

August 2020

US Market Structure Monthly



US Market Microstructure Observations

- Average daily volume in US equities was 9.2B shares in August 2020, down 12% month over month and up 26% year over year.
- Trade reporting facility (TRF) market share reached a record 44.1% in August 2020, up 0.9% month over month, marking the fifth consecutive monthly increase. Corresponding decrease in market share is shared amongst Nasdaq, BZX Equities and inverted venues.
- Excluding the first and last half hour of trading, the median size at the National Best Bid and Offer (NBBO) increased by 3.7% and 3.5% month over month for S&P 500 and RUS 2000 symbols respectively in August 2020, marking the fifth consecutive monthly increase.
- Median spreads decreased by 12.5% and 15.3% month over month for S&P 500 and RUS 2000 symbols respectively in August 2020. Spreads for S&P 500 and RUS 2000 symbols are now only 2.4% and 4.3% higher respectively versus February 2020, narrowing by 68% and 60% respectively since March 2020.
- Consistent with the trends in spreads, intraday volatility decreased in August 2020. Excluding the first and last half hour of trading, intraday volatility for S&P 500 and RUS 2000 symbols decreased by 22.3% and 23.1% respectively month over month.
- Median proportion of volume traded in the close auction volume for RUS 2000 symbols decreased by 1.5% month over mo..

Market Structure News

Three New Exchanges to Launch by the End of September

The **Members Exchange (MEMX)**, a new venue backed by many Wall Street firms, plans to launch trading in six stocks on September 21, with a full roll-out for all NMS symbols on September 29.

<https://memx.com/testing-onboarding-and-timelines/>

The **Long-Term Stock Exchange (LTSE)**, a Silicon Valley-backed exchange which aims to promote long-term practices through enforcing a series of policies on its listed companies, launched on September 9 across all NMS symbols.

<https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/silicon-valley-backed-stock-exchange-set-to-launch-trading-59981003>

Miami International Holding's **MIAX PEARL Equities** exchange plans to start trading on September 25.

<https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/miax-to-launch-16th-us-stock-exchange-following-sec-approval-59984254>

This will bring the total number of exchanges in the US to 16.

The SEC Approves IEX's Proposal to Add New Discretionary Limit Order Type (D-Limit)

The D-Limit order would allow traders to submit limit orders that utilizes the crumbling quote logic for protection against potential adverse selection. Virtu submitted a letter in support of the proposal in January.

<https://www.sec.gov/rules/sro/iex/2020/34-89686.pdf>

<https://www.sec.gov/comments/sr-iex-2019-15/sriex201915-6670178-203870.pdf>

SEC Adopts New Requirements for Changes to Data Fees Charged by Exchanges

According to the new rule, the exchanges will have to seek public comment and SEC approval to change the price of basic market data fees. This new rule does not apply to the fees related to exchanges' proprietary data feeds.

<https://www.bloomberg.com/news/articles/2020-08-19/stock-exchanges-dealt-blow-as-sec-curbs-power-to-raise-some-fees?sref=GrQuSk5T>



Market Structure News (Continued)

Exchanges Plan to Roll-Out IPO Alternative

The SEC approved NYSE's proposal to enable companies to raise capital through a direct listing. Direct listings provide companies with a less expensive alternative to the traditional IPO process to raise capital. Nasdaq also filed a similar direct listing proposal with the SEC in August.

<https://www.wsj.com/articles/nyses-plan-for-new-ipo-alternative-wins-green-light-from-sec-11598479804>

<https://www.reuters.com/article/us-nasdaq-direct-listing-exclusive/exclusive-nasdaq-files-with-sec-for-ipo-alternative-to-raise-funds-idUSKBN25L1BC>

SEC Addresses Privacy Concerns Related to the Consolidated Audit Trail

The SEC proposed to remove certain data requirements from the Consolidate Audit Trail (CAT) for individual investors, including social security numbers and dates of birth. Privacy advocates have argued that storing this information in one central location could expose many to an increased risk of identity theft.

