

November 2022

US Market Structure Monthly



US Market Microstructure Observations

- The average daily volume in US equities was 11.2B shares in November 2022, down 3% month over month (MoM) and up 1% year over year (YoY).
- Trade reporting facility (TRF) market share increased 1.0% MoM to 43.1% in November 2022.
- Spreads in S&P 500 and Russell 2000 stocks increased slightly in November 2022 compared to the prior month. Excluding the first and last half hour of the day, the median S&P 500 stock's spread increased to 5.5bps in November, from 5.4bps in October 2022, while for the Russell 2000 universe, the median stock's spread increased to 21.2bps in November 2022, from 19.9bps the prior month.

Market Structure News

SEC Proposes a Series of Equity Market Structure Rules

The SEC proposed five equity market structure rules during its open meeting on December 14th. The five rule proposals include:

1. Order Competition Rule – A new rule that would require certain equity orders from retail investors to be exposed to competition via open auctions run by exchanges prior to being executed internally by other trading centers
2. Minimum Pricing Increments, Access Fees, and Transparency of Better Priced Orders – Amendments to current rules that would mandate variable minimum pricing increments for the quoting and trading of NMS stocks, reduced access fees, and enhanced transparency of better priced orders
3. Disclosure of Order Execution Information – Amendments to current Rule 605 that would expand the scope of entities subject to Rule 605, modify the information required to be reported under 605, and change how orders are categorized
4. Regulation Best Execution – A new rule that would establish best execution standards and require detailed policies and procedures for brokers, dealers, government securities brokers and dealers, and municipal securities dealers
5. Insider Trading Arrangements and Related Disclosures – Amendments to current Rule 10b5-1 requiring new disclosures regarding trading arrangements and insider trading policies and procedures, as well as amendments regarding the disclosure of the timing of certain equity compensation awards

The comment period for these proposals ends on the later of March 31, 2023, or 60 days after the publication of the proposals to the Federal Register. Virtu looks forward to providing its comments on the proposed rules.

<https://www.sec.gov/news/press-release/2022-225>

<https://www.sec.gov/news/press-release/2022-224>

<https://www.sec.gov/news/press-release/2022-223>

<https://www.sec.gov/news/press-release/2022-226>

<https://www.sec.gov/news/press-release/2022-222>

Virtu Announces Lawsuit Against the SEC on Freedom of Information Act Request

Virtu Financial announced that it is commencing a Freedom of Information Act (FOIA) lawsuit to compel the Securities and Exchange Commission (SEC) to comply with its obligations to provide information about its rulemaking process and the interactions of Chair Gary Gensler with interested parties. The lawsuit stems from a June 2022 FOIA request from Virtu to determine whether the SEC's rulemaking process included the legally required evaluation of potential investor harm and market risks, whether the SEC has solicited input from sufficiently broad sources and whether it had considered objective data including the assessment of potential investor harm and market risks before the Chair instructed the SEC staff to prepare new rule proposals for retail stock order handling and execution. The SEC has not responded with any documentation to meet this request over the past six months, raising concerns around the lack of transparency on how the SEC is designing its rule proposals.

<https://ir.virtu.com/press-releases/press-release-details/2022/Virtu-Financial-Announces-Commencement-of-Lawsuit-Against-the-Securities-and-Exchange-Commission-to-Compel-Compliance-with-Freedom-of-Information-Act-Request/default.aspx>



FINRA Releases Regulatory Notice on Unusual Price Activity in Small Cap IPOs

FINRA issued a regulatory notice in November alerting its members to a heightened risk of 'pump-and-dump' schemes tied to initial public offerings (IPOs) of certain small cap stocks on U.S. exchanges. The notice highlighted that many of the schemes begin with the perpetrators establishing relationships with potential victims via social media platforms, and then recommending the victims place orders in certain securities. Additionally, the notice highlighted that many of the issuers have operations based in China.

