

December 2020

US Market Structure Monthly



US Market Microstructure Observations

- Average daily volume in US equities was 11.0B shares in December 2020, down 2.7% month over month but up 59.4% year over year.
- Trade reporting facility (TRF) market share increased for the third consecutive month to a new high of 45.8% in December 2020, up 2.5% month over month.
- Excluding the first and last half hour of trading, the median size at the National Best Bid and Offer (NBBO) remained unchanged month over month for S&P 500 symbols while decreased 1.7% month over month for RUS 2000 symbols in December 2020. In the last half hour of trading, NBBO size increased by 0.9% month over month for S&P 500 symbols while decreased by 1.1% for RUS 2000 symbols over the same period.
- Excluding the first and last half hour of the day, median spreads decreased by 16.9% and 8.6% month over month for S&P 500 and RUS 2000 symbols, respectively, in December 2020. Compared to February 2020, spreads in December 2020 are still 31.7% and 50% higher for S&P 500 and RUS 2000 symbols respectively.
- Consistent with the trends in spreads, intraday volatility dropped in December 2020. Excluding the first and last half hour of trading, intraday volatility for S&P 500 and RUS 2000 symbols decreased by 24.7% and 15.9%, respectively, month over month.
- Median proportion of volume traded in the closing auction for S&P 500 symbols increased by 3.0% month over month to 13.7% in December 2020, driven by Quad-Witch, rebalances, and year-end volume.

Market Structure News

SEC Approves Plan to Bring More Detailed Stock-Market Data to The Public

The SEC approved plans to overhaul the public feeds known as the securities information processors (SIPs). Changes to the SIPs will include adding depth of the book data; adding odd lot quotations; NBBO based on new round lot sizes—which are based on stock price tiers; adding auction imbalance information and allow firms to set up competing alternatives to the SIPs currently operated by the NYSE and Nasdaq. The changes will be implemented in phases over the course of 2021.

<https://www.wsj.com/articles/sec-approves-plan-to-bring-more-detailed-stock-market-data-to-public-11607532641>

<https://www.sec.gov/news/press-release/2020-311>

SEC Approves NYSE's Plan for New IPO Alternative

The SEC approved the NYSE's plan to enable companies to raise capital through direct listings. This will allow companies to sell new shares to raise capital on the NYSE without hiring banks to underwrite the transaction as in a traditional IPO.

Nasdaq is seeking similar approval.

<https://www.wsj.com/articles/sec-approves-nyses-plan-for-new-ipo-alternative-11608665152>

NYSE Plans to Delist Chinese Telecom Stocks

The NYSE is proceeding with the plan to delist China's three largest telecommunication companies, reversing an announcement on January 5, 2021 that it would not proceed with the delisting. The delisting plan followed a trading ban issued by the US government, effective January 11, 2021 on a list of companies that were deemed to have ties with China's military.

<https://www.bloomberg.com/news/articles/2021-01-06/nyse-reverses-course-again-with-plan-to-delist-chinese-telecoms>

Congress Passes Legislation for Delisting Chinese Stocks over Audit Requirements

Congress approved the legislation that would give US-listed Chinese companies three years to comply with the US inspection requirements before facing delisting. The legislation will become law when the President signs.

<https://www.wsj.com/articles/congress-sets-stage-for-exiling-chinese-stocks-from-u-s-over-audit-dispute-11606946071>



Market Structure News (Continued)

SEC Leadership Changes

Brett Redfearn will be stepping down as the SEC Trading and Markets Director, following Chairman Jay Clayton's departure. In the interim, Elad Roisman is expected to lead the SEC for the weeks prior to appointment of new leadership by the White House.

<https://www.wsj.com/articles/temporary-sec-leadership-is-set-after-chairmans-recent-departure-11608834187>

<https://www.wsj.com/articles/top-sec-markets-regulator-to-leave-after-battling-exchanges-11608053758>

SEC Announces Office Focused on Innovation and Financial Technology

The Strategic Hub for Innovation and Financial Technology (FinHub) will become a stand-alone office whose primary function is to engage with market participants, technology innovators and regulators on new approaches to capital formation, trading and other financial services.

<https://www.sec.gov/news/press-release/2020-303>

High-Frequency Traders Can Keep Code Secret Under New CFTC Rule

The Commodity Futures Trading Commission (CFTC) approved regulations that formally require exchanges to take steps to prevent unintentional disruptions from algorithmic trading, excluding a proposal which would have increased government access to traders' computer code.

