

October 2024

US Market Structure Monthly

MICROSTRUCTURE OBSERVATIONS

- The average daily volume in US equities was 11.7B shares in October 2024, down 2% month over month (MoM) and up 11% year over year (YoY).
 - Volume in sub \$1 dollar stocks as a percent of total consolidated share volume was 13% in October 2024, up 2% from September 2024 and up 2% from October 2023.
- Trade reporting facility (TRF) share volume as a percent of total consolidated share volume was 48.8% in October 2024 – the first time in 2024 that the monthly TRF volume exceeded 48% of the total consolidated volume.
- Quoted spreads in both S&P 500 and Russell 2000 stocks narrowed in October 2024 compared to the levels observed in September 2024. Excluding the first and last half hour of the trading day, the median S&P 500 stock's spread narrowed to 5.2bps in October, from 5.7bps the prior month, while the median Russell 2000 stock's spread narrowed to 19.5bps in October from 21.2bps the prior month.

US MARKET STRUCTURE NEWS

Nasdaq and CBOE Challenge SEC Amendments to Reg NMS

Nasdaq and CBOE Global Markets filed a petition with a U.S. appeals court in Washington to review the Securities and Exchange Commission's (SEC) recent adoption of Regulation NMS: Minimum Pricing Increments, Access Fees, and Transparency of Better Priced Orders. There is no timetable on when the Court will come to a decision. Notably, the New York Stock Exchange is not part of the petition filed by Nasdaq and CBOE.

<https://finance.yahoo.com/news/nasdaq-cboe-challenge-sec-over-180343336.html>

NYSE Arca to Extend Trading Hours

NYSE Arca announced plans to extend trading to 22 hours a day on weekdays. The extended trade day will open at 1:30am and last until 11:30pm Eastern Time. NYSE Arca plans to launch its 22-hour trading session in 2025, subject to approval from the SEC. NYSE Arca also seeks regulatory approval for extended operating hours for the U.S. Securities Information Processors (SIP). In a statement, NYSE highlighted increased demand from non-U.S. based investors to trade U.S. equities as a reason for extending NYSE Arca's trading hours.

<https://www.businesswire.com/news/home/20241025235193/en/The-New-York-Stock-Exchange-Plans-to-Extend-Weekday-Trading-on-its-NYSE-Arca-Equities-Exchange-to-22-Hours-a-Day>

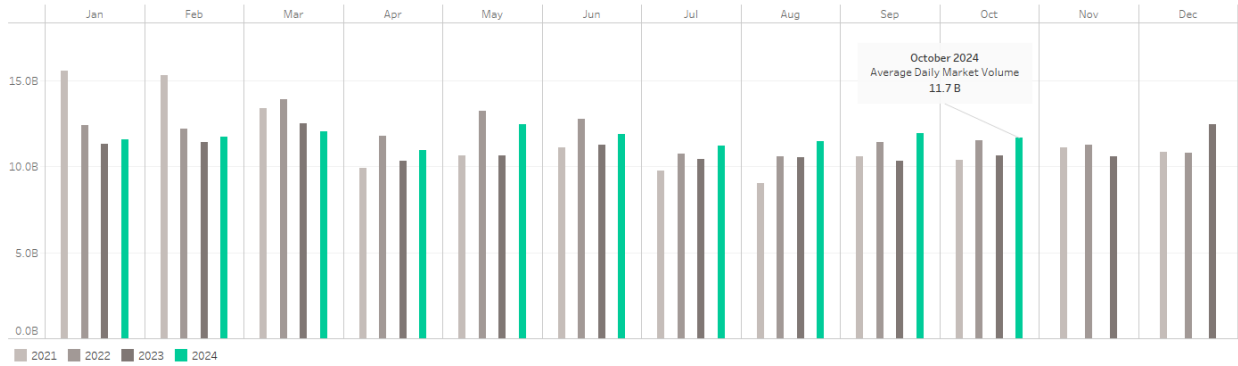
SEC to Increase Oversight of Artificial Intelligence Usage

In a report published by the SEC's Division of Examinations, the Commission will increase its focus on financial firms' usage of artificial intelligence (AI) tools next year. This will include ensuring statements made by investment advisors, broker dealers, and clearing agencies regarding AI comply with agency rules, as well as financial firms' surveillance of AI tools used for trading, fraud prevention, and anti-money laundering.

