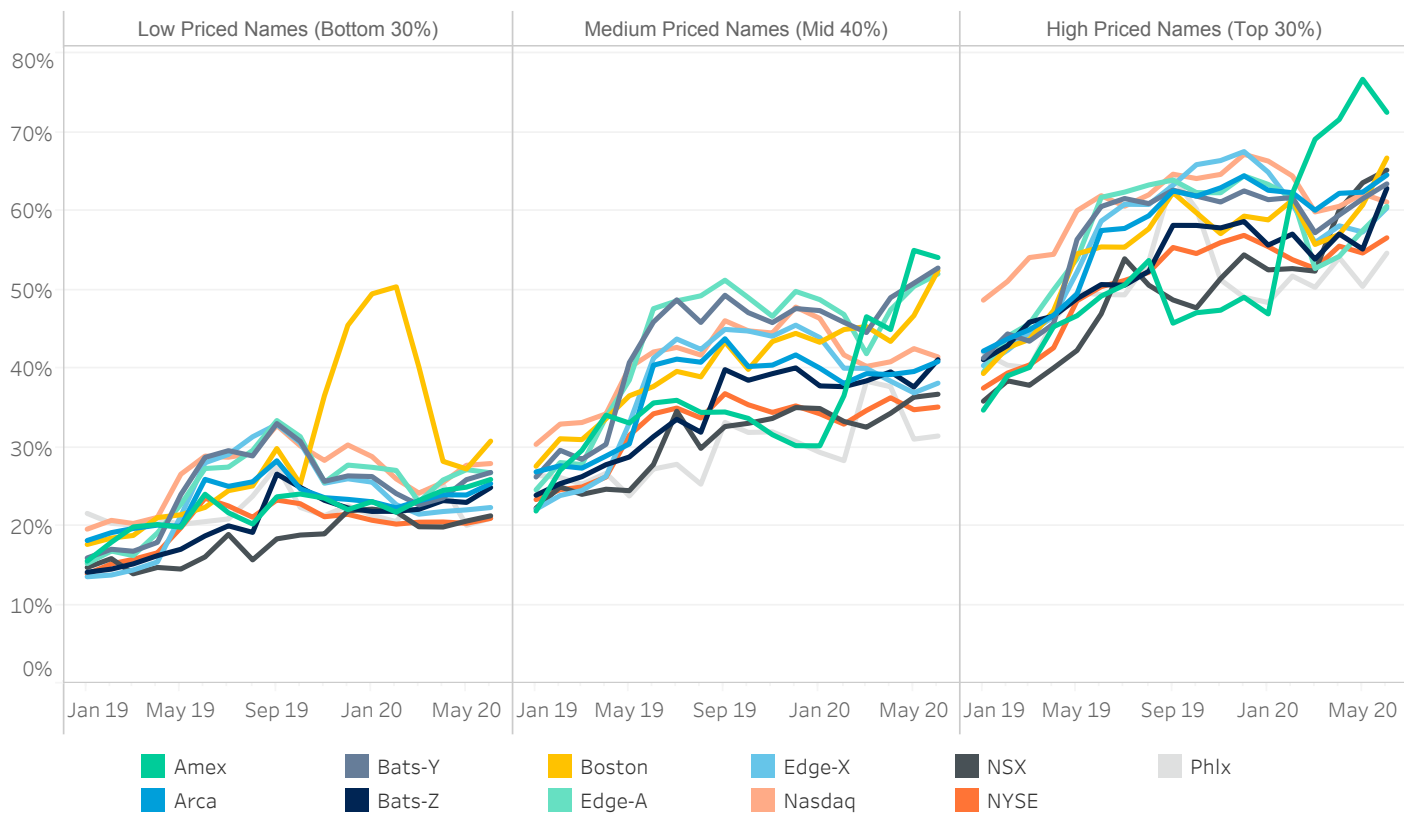
Source data: Virtu Financial



Hidden Trades Proportion by Price and Venue



Oddlot Trades Proportion by Price and Venue





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info@virtu.com | www.virtu.com

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