<https://www.bloomberg.com/news/articles/2020-12-08/high-frequency-traders-can-keep-code-secret-under-new-cftc-rule>

Some NYSE Trading Floor Personnel to Return to Remote Operations

Amid a surge in Covid-19 cases in the New York area, NYSE Designated Market Makers will temporarily return to working remotely. The NYSE trading floor will remain open and continue to support NYSE floor broker activity, including D-quote order type.

<https://www.cnbc.com/2020/12/22/some-nyse-trading-floor-personnel-to-return-to-remote-operations.html>

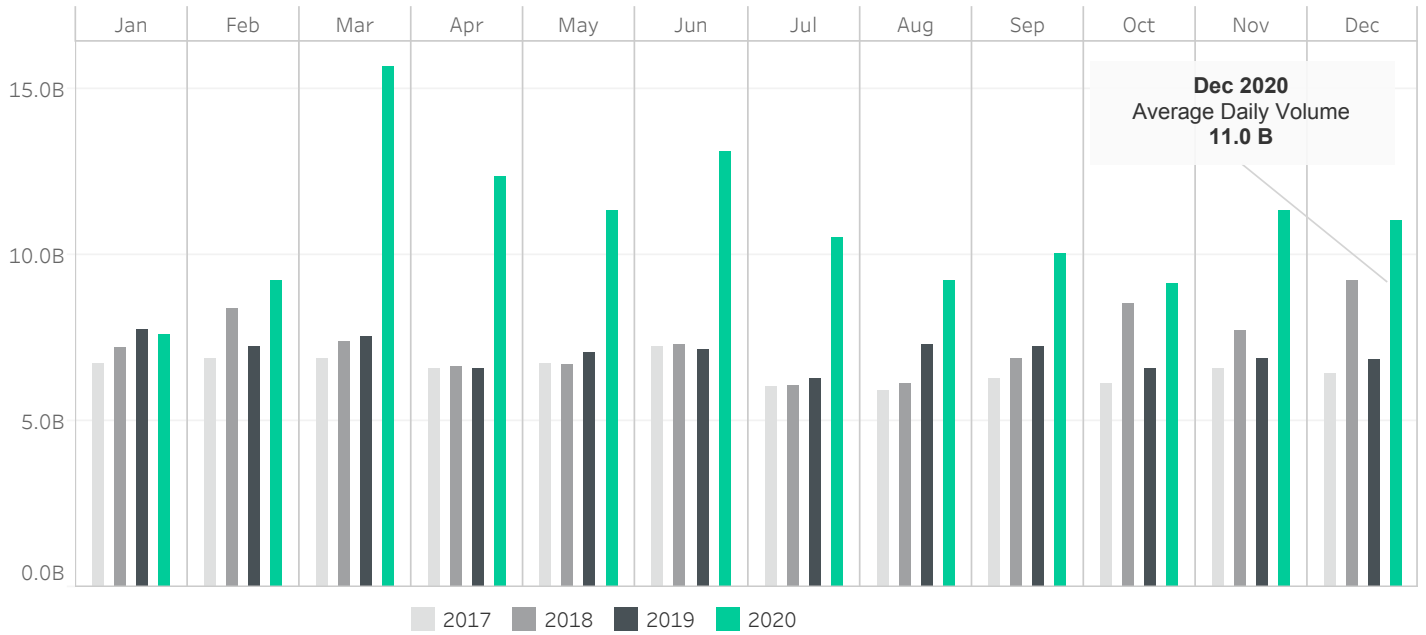
Cboe Adjusts Trading Hours

Pending regulatory approval, Cboe Global Markets plans to push back the cutoff time on BZX Equities Exchange to 3:59pm ET from 3:55pm ET. In addition, the EDGX early trading session now starts at 4:00am ET as of December 7.