<https://www.wsj.com/articles/sec-boosting-privacy-for-big-market-surveillance-database-11598041941?reflink=e2twmkt5>

The China Securities Regulatory Commission (CSRC) Submits New Proposal on US Audits

The CSRC sent a proposal in favor of co-auditing Chinese firms in response to US regulators' move to tighten rules for stock listings from China that could trigger delisting.

https://www.bloomberg.com/news/articles/2020-08-08/china-securities-regulator-sends-new-proposal-on-u-s-audits?cmpid=socialflow-twitter-business&utm_campaign=socialflow-organic&utm_source=twitter&utm_content=business&utm_medium=social&sref=GrQuSk5T

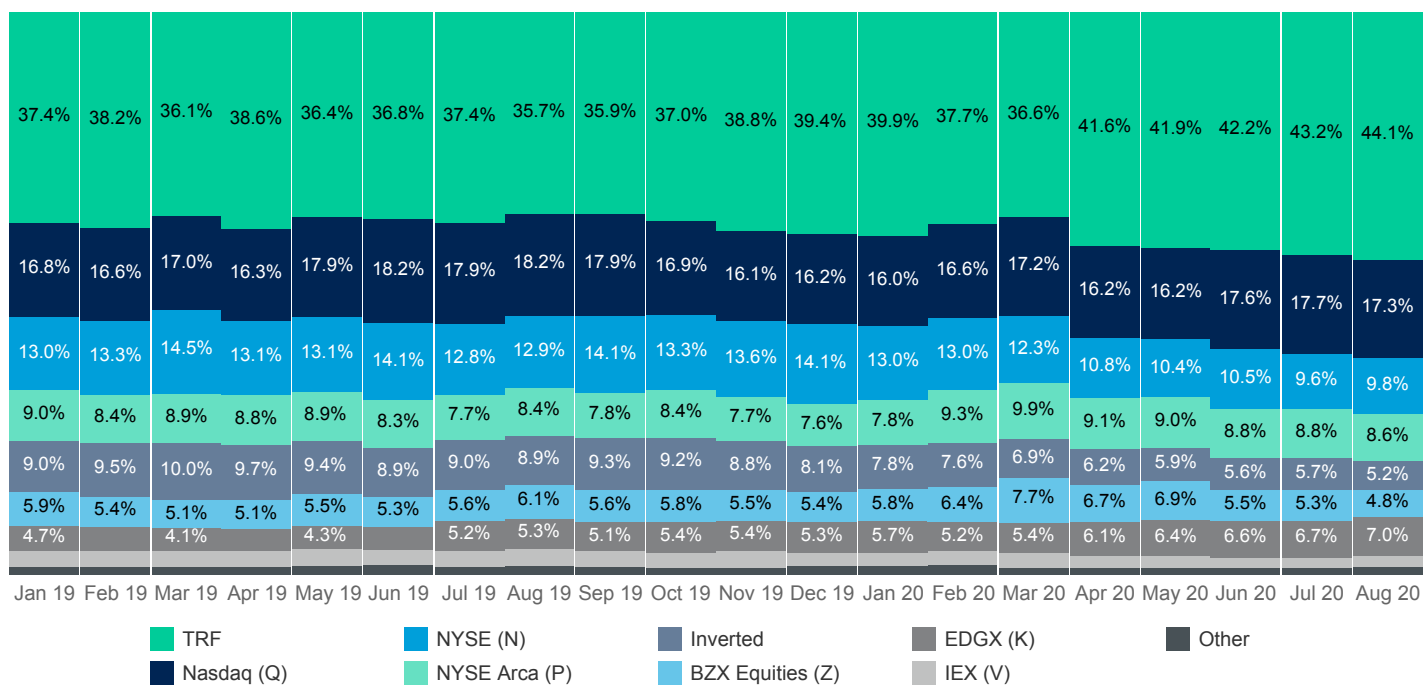