<https://www.finra.org/rules-guidance/notices/22-25>

<https://www.wsj.com/articles/finra-warns-of-pump-and-dump-frauds-on-u-s-exchanges-11668727116>

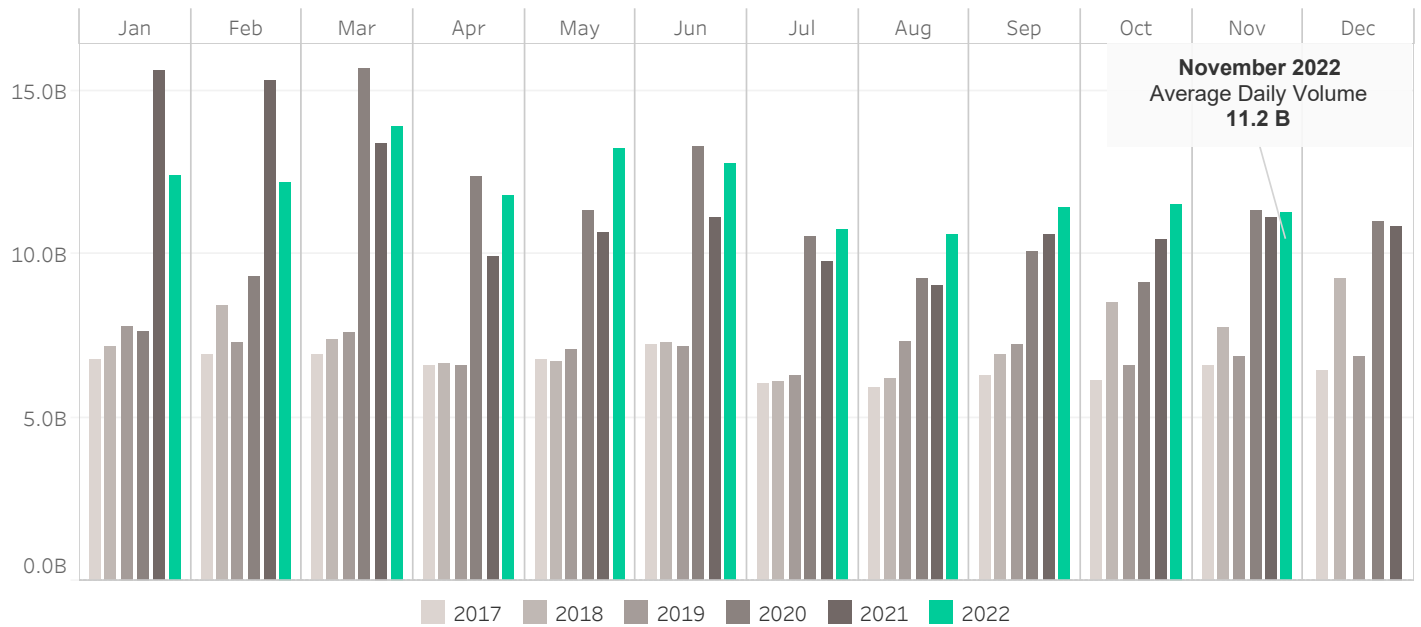
CFTC Chair Pushes Senate Members for More Crypto Oversight

Commodity Futures Trading Commission (CFTC) Chair Rostin Behman spoke to members of the U.S. Senate about increased oversight of the cryptocurrency market in light of the recent collapse of crypto exchange FTX. Chair Behman urged the Senate members to pass legislation that would impose stricter rules on crypto exchanges, including rules to limit conflicts of interest. The Chair also advocated for the CFTC to have oversight of cryptocurrency exchanges.

<https://www.wsj.com/articles/ftx-collapse-draws-senate-hearing-scrutiny-as-crypto-oversight-in-focus>