<https://www.marketsmedia.com/cboe-adjusts-trading-hours/>

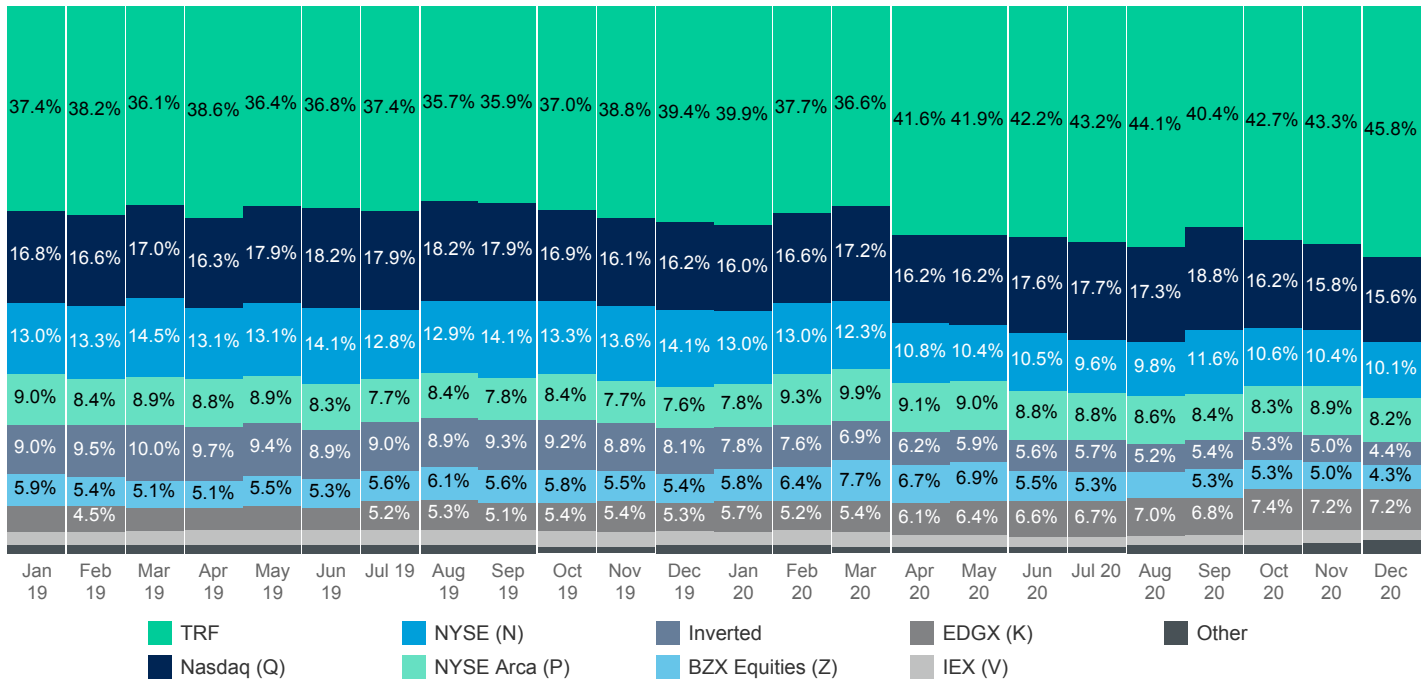


Average Daily Market Volume



Source data: Cboe Global Markets

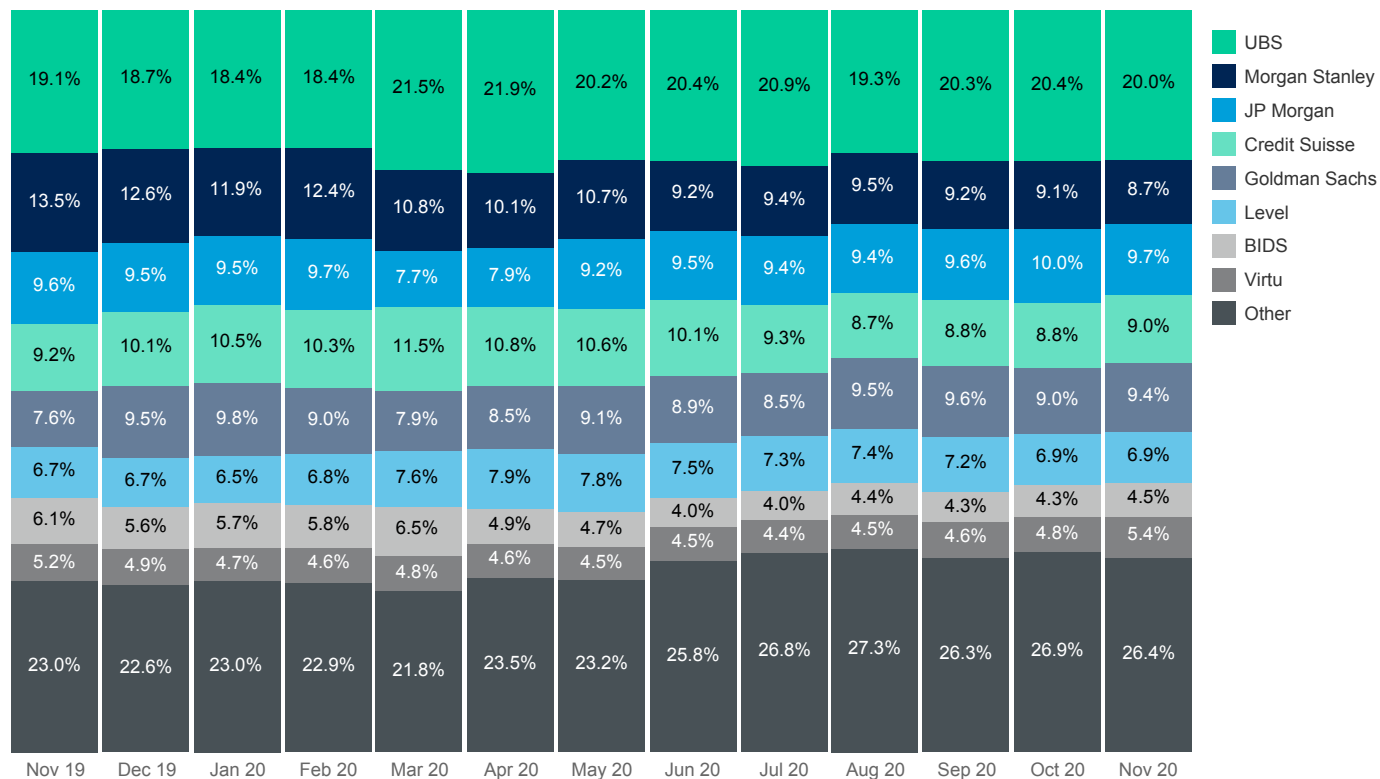