Average Daily Market Volume



Source data: Cboe Global Markets

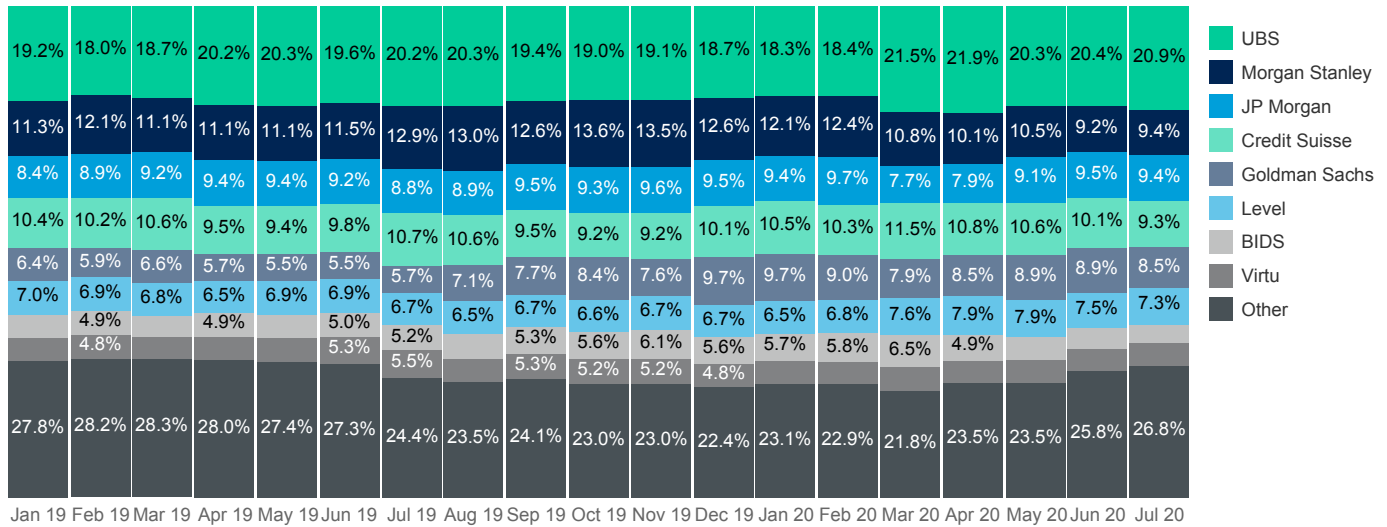
Venue Market Share



Source data: Cboe Global Markets

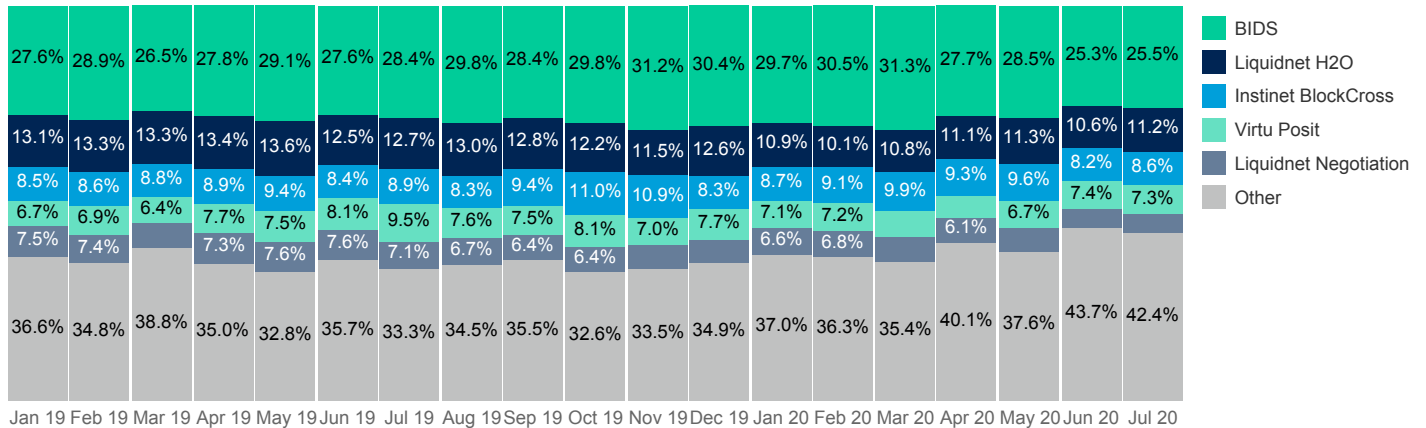


ATS Market Share



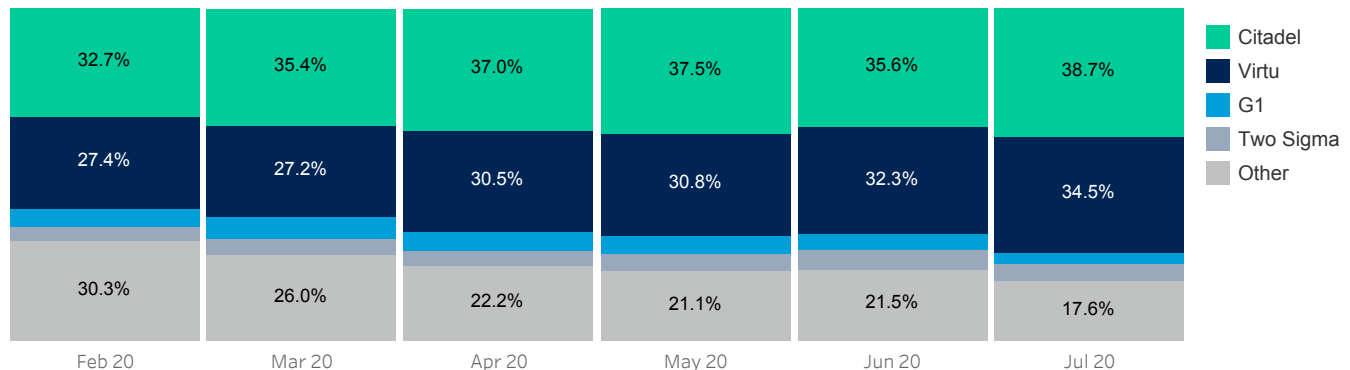
Excludes Dealerweb, OTC; Venues rolled up to firm level; Source data: FINRA

ATS Block Volume Market Share



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

OTC Non-ATS Market Share



Source: FINRA, NMS Tier 1 & 2 Securities



Quotesize in Shares

| | 3Q 19 | | 4Q 19 | | | 1Q 20 | | | 2Q 20 | | | 3Q 20 | |
|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | Aug 19 | Sep 19 | Oct 19 | Nov 19 | Dec 19 | Jan 20 | Feb 20 | Mar 20 | Apr 20 | May 20 | Jun 20 | Jul 20 | Aug 20 |
| First 30 Min SP500 | 174 | 173 | 175 | 178 | 178 | 176 | 185 | 185 | 184 | 196 | 200 | 207 | 205 |
| RUS2000 | 200 | 192 | 200 | 200 | 195 | 193 | 204 | 200 | 194 | 200 | 206 | 209 | 207 |
| Mid Day SP500 | 201 | 202 | 201 | 210 | 212 | 199 | 194 | 174 | 177 | 197 | 204 | 212 | 220 |
| RUS2000 | 227 | 219 | 219 | 224 | 219 | 210 | 216 | 200 | 198 | 209 | 218 | 227 | 235 |
| Last 30 Min SP500 | 266 | 296 | 277 | 302 | 290 | 254 | 240 | 193 | 200 | 229 | 229 | 242 | 264 |
| RUS2000 | 281 | 272 | 268 | 279 | 266 | 250 | 264 | 233 | 228 | 239 | 243 | 264 | 283 |