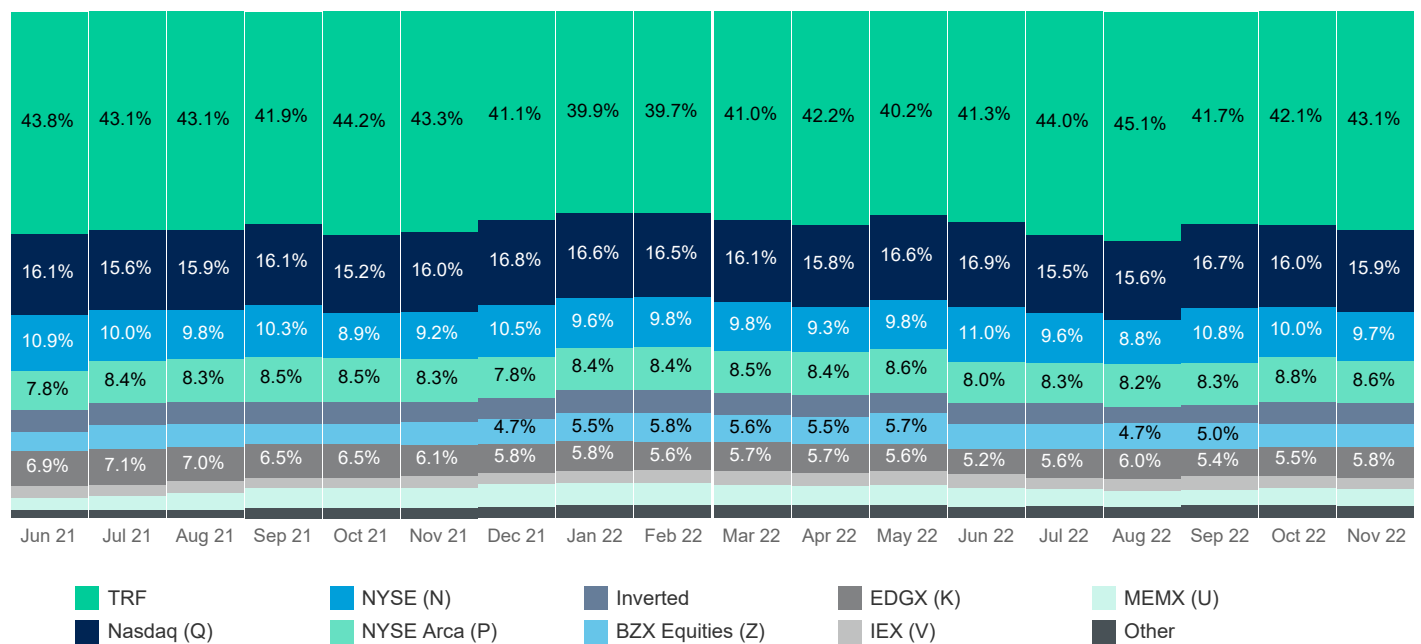


Average Daily Market Volume



Source data: Cboe Global Markets

Venue Market Share

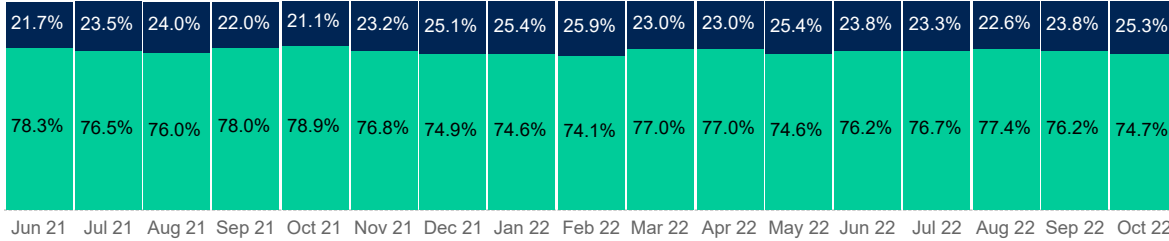


Source data: Cboe Global Markets



TRF Volume Breakdown

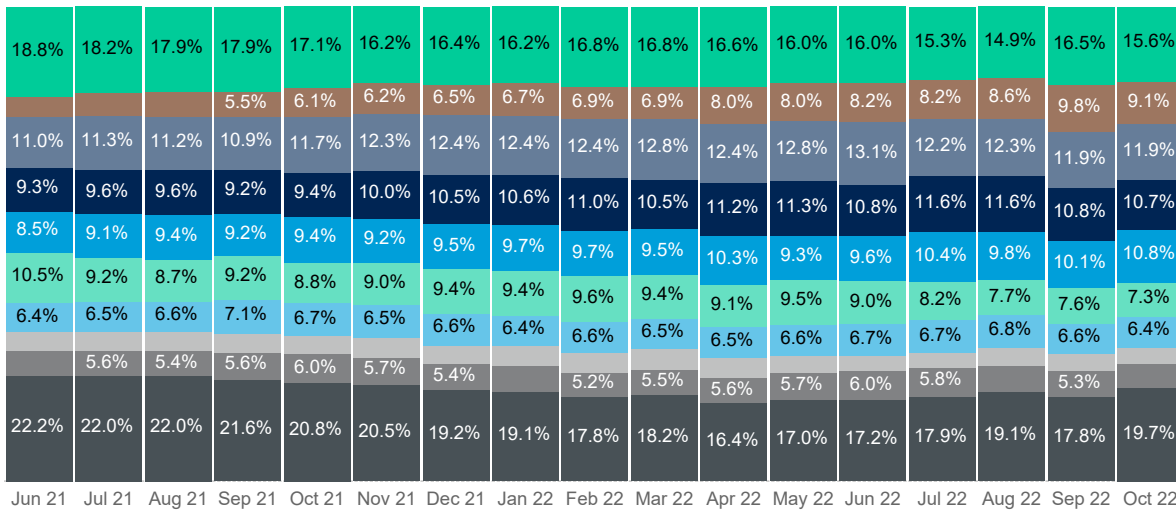
■ ATS
■ OTC Non ATS



Tier1 and Tier2 only; Excludes Dealerweb, Source data: FINRA