Venue Market Share



Source data: Cboe Global Markets

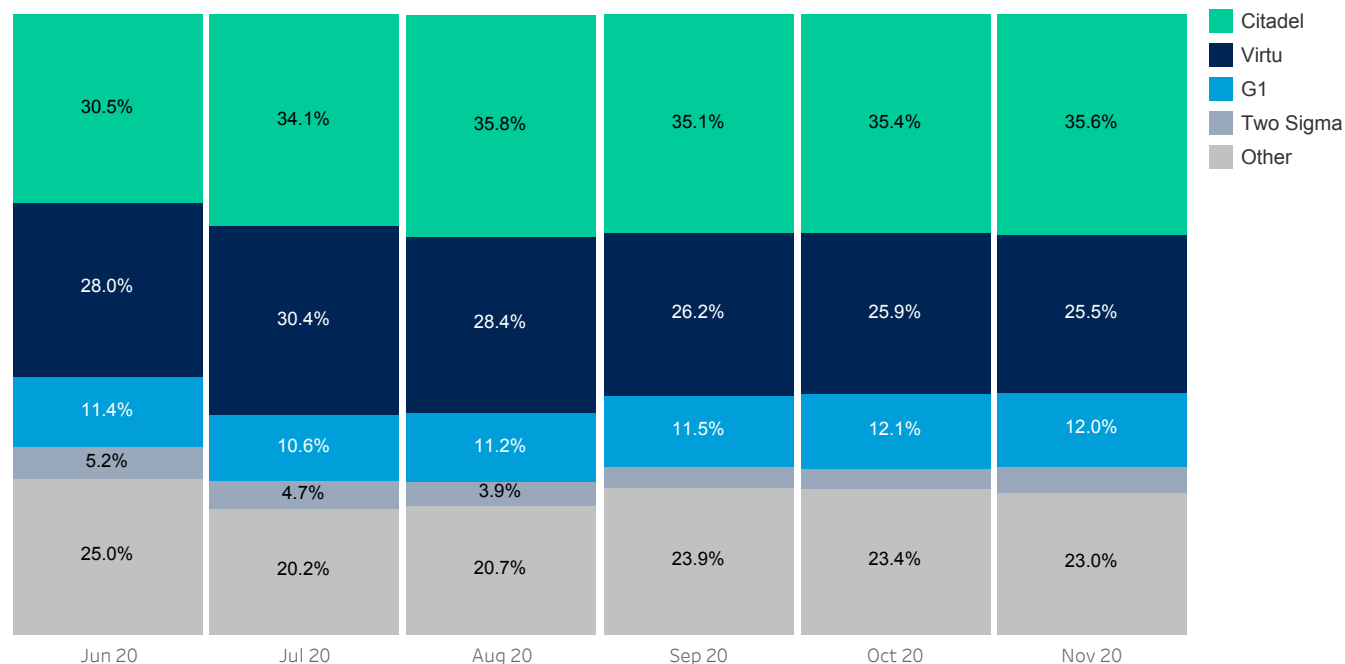


ATS Market Share



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