Spread Bps

| | | | | | | | | | | | | | |
|--------------------|------|------|------|------|------|------|------|-------|------|------|------|------|------|
| First 30 Min SP500 | 9.5 | 8.6 | 8.9 | 8.2 | 7.5 | 7.7 | 9.8 | 28.1 | 19.4 | 11.8 | 11.0 | 10.4 | 9.6 |
| RUS2000 | 48.3 | 45.7 | 44.3 | 41.0 | 36.4 | 36.3 | 43.7 | 108.1 | 87.0 | 65.2 | 56.7 | 50.6 | 41.8 |
| Mid Day SP500 | 4.1 | 3.7 | 3.7 | 3.2 | 3.1 | 3.4 | 4.1 | 13.1 | 8.4 | 5.7 | 5.3 | 4.8 | 4.2 |
| RUS2000 | 17.3 | 17.2 | 16.5 | 15.3 | 14.0 | 14.5 | 16.4 | 42.5 | 34.8 | 25.0 | 23.3 | 20.2 | 17.1 |
| Last 30 Min SP500 | 2.6 | 2.2 | 2.4 | 2.1 | 2.1 | 2.3 | 2.5 | 9.7 | 5.8 | 4.2 | 3.8 | 3.3 | 3.0 |
| RUS2000 | 12.5 | 12.0 | 11.7 | 11.1 | 10.8 | 10.9 | 11.2 | 33.2 | 25.1 | 19.3 | 18.2 | 15.4 | 13.5 |

One Minute Volatility Bps

| | | | | | | | | | | | | | |
|--------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| First 30 Min SP500 | 15.7 | 13.3 | 12.5 | 11.6 | 10.6 | 11.2 | 14.6 | 53.4 | 32.8 | 24.5 | 23.3 | 19.5 | 16.0 |
| RUS2000 | 17.5 | 16.6 | 15.2 | 16.1 | 14.8 | 15.4 | 16.9 | 45.1 | 40.8 | 33.2 | 31.3 | 25.3 | 23.7 |
| Mid Day SP500 | 6.0 | 4.8 | 4.6 | 3.9 | 3.4 | 4.3 | 5.6 | 27.7 | 14.4 | 9.6 | 9.7 | 7.6 | 5.9 |
| RUS2000 | 5.2 | 5.3 | 4.8 | 4.2 | 3.8 | 4.7 | 5.7 | 21.8 | 16.4 | 11.9 | 11.5 | 9.1 | 7.0 |
| Last 30 Min SP500 | 6.7 | 4.7 | 5.1 | 4.1 | 4.0 | 5.1 | 6.1 | 36.1 | 17.0 | 11.5 | 11.5 | 8.9 | 6.9 |
| RUS2000 | 5.8 | 5.0 | 5.1 | 4.3 | 4.4 | 5.3 | 5.8 | 28.0 | 20.1 | 15.0 | 14.8 | 10.2 | 7.7 |

Percent ADV by Time of Day

| | | | | | | | | | | | | | |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Open SP500 | 1.0% | 0.9% | 1.0% | 1.0% | 1.1% | 1.1% | 1.1% | 1.0% | 1.1% | 1.0% | 1.1% | 1.0% | 1.1% |
| RUS2000 | 0.8% | 0.8% | 0.8% | 0.8% | 0.8% | 0.9% | 0.9% | 0.8% | 0.8% | 0.9% | 0.9% | 0.8% | 0.9% |
| First 30 Min SP500 | 8.0% | 8.0% | 7.6% | 8.0% | 7.7% | 7.9% | 8.6% | 8.2% | 8.7% | 9.4% | 9.1% | 9.6% | 9.9% |
| RUS2000 | 6.9% | 6.8% | 6.6% | 7.2% | 7.1% | 7.3% | 7.2% | 6.3% | 7.0% | 7.9% | 7.3% | 7.6% | 8.2% |
| Last 30 Min SP500 | 18.4% | 18.3% | 18.7% | 18.8% | 18.4% | 18.0% | 17.9% | 18.3% | 17.7% | 17.7% | 17.9% | 18.3% | 18.7% |
| RUS2000 | 19.4% | 18.9% | 19.5% | 19.5% | 19.3% | 18.8% | 18.6% | 19.9% | 18.9% | 18.7% | 18.5% | 20.0% | 19.8% |
| Close SP500 | 11.4% | 11.6% | 10.4% | 11.4% | 13.5% | 13.8% | 12.0% | 9.9% | 9.8% | 9.0% | 10.3% | 9.9% | 10.5% |
| RUS2000 | 8.8% | 9.0% | 8.0% | 7.8% | 10.0% | 9.4% | 8.1% | 9.0% | 8.9% | 8.3% | 8.9% | 9.4% | 7.9% |

