

May 2024

US Market Structure Monthly

MICROSTRUCTURE OBSERVATIONS

- The average daily volume in US equities was 12.5B shares in May 2024, up 14% month over month (MoM) and up 18% year over year (YoY).
 - Sub-dollar volume as a percentage of TCV was 11%, down 4% MoM and 2% YoY
- Trade reporting facility (TRF) share volume as a percent of total consolidated share volume jumped to 46.9% in May 2024, up from 44.4% the prior month.
- Quoted spreads in both S&P 500 and Russell 2000 stocks were relatively flat in May 2024 compared to the prior month. Excluding the first and last half hour of the trading day, the median S&P 500 stock's spread was 5.0bps in May 2024, unchanged from the prior month, while the median Russell 2000 stock's spread decreased to 18.8bps in May 2024 from 18.9bps the prior month.

US MARKET STRUCTURE NEWS

SEC Approves Rule Change That Would Allow for Ether ETFs

The Securities and Exchange Commission (SEC) approved a rule change that would allow for the listing and trading of ETFs based on the spot price of the Ethereum (Ether) cryptocurrency. The approval comes after the SEC combined proposals from Nasdaq, NYSE, and CBOE exchanges, which asked for changes to existing rules to allow for Ether ETFs. The SEC additionally approved 19b-4 applications from Van Eck, Blackrock, Fidelity, Grayscale, Franklin Templeton, Ark 21 Shares, Invesco Galaxy, and Bitwise to issue spot Ether ETFs. The eight approved Ether ETF issuers are now waiting for their S-1 registration statements to be signed off by the SEC for the products to begin trading.

<https://www.cnbc.com/2024/05/23/sec-approves-rule-change-to-allow-creation-of-ether-etfs.html>

<https://coingecko.com/news/sec-ethereum-etf-approval-not-politically-driven-bernstein>

U.S. Senators Request the SEC to Withdraw AI Proposal

A bipartisan group of four U.S. senators submitted a letter to SEC Chair Gary Gensler requesting the Commission withdraw its artificial intelligence (AI) conflict of interest proposal. Originally issued in July 2023, the AI proposal would require investment advisors and broker dealers to eliminate or neutralize conflicts of interest in all types of investors interactions and uses of technology. The senators expressed concerns similar to those of other industry trade groups, including that the proposal's definition of 'covered technologies' was too broad, and it would add unnecessary costs and complexity for covered firms. At an Investment Company Institute (ICI) conference in later May, Chair Gensler said he has asked SEC staff to repropose the AI rule based on public comments.

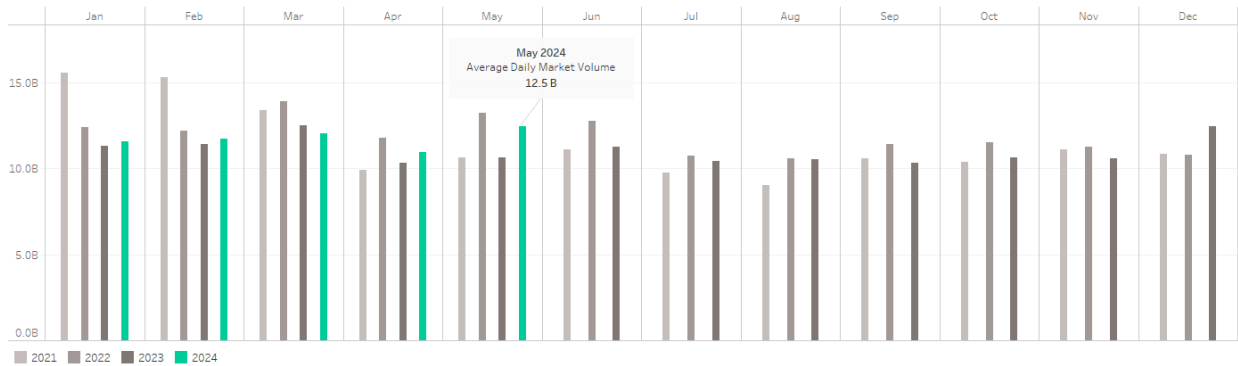
<https://www.pionline.com/washington/senators-urge-sec-withdraw-ai-conflict-interest-proposal>