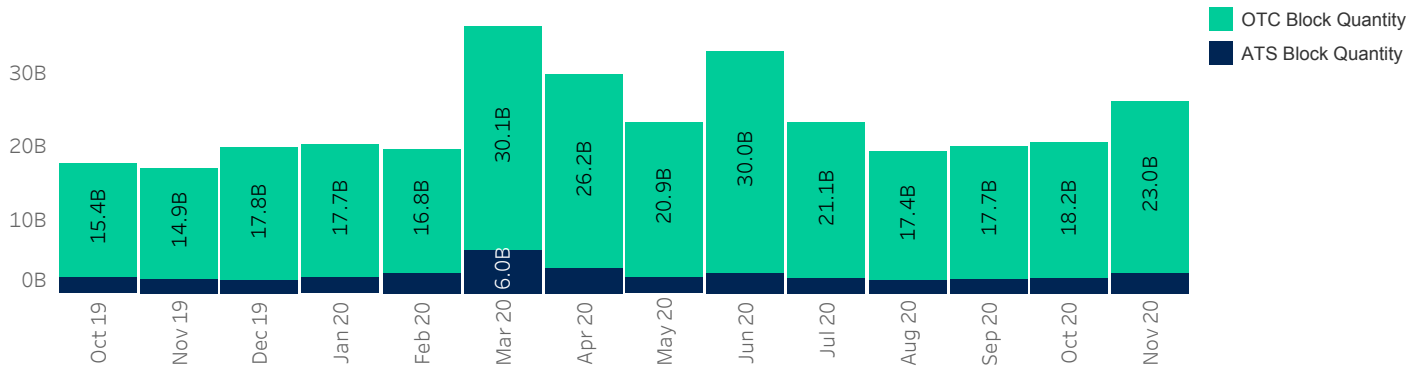
OTC Non-ATS Market Share



Source: FINRA, NMS Tier 1 & 2 Securities

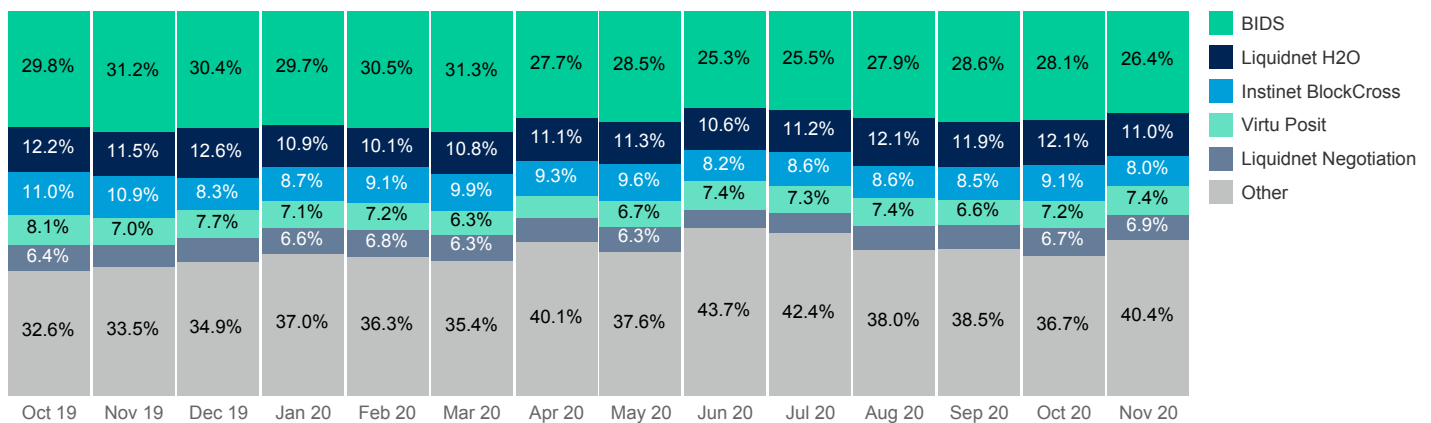


TRF Block Volume Breakdown (Shares)