<https://finance.yahoo.com/news/sec-increase-scrutiny-ai-tools-200106871.html>

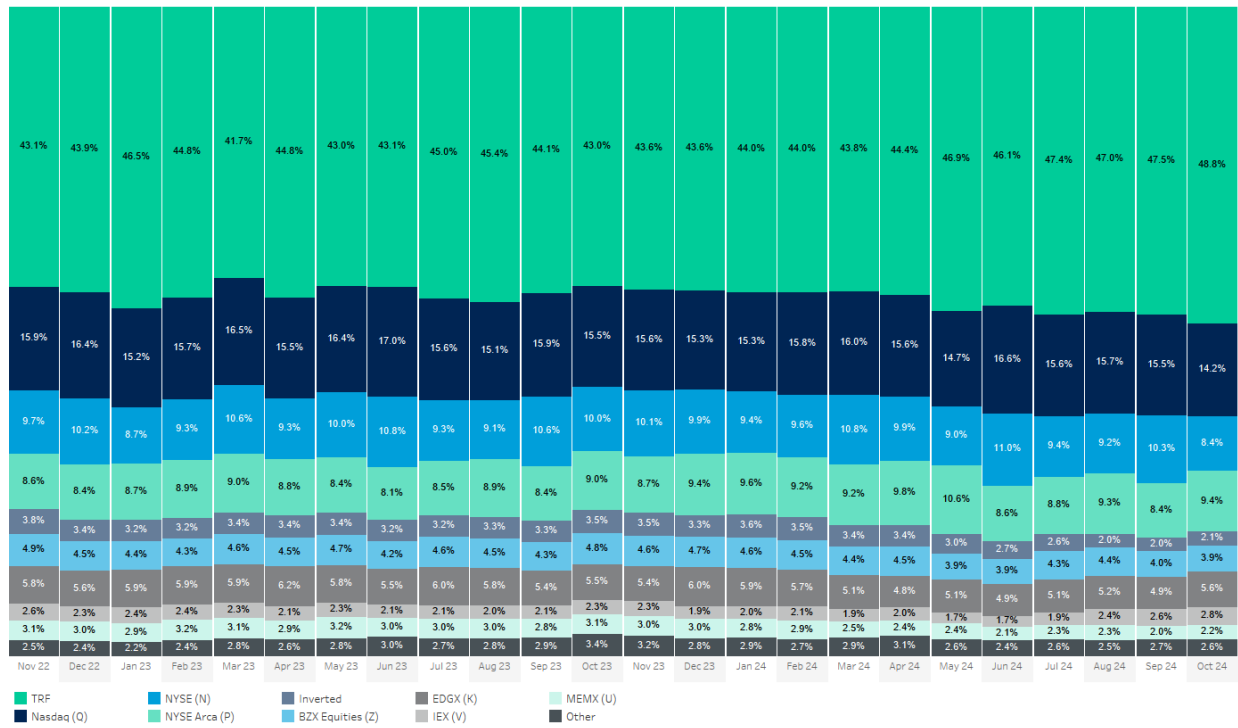
<https://www.sec.gov/newsroom/press-releases/2024-172>