SEC Fines ICE with Failure to Report a Cyber Intrusion

The SEC announced in late May that the Intercontinental Exchange (ICE) agreed to pay \$10MM to settle charges related to the failure of nine subsidiaries, including the New York Stock Exchange (NYSE), to timely inform the SEC of a cyber intrusion, as required to Regulation Systems Compliance and Integrity (Reg SCI). The intrusion dates to April 2021, where an outside actor had inserted malware code into a virtual private network (VPN) device used to remotely access ICE's corporate network. Under Reg SCI, unless the incident is de minimis, Reg SCI entities must report such events to the SEC within 24 hours, which ICE did not do.

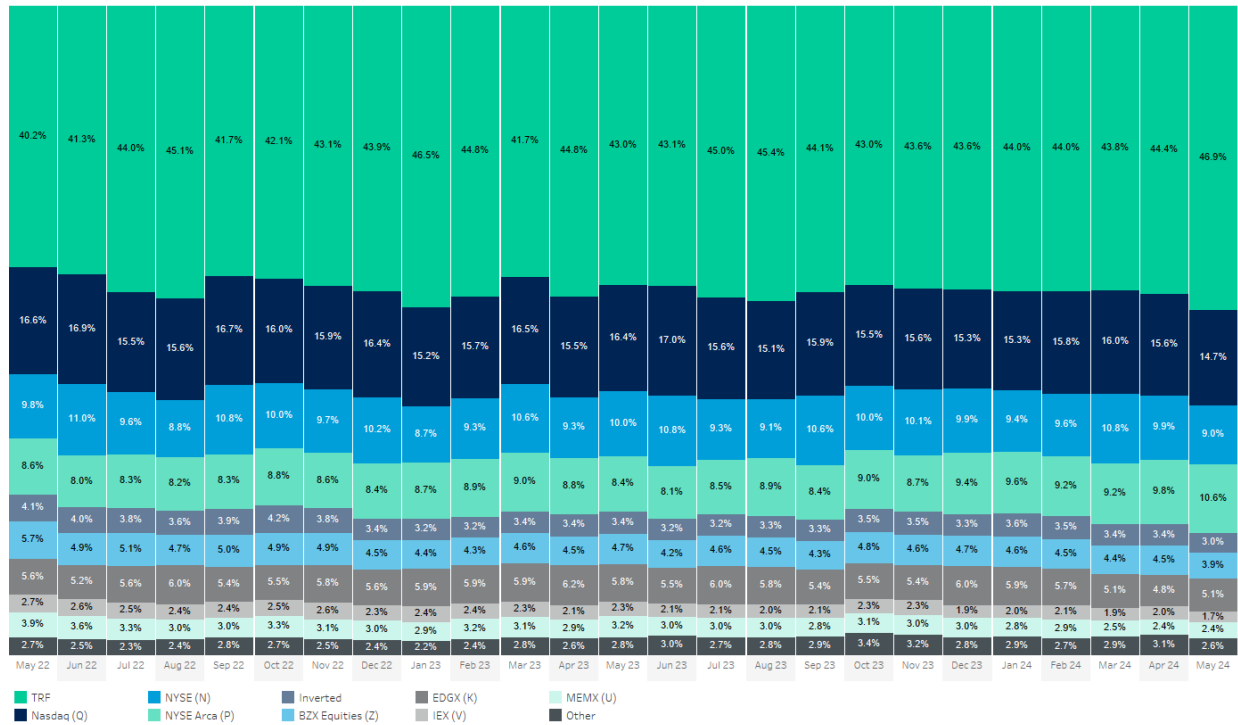
<https://www.sec.gov/news/press-release/2024-63>