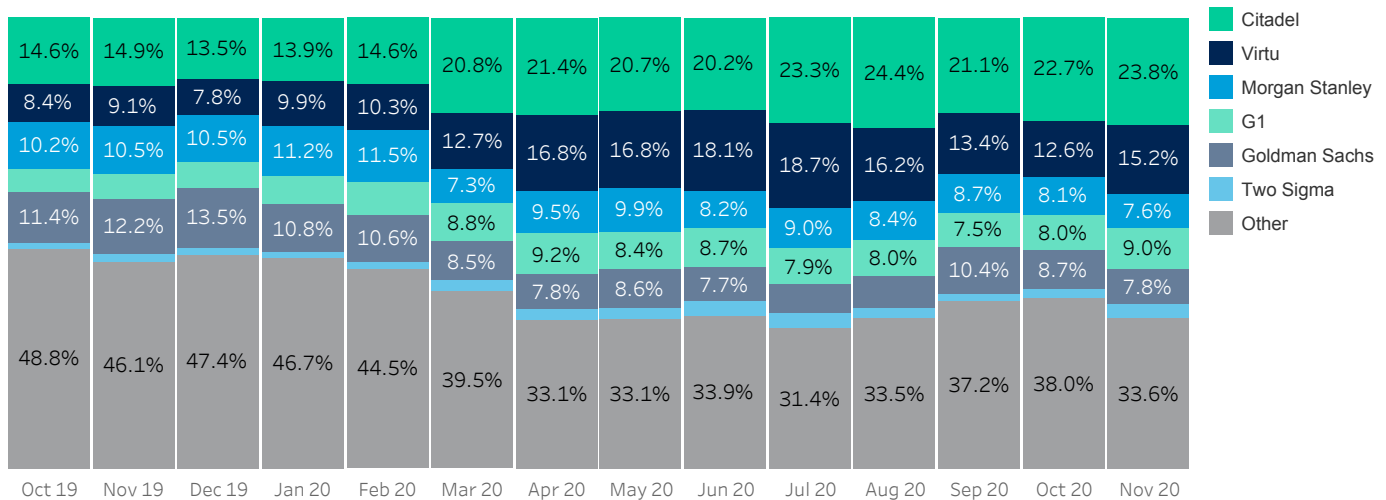
Source: FINRA

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

	4Q 19 Dec 19	1Q 20			2Q 20			3Q 20			4Q 20		
		Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20	Jul 20	Aug 20	Sep 20	Oct 20	Nov 20	Dec 20
First 30 Min SP500	178	176	185	185	184	196	200	207	205	204	206	201	197
RUS2000	195	193	204	200	194	200	206	209	207	207	225	226	228
Mid Day SP500	212	199	194	174	177	197	204	212	220	215	206	206	206
RUS2000	219	210	216	200	198	209	218	227	235	233	236	236	232
Last 30 Min SP500	290	254	240	193	200	229	229	242	264	239	236	231	233
RUS2000	266	250	264	233	228	239	243	264	283	272	274	263	260

Spread Bps

First 30 Min SP500	7.5	7.7	9.8	28.1	19.4	11.8	11.0	10.4	9.6	11.0	13.0	14.7	12.4
RUS2000	36.4	36.3	43.7	108.1	87.0	65.2	56.7	50.6	41.8	44.7	57.1	67.2	60.3
Mid Day SP500	3.1	3.4	4.1	13.1	8.4	5.7	5.3	4.8	4.2	5.3	6.4	6.5	5.4
RUS2000	14.0	14.5	16.4	42.5	34.8	25.0	23.3	20.2	17.1	18.9	24.9	26.9	24.6
Last 30 Min SP500	2.1	2.3	2.5	9.7	5.8	4.2	3.8	3.3	3.0	3.6	4.2	4.5	3.8
RUS2000	10.8	10.9	11.2	33.2	25.1	19.3	18.2	15.4	13.5	15.0	18.9	21.2	19.1