Average Daily Market Volume



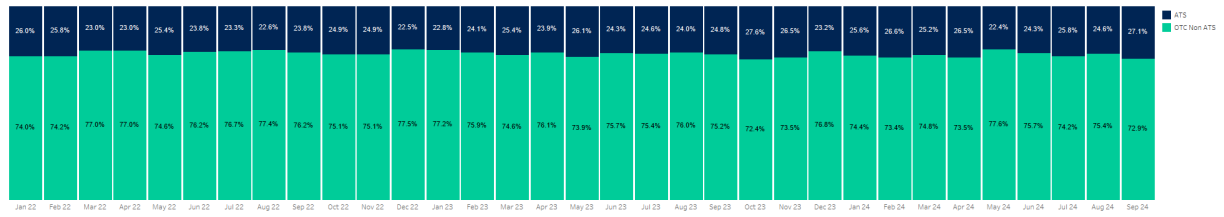
Source: Cboe Global Markets

Venue Market Share



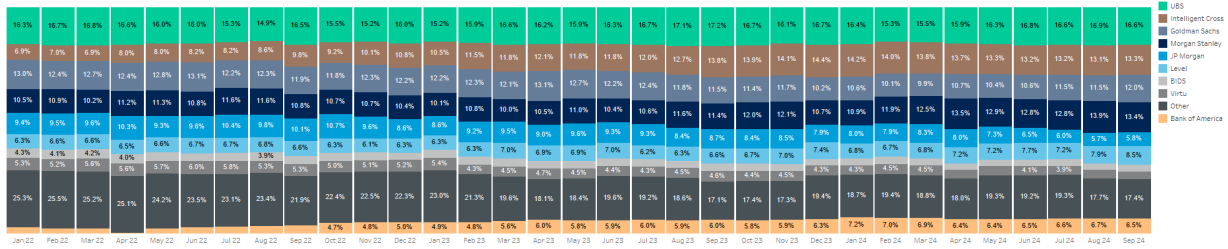
Source: Cboe Global Markets

TRF Volume Breakdown



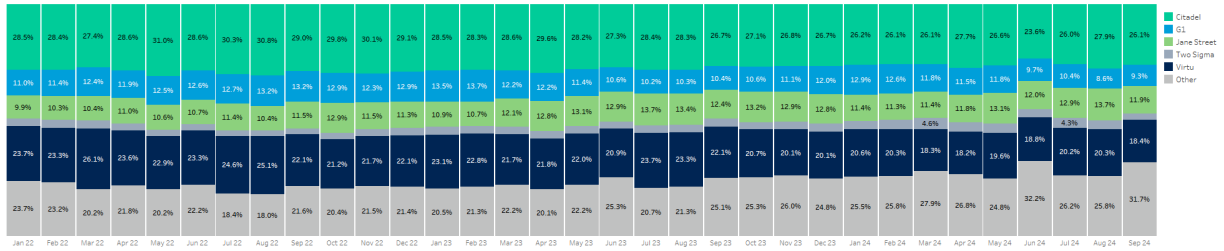
NMS Tier 1 & 2 Securities; Excludes Dealerweb
Source: FINRA

ATS Market Share



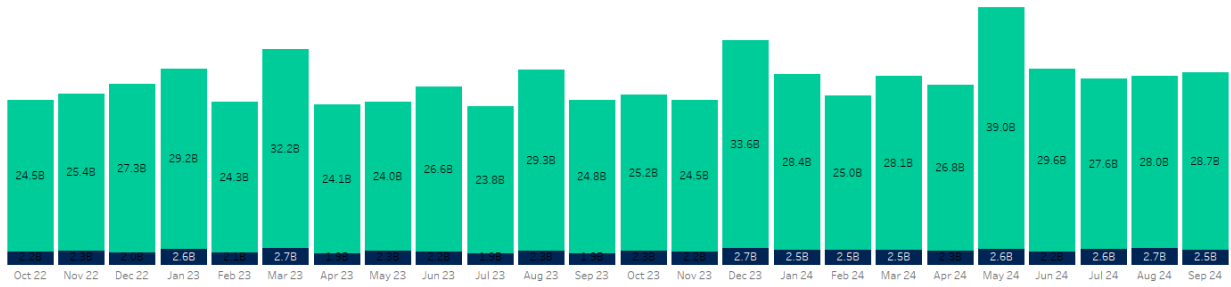
Excludes Dealerweb and OTC; Venues rolled up to firm level
Source: FINRA