ATS Market Share

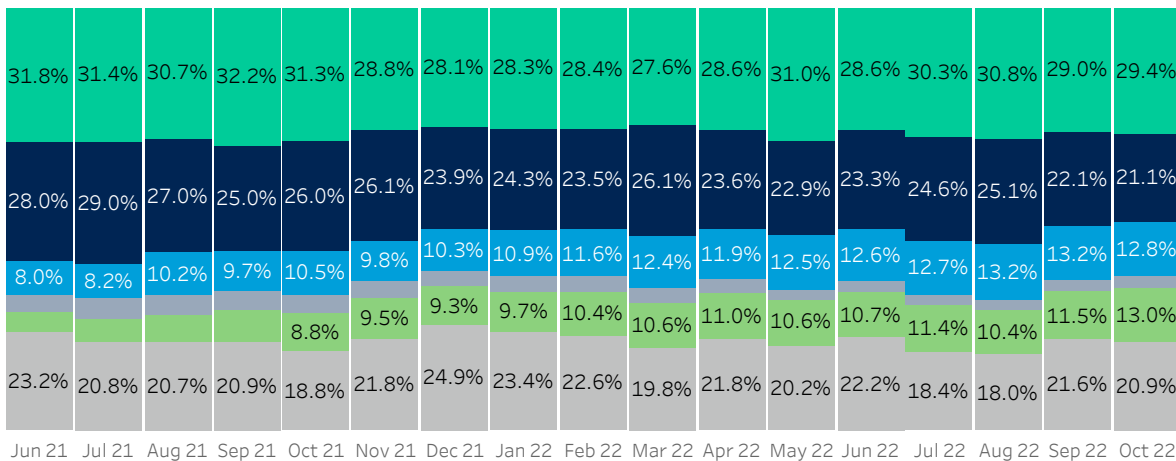
■ UBS
■ Intelligent Cross
■ Goldman Sachs
■ Morgan Stanley
■ JP Morgan
■ Credit Suisse
■ Level
■ BIDS
■ Virtu
■ Other



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

OTC Non-ATS Market Share

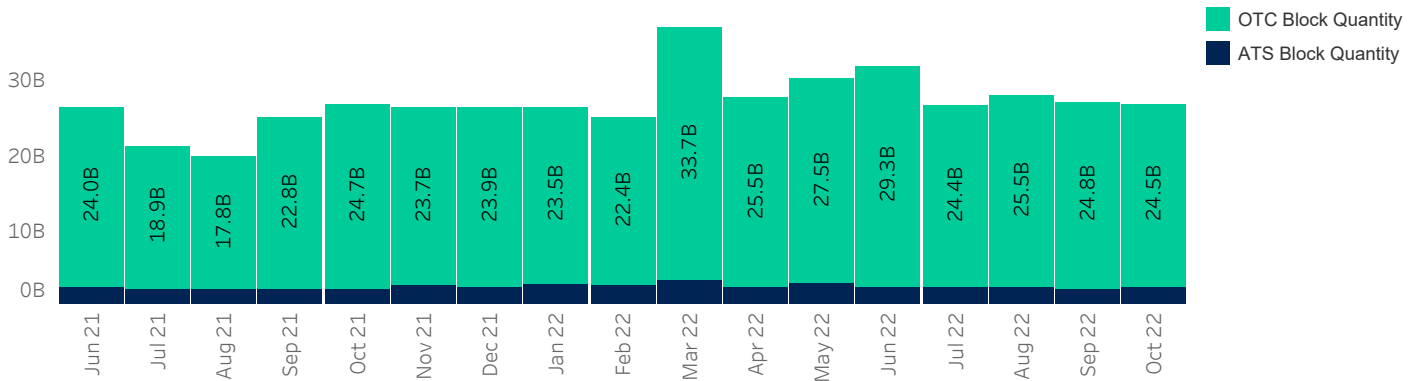
■ Citadel
■ Virtu
■ G1
■ Two Sigma
■ Jane Street
■ Other