One Minute Volatility Bps

First 30 Min SP500	10.6	11.2	14.6	53.4	32.8	24.5	23.3	19.5	16.0	20.1	16.0	20.2	15.3
RUS2000	14.8	15.4	16.9	45.1	40.8	33.2	31.3	25.3	23.7	26.0	16.9	20.9	16.5
Mid Day SP500	3.4	4.3	5.6	27.7	14.4	9.6	9.7	7.6	5.9	8.4	7.1	7.7	5.8
RUS2000	3.8	4.7	5.7	21.8	16.4	11.9	11.5	9.1	7.0	8.3	5.7	6.3	5.3
Last 30 Min SP500	4.0	5.1	6.1	36.1	17.0	11.5	11.5	8.9	6.9	9.9	7.8	8.9	6.8
RUS2000	4.4	5.3	5.8	28.0	20.1	15.0	14.8	10.2	7.7	9.9	7.3	8.8	7.4

Percent ADV by Time of Day

Open SP500	1.1%	1.1%	1.1%	1.0%	1.1%	1.0%	1.1%	1.0%	1.1%	1.0%	1.1%	1.1%	1.1%
RUS2000	0.8%	0.9%	0.9%	0.8%	0.8%	0.9%	0.9%	0.8%	0.9%	0.8%	0.9%	0.9%	0.8%
First 30 Min SP500	7.7%	7.9%	8.6%	8.2%	8.7%	9.4%	9.1%	9.6%	9.9%	9.5%	9.2%	10.3%	9.5%
RUS2000	7.1%	7.3%	7.2%	6.3%	7.0%	7.9%	7.3%	7.6%	8.2%	8.0%	7.6%	8.4%	7.8%
Last 30 Min SP500	18.4%	18.0%	17.9%	18.3%	17.7%	17.7%	17.9%	18.3%	18.7%	17.9%	18.1%	17.4%	17.4%
RUS2000	19.3%	18.8%	18.6%	19.9%	18.9%	18.7%	18.5%	20.0%	19.8%	18.7%	19.8%	18.8%	19.0%
Close SP500	13.5%	13.8%	12.0%	9.9%	9.8%	9.0%	10.3%	9.9%	10.5%	12.0%	11.0%	10.7%	13.7%
RUS2000	10.0%	9.4%	8.1%	9.0%	8.9%	8.3%	8.9%	9.4%	7.9%	9.6%	9.3%	9.9%	10.6%