OTC Non-ATS Market Share



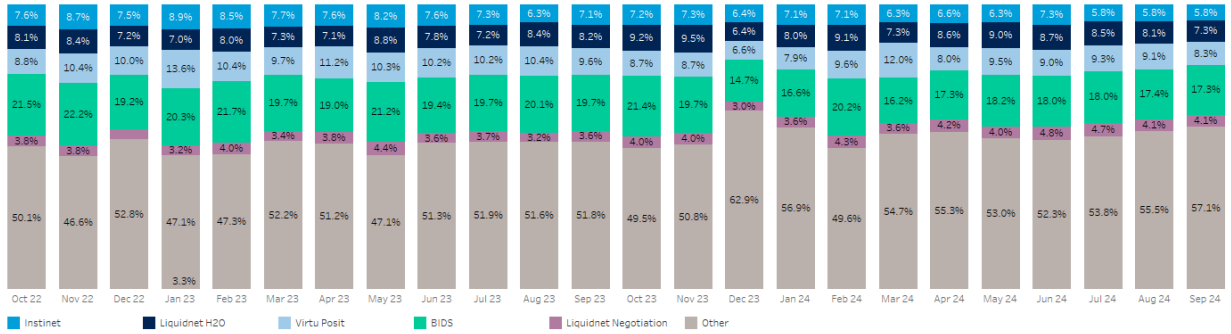
NMS Tier 1 & 2 Securities
Source: FINRA

TRF Block Volume Breakdown



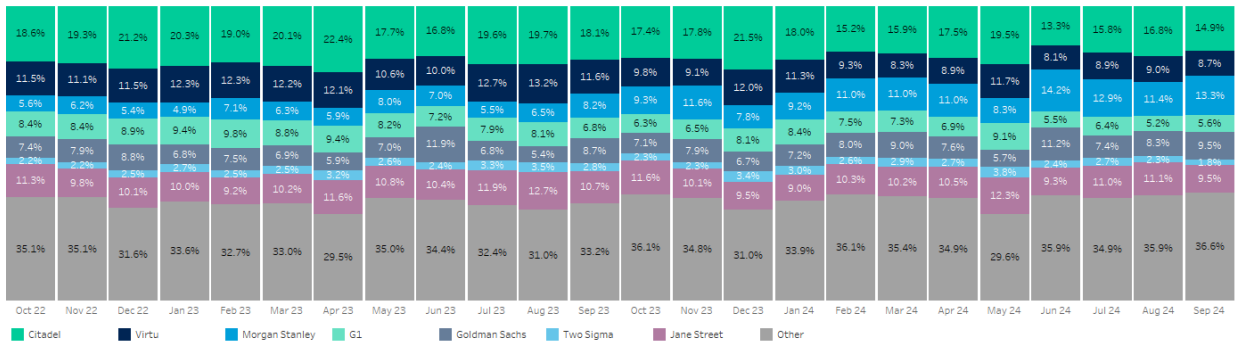
■ OTC Block Quantity ■ ATS Block Quantity

ATS Block Volume Market Share



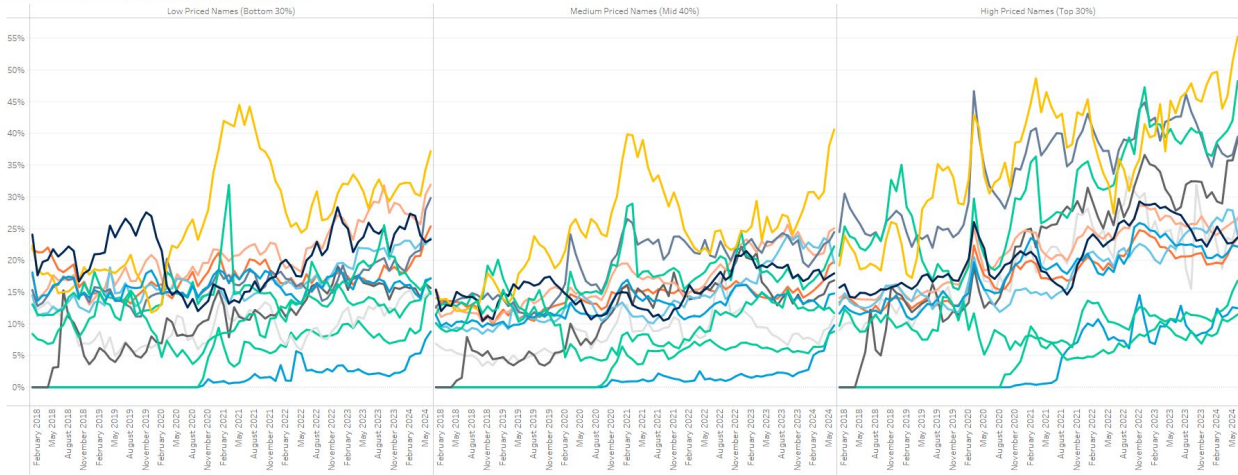
Excludes Dealerweb; Blocks defined as >10K shares
Source: FINRA