Average Daily Market Volume



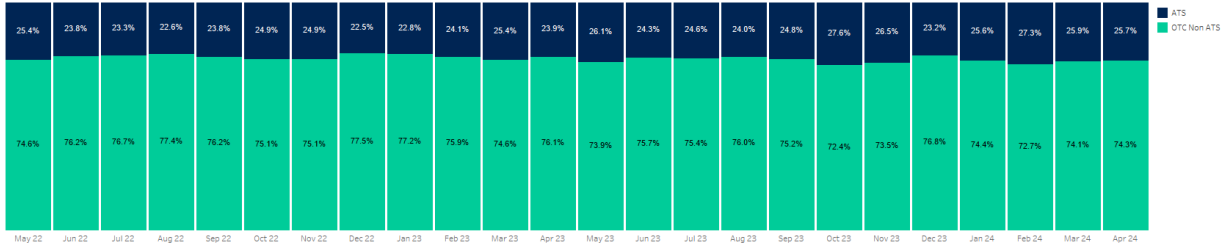
Source: Cboe Global Markets

Venue Market Share



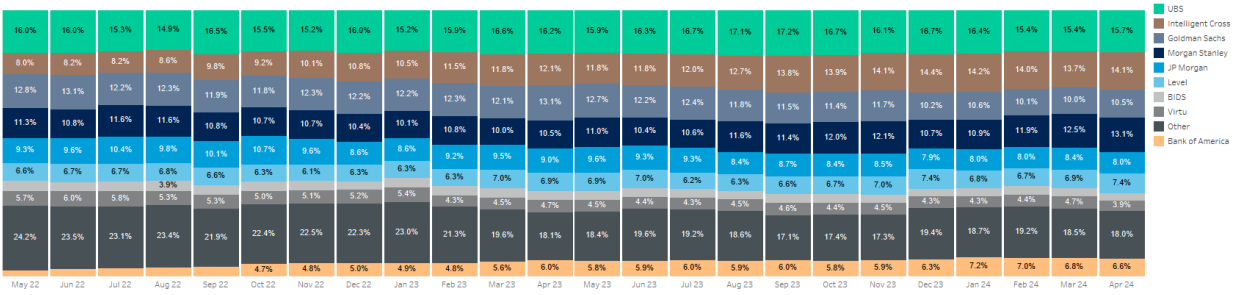
Source: Cboe Global Markets

TRF Volume Breakdown



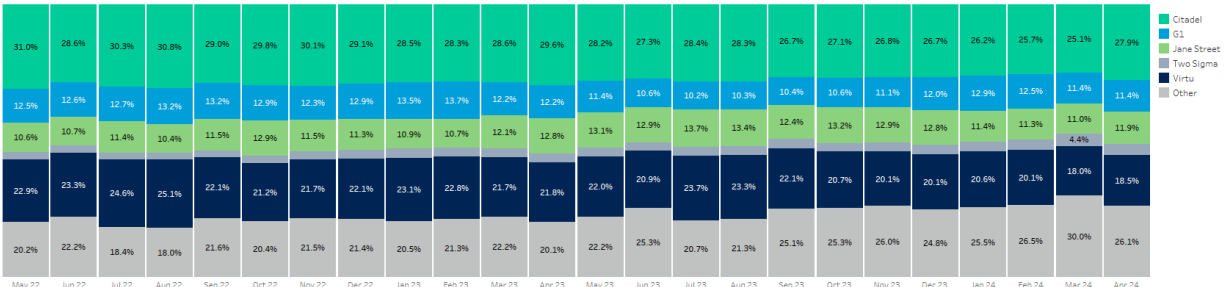
NMS Tier 1 & 2 Securities; Excludes Dealerweb
Source: FINRA