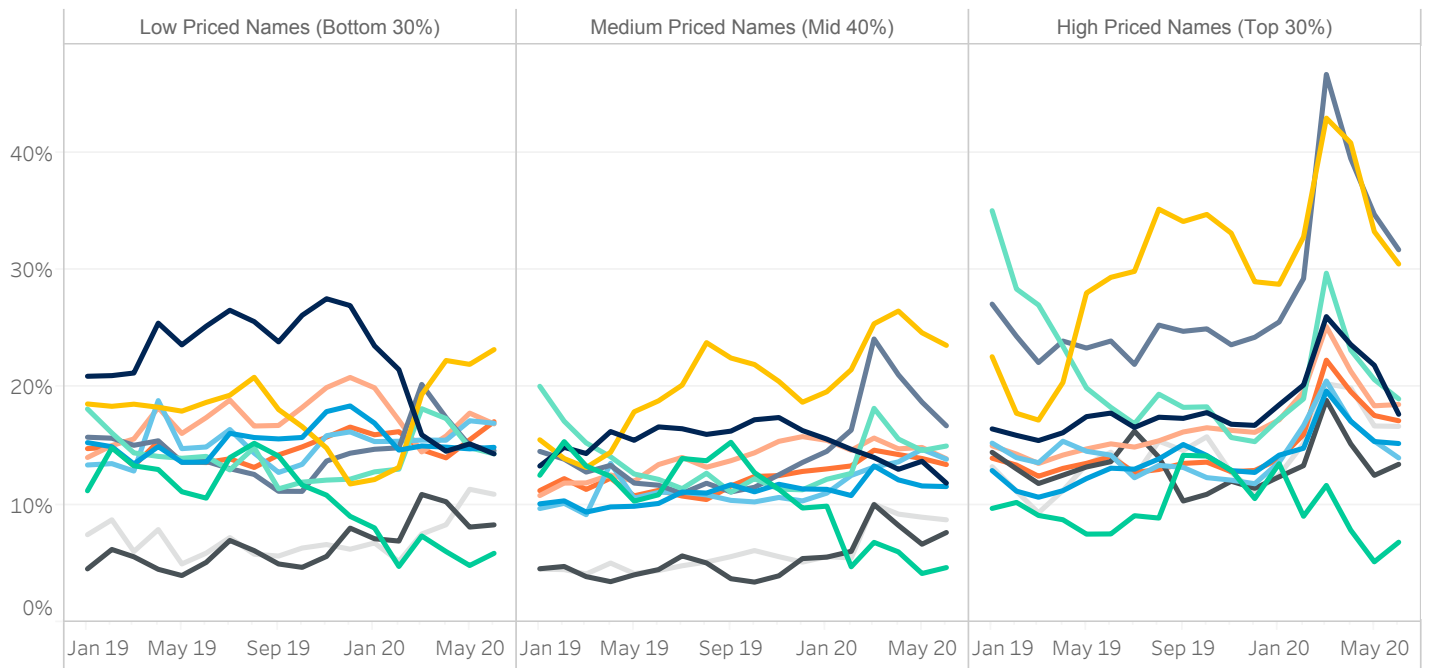
Median used for all metrics

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

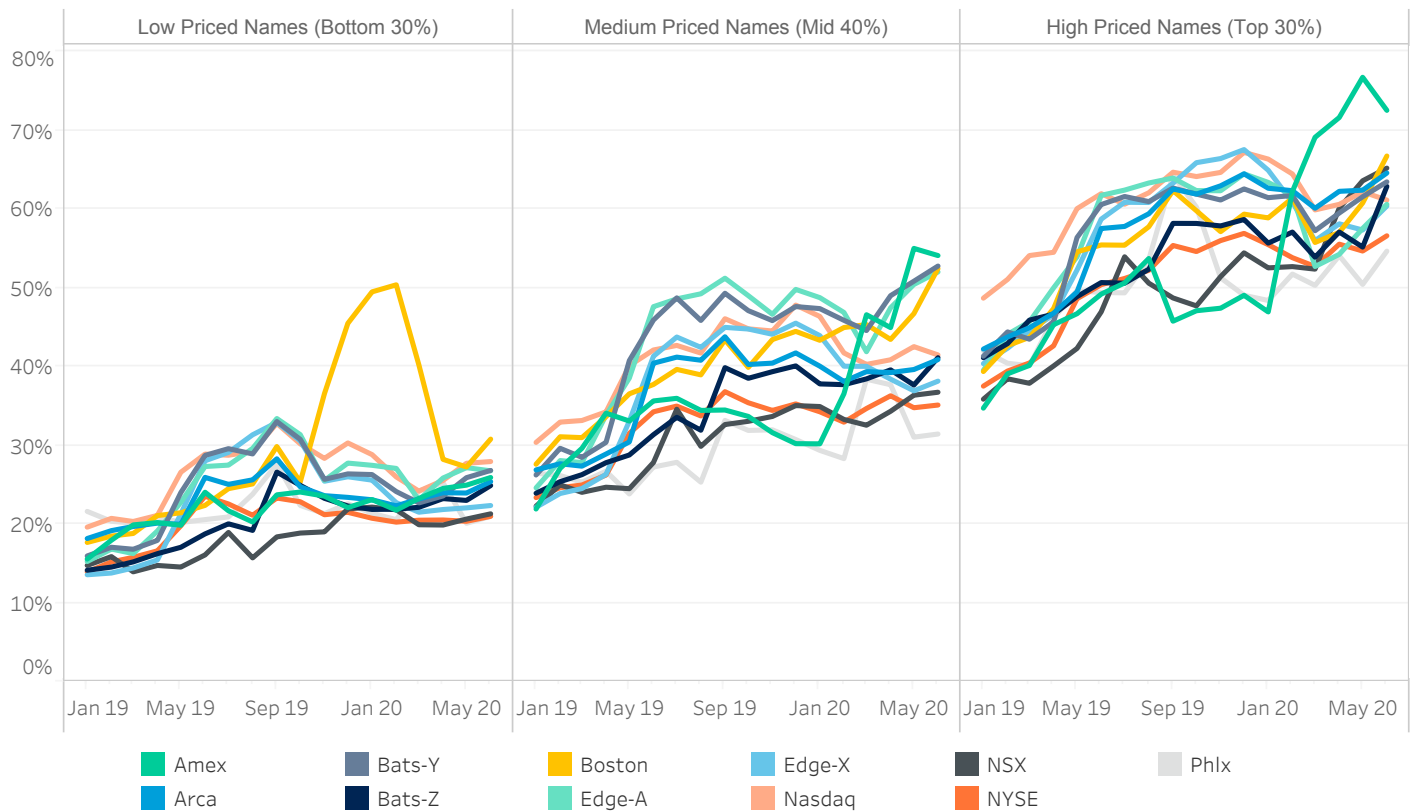
Source data: Virtu Financial



Hidden Trades Proportion by Price and Venue



Oddlot Trades Proportion by Price and Venue





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