OTC (Non-ATS) Block Volume Market Share

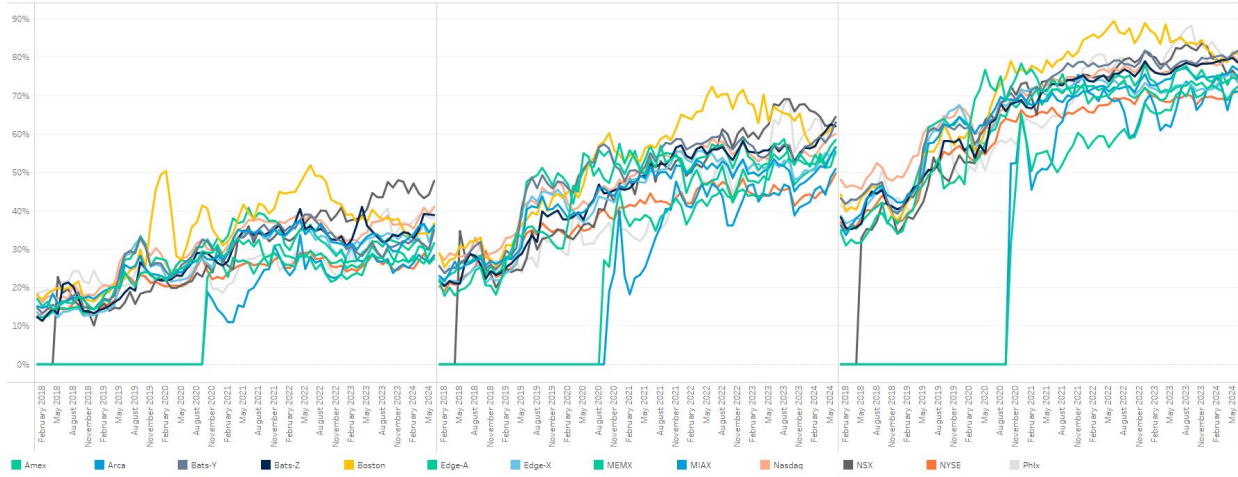


Blocks defined as >10K shares
Source: FINRA

Hidden Trades Proportion by Price and Venue



Oddlot Trades Proportion by Price and Venue



Source: SEC

Quotesize in Shares

	4Q 22		1Q 23			2Q 23			3Q 23			4Q 23			1Q 24			2Q 24			3Q 24			4Q 24		
	Nov 22	Dec 22	Jan 23	Feb 23	Mar 23	Apr 23	May 23	Jun 23	Jul 23	Aug 23	Sep 23	Oct 23	Nov 23	Dec 23	Jan 24	Feb 24	Mar 24	Apr 24	May 24	Jun 24	Jul 24	Aug 24	Sep 24	Oct 24		
First 30 Min	SP500		186	189	194	218	235	229	227	226	222	224	222	230	236	243	247	240	241	239	236	240	244	245	237	663
	RUS2000		226	231	250	271	300	300	298	290	278	288	288	300	301	307	306	300	298	294	286	294	288	282	277	625
Mid Day	SP500		192	194	199	214	228	224	217	216	213	212	211	211	220	224	221	218	219	218	221	223	222	215	212	572
	RUS2000		248	250	257	262	279	283	280	275	270	275	283	286	300	300	294	283	291	289	295	300	286	267	250	610
Last 30 Min	SP500		210	210	216	222	230	231	222	226	222	212	217	212	226	227	222	221	220	217	221	222	220	210	209	531
	RUS2000		279	291	289	283	300	309	300	304	289	288	303	316	331	318	314	304	307	310	317	318	300	276	263	554

Spread Bps

First 30 Min	SP500		12.9	12.3	11.7	11.4	10.7	9.6	10.7	10.9	10.1	10.8	10.3	12.4	11.7	10.8	11.6	11.6	11.3	11.8	11.7	13.2	14.5	17.0	14.8	13.6
	RUS2000		51.1	49.8	47.8	47.1	48.9	44.7	47.7	45.4	40.3	40.8	39.4	45.6	48.1	44.8	43.6	43.9	43.3	43.2	45.0	51.4	51.7	59.6	49.6	45.0
Mid Day	SP500		5.5	5.1	4.9	5.0	5.1	4.4	5.0	4.6	4.2	4.8	4.6	5.4	5.0	4.4	4.2	4.4	4.3	5.0	4.7	5.2	5.5	6.5	5.7	5.2
	RUS2000		21.2	18.6	18.1	18.3	19.6	18.0	19.6	17.8	16.3	17.2	17.4	20.4	20.6	19.2	18.1	18.7	18.4	19.2	20.0	21.2	21.9	23.7	21.2	19.5
Last 30 Min	SP500		3.2	3.2	3.1	3.2	3.2	3.0	3.3	3.0	2.8	3.1	3.1	3.3	3.1	2.9	2.8	2.9	3.0	3.2	3.1	3.4	3.5	4.1	3.9	3.5
	RUS2000		15.5	14.2	13.6	14.1	14.7	14.2	15.2	13.8	13.0	13.3	13.2	14.4	14.7	13.9	13.0	13.5	13.9	14.9	15.2	16.2	16.0	17.2	15.8	15.1