ATS Market Share



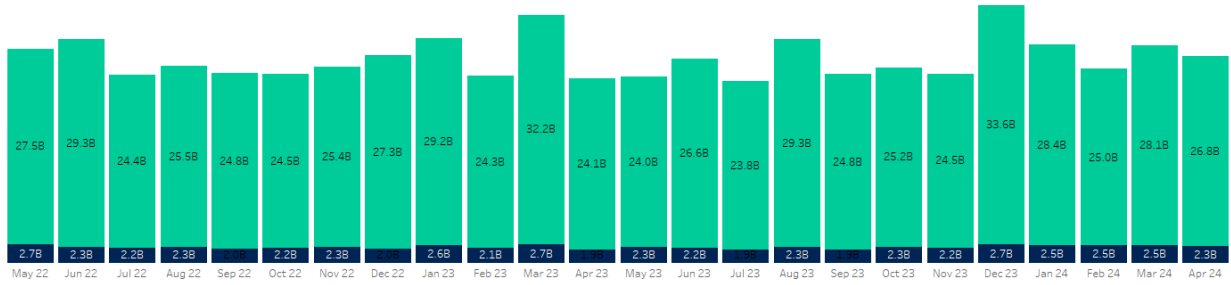
Excludes Dealerweb and OTC; Venues rolled up to firm level
Source: FINRA

OTC Non-ATS Market Share



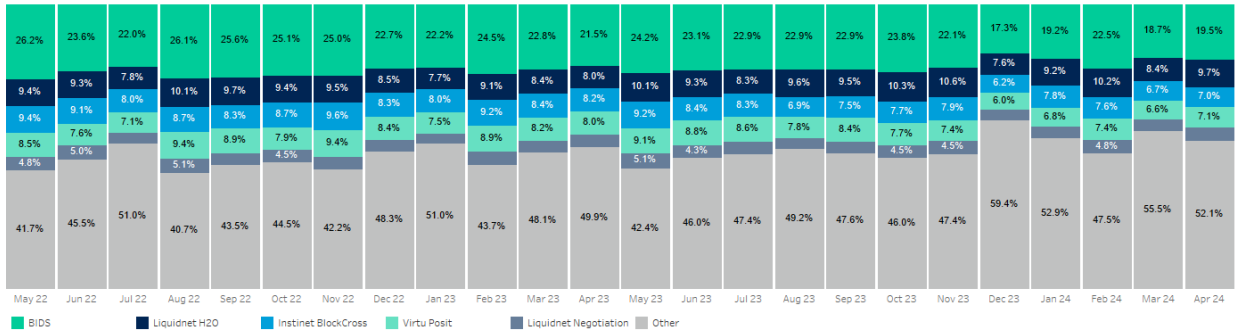
NMS Tier 1 & 2 Securities
Source: FINRA

TRF Block Volume Breakdown (Shares)



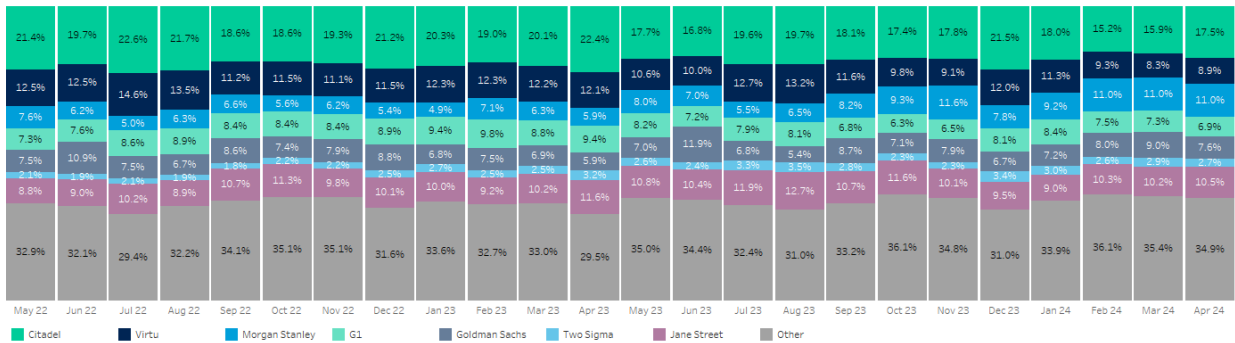
■ OTC Block Quantity ■ ATS Block Quantity