Source: FINRA, NMS Tier 1 & 2 Securities

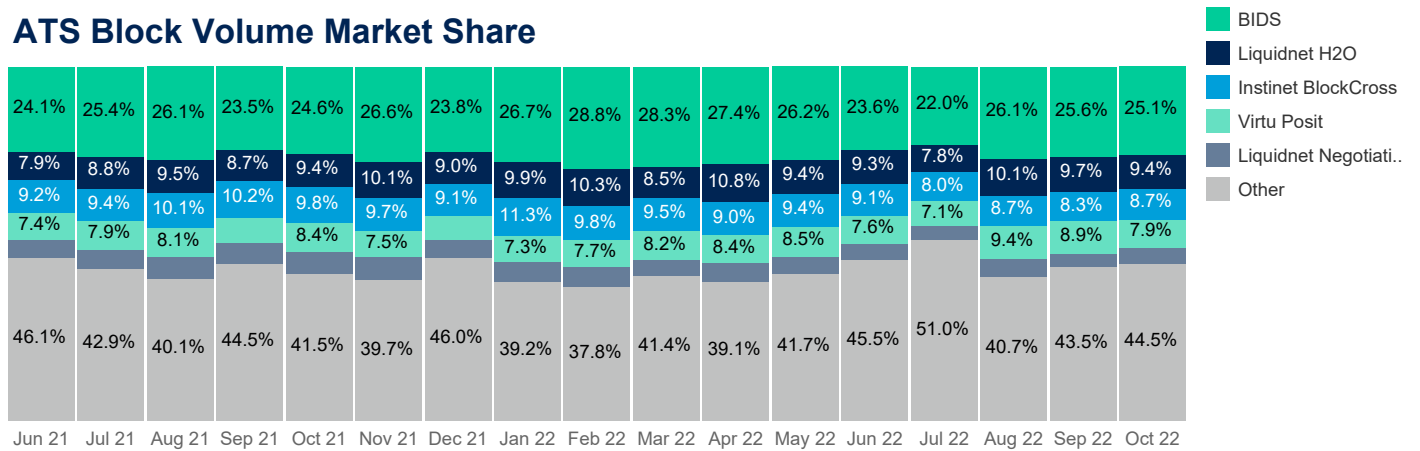


TRF Block Volume Breakdown (Shares)