One Minute Volatility Bps

First 30 Min	SP500		17.7	14.4	14.5	13.9	14.9	12.9	13.8	14.8	14.6	12.7	12.3	16.4	13.7	12.0	13.5	13.7	12.1	12.6	11.0	11.9	13.1	13.1	12.4	12.0
	RUS2000		21.4	16.2	16.2	17.0	17.2	14.6	15.9	16.5	16.2	15.1	14.0	17.6	17.6	16.3	16.1	15.4	14.3	12.1	11.4	10.8	13.6	14.0	11.6	10.9
Mid Day	SP500		6.8	5.8	5.7	5.9	6.7	4.9	5.4	4.8	4.6	4.9	4.1	6.2	4.9	4.3	4.6	4.8	4.2	4.9	3.5	3.5	3.9	4.6	4.1	3.6
	RUS2000		5.4	4.1	3.8	4.5	5.5	2.9	3.6	3.3	3.0	2.8	1.5	3.2	2.4	2.8	2.9	3.6	2.3	2.4	1.5	1.0	2.4	3.0	2.6	1.1
Last 30 Min	SP500		7.1	6.5	6.3	6.9	7.4	5.9	6.0	5.5	5.4	5.7	5.1	6.3	5.3	5.0	5.3	5.7	5.6	6.3	5.1	5.1	5.4	6.6	5.7	4.9
	RUS2000		6.8	5.7	5.4	6.9	7.9	5.4	5.9	5.2	4.9	5.0	3.8	4.5	4.5	5.6	5.0	5.8	5.9	5.8	5.0	4.4	6.5	7.2	6.6	3.6

Percent ADV by Time of Day

Open	SP500		0.9%	1.1%	0.9%	1.0%	0.9%	1.1%	1.0%	1.0%	1.0%	0.9%	0.9%	0.9%	0.9%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	0.9%	1.0%	
	RUS2000		0.7%	0.7%	0.7%	0.7%	0.7%	0.8%	0.7%	0.6%	0.7%	0.7%	0.6%	0.6%	0.7%	0.7%	0.9%	0.8%	0.8%	0.7%	0.8%	0.8%	0.8%	0.8%	0.8%	0.7%	0.7%
First 30 Min	SP500		9.2%	8.6%	8.7%	8.6%	8.5%	8.7%	8.8%	8.7%	9.1%	8.4%	8.1%	8.1%	8.5%	8.0%	8.3%	8.6%	7.9%	7.9%	8.2%	7.8%	7.9%	7.8%	8.1%	8.3%	
	RUS2000		7.5%	7.2%	7.5%	7.5%	7.2%	7.3%	7.5%	7.3%	7.5%	7.3%	6.9%	6.4%	7.0%	6.9%	7.7%	7.5%	7.4%	6.6%	6.7%	6.4%	6.9%	6.5%	6.6%	6.6%	
Last 30 Min	SP500		18.7%	19.0%	19.3%	19.3%	18.7%	19.4%	18.9%	18.8%	19.2%	20.3%	20.1%	19.5%	19.1%	19.2%	19.1%	19.0%	19.2%	19.8%	20.2%	19.6%	19.7%	20.1%	19.4%	19.3%	
	RUS2000		21.0%	20.0%	20.3%	20.6%	19.9%	20.4%	19.9%	20.1%	20.3%	20.8%	21.3%	20.9%	20.6%	20.1%	19.6%	20.3%	20.0%	20.7%	20.9%	21.0%	20.9%	21.2%	21.4%	20.9%	
Close	SP500		11.6%	14.7%	12.9%	12.2%	13.4%	13.6%	12.9%	14.1%	13.4%	13.8%	16.3%	13.7%	14.7%	16.2%	15.3%	14.2%	17.3%	15.1%	15.8%	17.4%	15.8%	17.0%	18.1%	17.7%	
	RUS2000		10.4%	11.9%	10.7%	11.0%	11.4%	11.8%	11.0%	11.7%	11.6%	11.7%	14.5%	14.5%	13.3%	14.2%	13.8%	13.8%	12.7%	14.7%	13.4%	13.5%	14.8%	13.9%	14.0%	14.7%	

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: Virtu Financial



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