ATS Block Volume Market Share



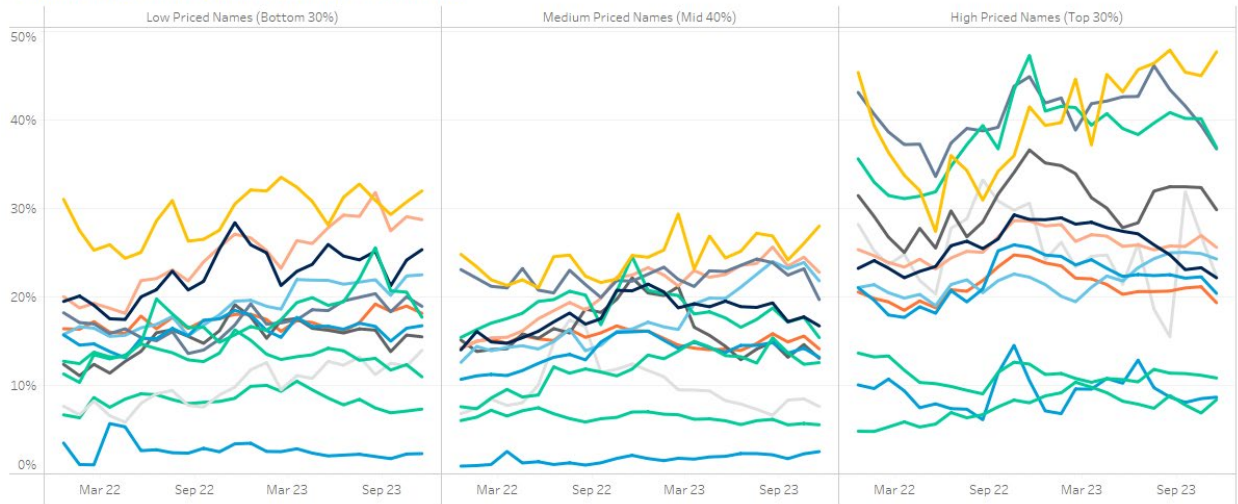
Excludes Dealerweb; Blocks defined as >10K shares
Source: FINRA