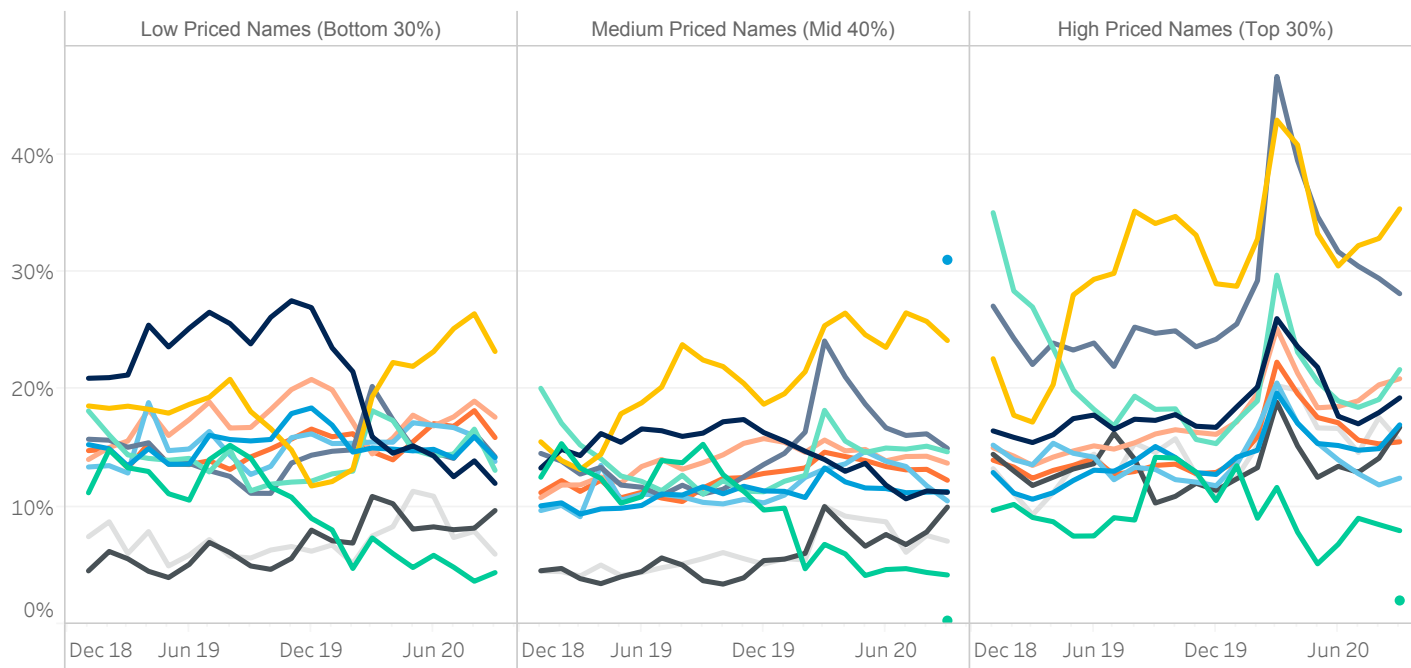
Median used for all metrics

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

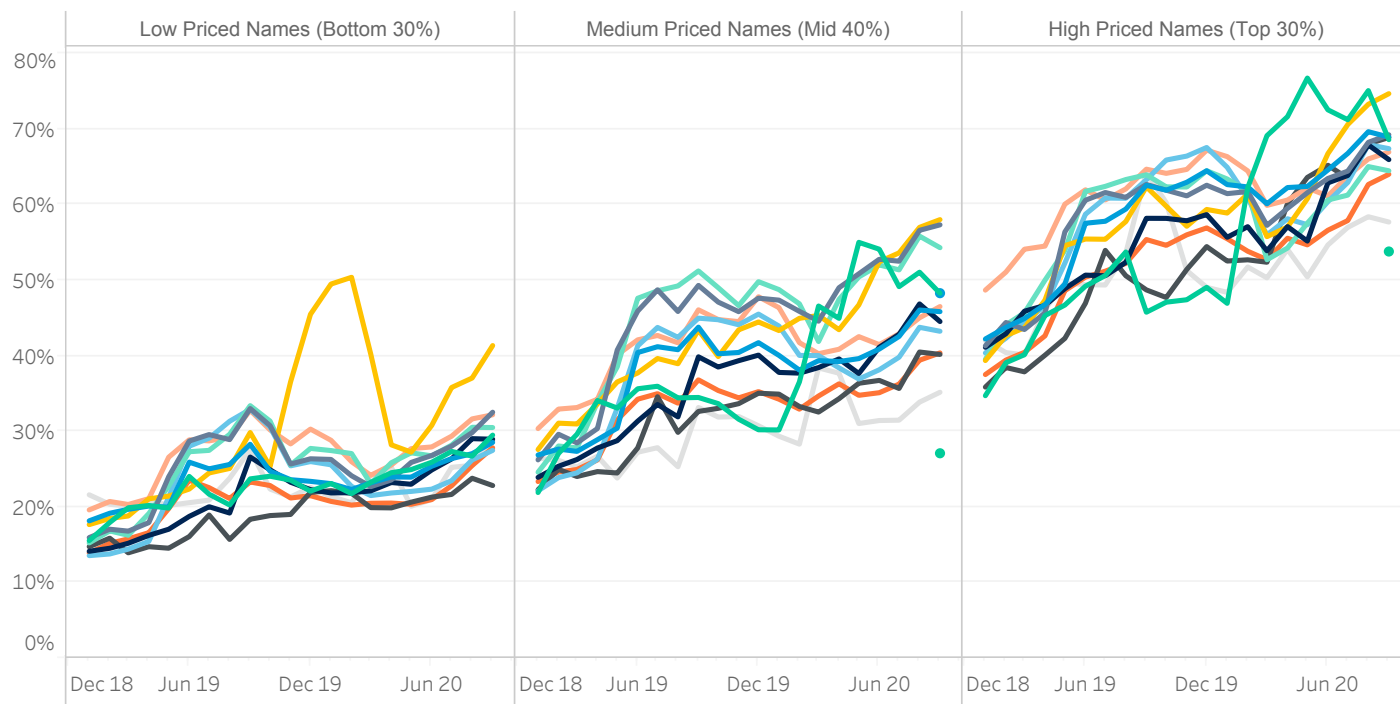
Source data: Virtu Financial



Hidden Trades Proportion by Price and Venue



Oddlot Trades Proportion by Price and Venue



Source data: SEC



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