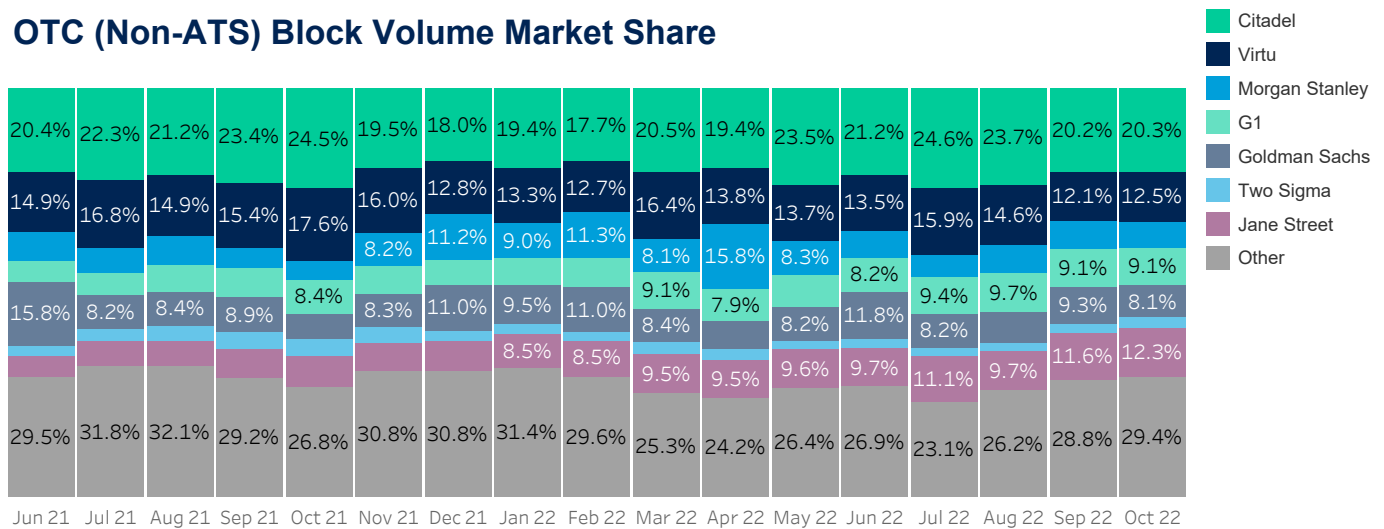
Source: FINRA

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 21		1Q 22			2Q 22			3Q 22			4Q 22	
		Nov 21	Dec 21	Jan 22	Feb 22	Mar 22	Apr 22	May 22	Jun 22	Jul 22	Aug 22	Sep 22	Oct 22	Nov 22
First 30 Min	SP500	172	187	184	187	186	180	196	195	188	185	183	187	186
	RUS2000	201	220	224	225	230	236	250	243	232	228	225	232	226
Mid Day	SP500	183	192	188	193	185	176	186	190	181	179	184	189	192
	RUS2000	209	219	225	230	234	232	234	246	237	234	235	245	248
Last 30 Min	SP500	213	208	200	199	195	190	190	198	197	201	201	212	210
	RUS2000	238	242	244	246	254	255	259	276	267	265	263	274	279

Spread Bps

First 30 Min	SP500	12.3	13.9	14.2	13.6	13.9	13.4	15.1	13.5	13.2	11.8	10.7	12.5	12.9
	RUS2000	50.2	58.4	57.4	56.9	53.8	51.3	57.0	50.4	48.1	45.3	43.2	49.2	51.1
Mid Day	SP500	4.7	5.6	5.7	5.9	6.1	5.5	6.5	5.7	5.2	4.7	4.9	5.4	5.5
	RUS2000	21.0	24.2	24.9	25.0	23.2	22.5	25.0	21.6	20.4	19.1	18.7	19.9	21.2
Last 30 Min	SP500	3.1	3.7	3.8	4.1	3.9	3.6	3.9	3.5	3.2	2.9	3.2	3.4	3.2
	RUS2000	15.6	18.0	18.6	19.1	17.1	16.6	18.1	16.2	15.4	14.1	14.1	14.7	15.5

One Minute Volatility Bps

First 30 Min	SP500	15.9	17.3	20.0	19.6	20.0	20.2	24.0	21.4	20.7	15.6	17.5	20.4	17.7
	RUS2000	18.9	22.2	23.2	23.6	22.6	21.7	26.9	24.1	26.6	21.0	20.8	23.1	21.4
Mid Day	SP500	5.0	6.1	7.6	8.1	8.4	8.2	9.9	8.3	7.5	6.2	8.6	8.1	6.8
	RUS2000	5.2	5.9	7.1	7.7	7.1	6.8	9.0	6.8	6.1	5.5	7.4	6.7	5.4
Last 30 Min	SP500	5.5	7.2	9.0	10.1	9.0	9.1	10.8	9.0	7.9	6.2	9.3	8.8	7.1
	RUS2000	7.3	9.1	10.0	10.8	8.6	8.8	9.8	8.1	6.9	6.2	8.9	7.2	6.8