OTC (Non-ATS) Block Volume Market Share

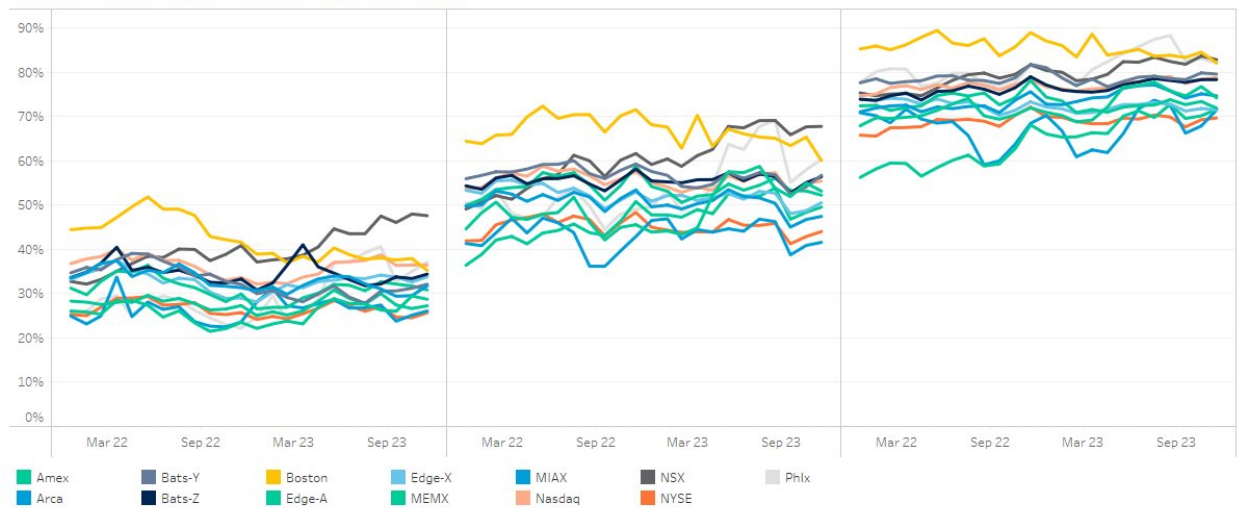


Blocks defined as >10K shares
Source: FINRA

Hidden Trades Proportion by Price and Venue



Oddlot Trades Proportion by Price and Venue



Source: SEC

Quotesize in Shares

	2Q 22			3Q 22			4Q 22			1Q 23			2Q 23			3Q 23			4Q 23			1Q 24			2Q 24	
	Jun 22	Jul 22	Aug 22	Sep 22	Oct 22	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		
First 30 Min SP500	195	188	185	183	187	186	189	194	218	235	229	227	226	222	224	222	230	236	243	247	240	240	239	236		
RUS2000	243	232	228	225	232	226	231	250	271	300	300	298	290	278	288	288	300	301	307	306	300	295	293	279		
Mid Day SP500	190	181	179	184	189	192	194	199	214	228	224	217	216	213	212	211	211	220	224	221	218	220	219	218		
RUS2000	246	237	234	235	245	248	250	257	262	279	283	280	275	270	275	283	286	300	300	294	283	288	287	278		
Last 30 Min SP500	198	197	201	201	212	210	210	216	222	230	231	222	226	222	212	217	212	226	227	222	221	221	217	218		
RUS2000	276	267	265	263	274	279	291	289	283	300	309	300	304	289	288	303	316	331	318	314	304	302	306	313		

Spread Bps

First 30 Min SP500	13.5	13.2	11.8	10.7	12.5	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	11.4	11.8	12.5
RUS2000	50.4	48.1	45.3	43.2	49.2	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	43.4	42.9	46.1
Mid Day SP500	5.7	5.2	4.7	4.9	5.4	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	4.4	5.0	5.0
RUS2000	21.6	20.4	19.1	18.7	19.9	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	17.9	18.9	18.8
Last 30 Min SP500	3.5	3.2	2.9	3.2	3.4	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	3.2
RUS2000	16.2	15.4	14.1	14.1	14.7	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	13.3	14.5	14.2

One Minute Volatility Bps

First 30 Min SP500	21.4	20.7	15.6	17.5	20.4	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	13.3	12.6	15.1
RUS2000	24.1	26.6	21.0	20.8	23.1	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	14.8	11.8	14.9
Mid Day SP500	8.3	7.5	6.2	8.6	8.1	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	4.6	4.9	4.6
RUS2000	6.8	6.1	5.5	7.4	6.7	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	2.7	2.4	2.4
Last 30 Min SP500	9.0	7.9	6.2	9.3	8.8	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	5.9	6.4	6.2
RUS2000	8.1	6.9	6.2	8.9	7.2	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	6.1	5.8	5.2

Percent ADV by Time of Day

Open SP500	1.0%	1.1%	1.0%	0.9%	0.9%	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%	0.9%	1.0%	1.0%	1.0%	1.0%	0.9%
RUS2000	0.7%	0.7%	0.8%	0.7%	0.7%	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%
First 30 Min SP500	9.4%	9.8%	9.6%	9.0%	9.0%	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%	8.8%	7.9%	8.3%
RUS2000	7.6%	8.1%	8.2%	7.4%	7.6%	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%	6.4%	7.1%
Last 30 Min SP500	19.2%	18.6%	18.8%	18.7%	18.8%	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%	19.0%	19.9%	19.7%
RUS2000	19.8%	20.3%	20.4%	20.1%	20.0%	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%	19.9%	20.7%	20.4%
Close SP500	13.1%	12.5%	11.9%	12.3%	11.9%	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%	14.4%	15.1%	14.6%
RUS2000	10.8%	11.9%	10.4%	11.4%	11.6%	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%	12.2%	15.0%	12.7%

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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