Percent ADV by Time of Day

Open	SP500	1.1%	1.0%	1.0%	1.0%	0.9%	1.1%	1.0%	1.0%	1.1%	1.0%	0.9%	0.9%	0.9%
	RUS2000	0.9%	0.8%	0.7%	0.8%	0.8%	0.7%	0.7%	0.7%	0.7%	0.8%	0.7%	0.7%	0.7%
First 30 Min	SP500	9.7%	9.2%	9.2%	9.3%	9.1%	9.3%	9.3%	9.4%	9.8%	9.6%	9.0%	9.0%	9.2%
	RUS2000	8.5%	8.2%	7.5%	8.1%	8.0%	7.6%	8.2%	7.6%	8.1%	8.2%	7.4%	7.6%	7.5%
Last 30 Min	SP500	18.3%	18.4%	18.7%	19.1%	19.0%	19.0%	18.6%	19.2%	18.6%	18.8%	18.7%	18.8%	18.7%
	RUS2000	19.4%	19.8%	20.3%	21.0%	20.1%	19.6%	19.7%	19.8%	20.3%	20.4%	20.1%	20.0%	21.0%
Close	SP500	11.5%	13.9%	11.5%	11.1%	12.6%	11.8%	10.9%	13.1%	12.5%	11.9%	12.3%	11.9%	11.6%
	RUS2000	8.8%	10.7%	8.9%	9.7%	10.2%	10.6%	9.1%	10.8%	11.8%	10.4%	11.4%	11.6%	10.4%

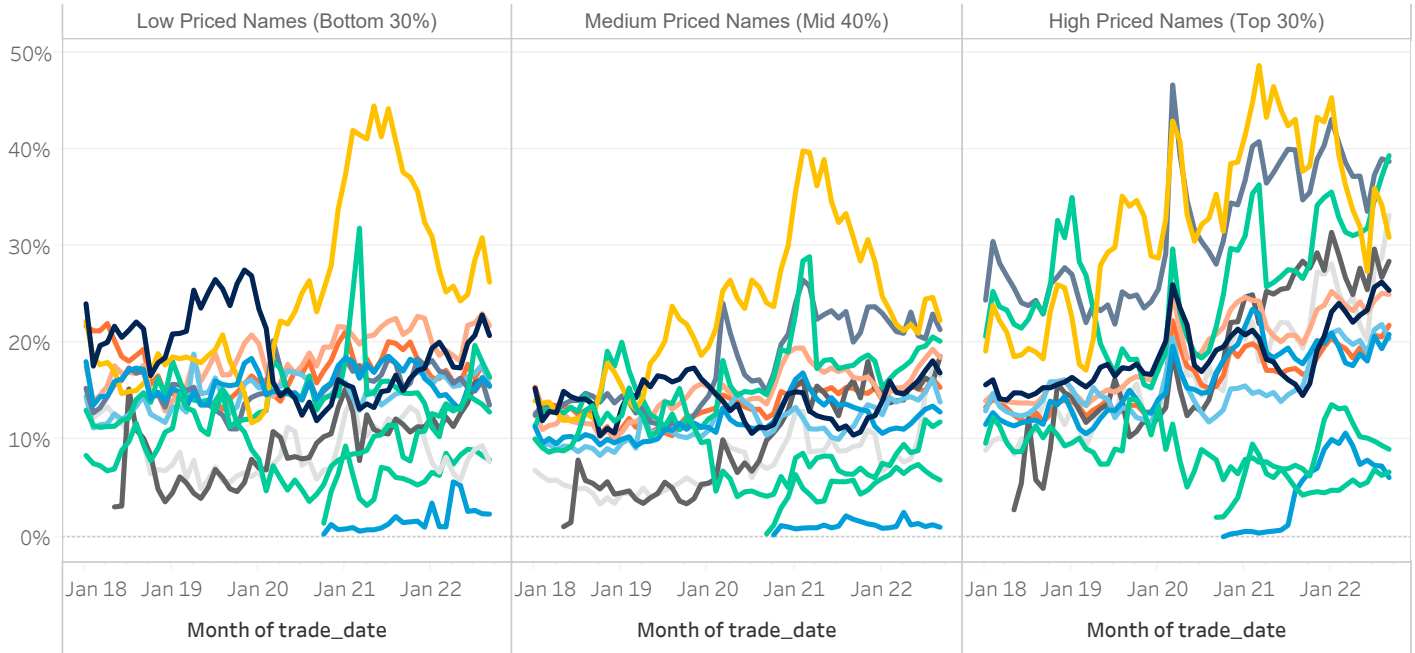
Median used for all metrics

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

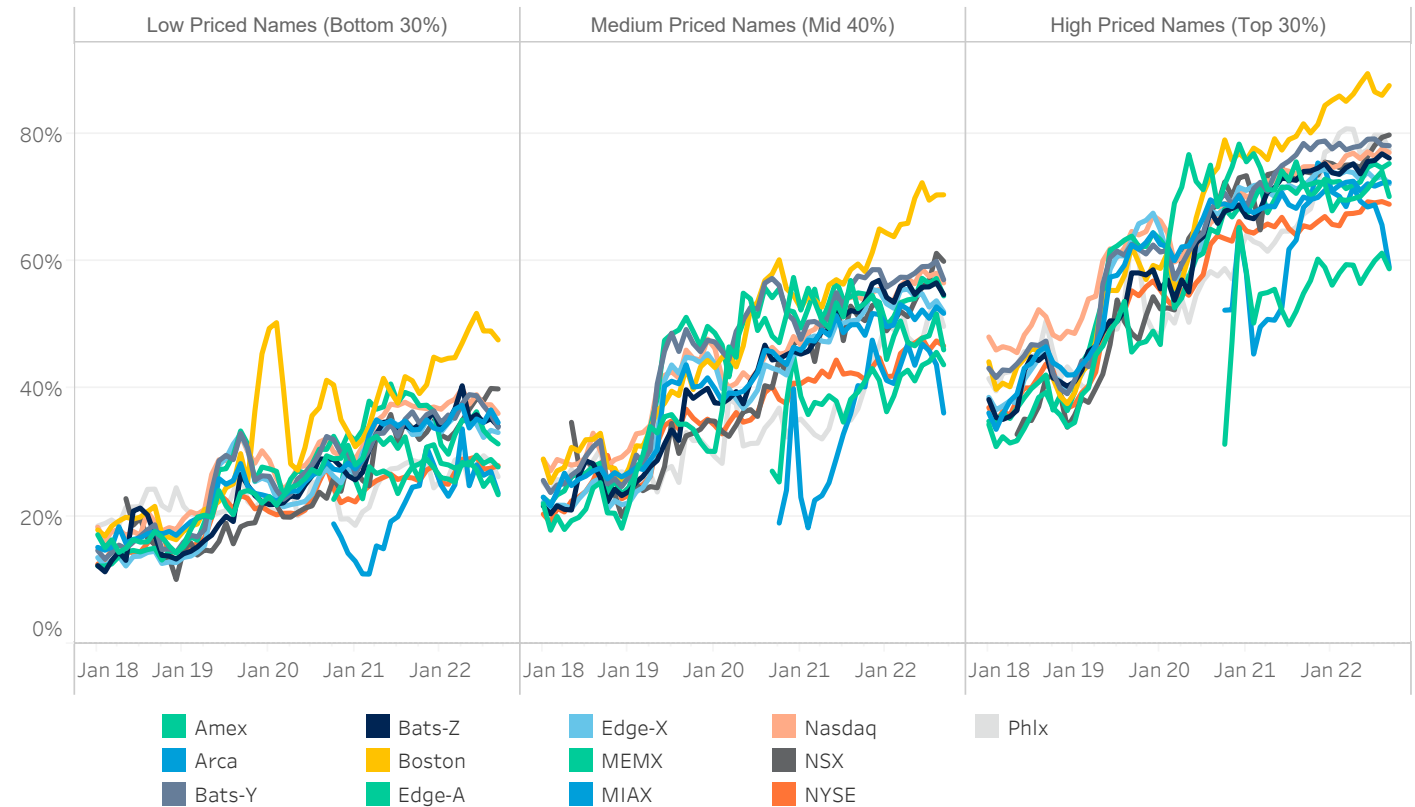
Source data: Virtu Financial



Hidden Trades Proportion by Price and Venue



Oddlot Trades Proportion by Price and Venue



Source data: SEC



ABOUT VIRTU

Virtu is a leading financial services firm that leverages cutting-edge technology to provide execution services and data, analytics and connectivity products to its clients and deliver liquidity to the global markets. Leveraging its global market making expertise and infrastructure, Virtu provides a robust product suite including offerings in execution, liquidity sourcing, analytics and broker-neutral, multi-dealer platforms in workflow technology. Virtu's product offerings allow clients to trade on hundreds of venues across 50+ countries and in multiple asset classes, including global equities, ETFs, foreign exchange, futures, fixed income and myriad other commodities. In addition, Virtu's integrated, multi-asset analytics platform provides a range of pre and post-trade services, data products and compliance tools that clients rely upon to invest, trade and manage risk across global markets.

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