

Feb 2024

U.S. Market Structure Monthly

MICROSTRUCTURE OBSERVATIONS

- The average daily volume in US equities was 11.7B shares in February 2024, which was up only 1% month over month (MoM) and up 3% year over year (YoY).
- Trade reporting facility (TRF) share volume as a percent of total consolidated share volume increased 0.7% MoM to 44.7% in February 2024.
- Quoted spreads in both S&P 500 and Russell 2000 stocks widened slightly in February 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 widened 5% to 4.4bps in February 2024 from 4.2bps in January 2024, while the median Russell 2000 stock's spread widened 3% to 18.7bps in February 2024 from 18.1bps the prior month.

U.S. MARKET STRUCTURE NEWS¹

SEC Adopts Amendments to Enhance Rule 605 Disclosures

The Securities and Exchange Commission (SEC) voted to adopt rule amendments to Rule 605 of Regulation NMS to enhance disclosures on execution quality by market centers. First, the amendments expand the scope of entities that are required to produce monthly execution quality reports to include broker-dealers with a larger number of customer accounts and single dealer platforms. The amendments also expand the scope of "covered orders" to include certain orders submitted outside of market hours, certain orders submitted with stop prices, and certain short sale orders. Second, the new rules change how orders are categorized by order size and order type on 605 reports, including having breakdowns of execution quality for fractional share, odd lot, and larger sized executions. Lastly, the amendments modify the information required on the reports, including statistics on size improvement and the amount of price improvement orders received. The new amendments will become effective 60 days after publication to the Federal Register, with a compliance date of 18 months after the effective date.

<https://www.sec.gov/news/press-release/2024-32>

SEC Adopts New Rules on Company Climate Disclosures

The SEC adopted new rules to enhance and standardize climate related disclosures by public companies and in public offerings. In a 3-2 vote to approve the new measures, companies will be required to disclose their greenhouse gas emissions. Additionally, companies will have to report climate related risks that could have a material impact on their net income, steps taken to mitigate climate risk, and losses incurred due to severe weather. One provision that was part of the initial rule proposal but removed from the final rule was the obligation for companies to report certain indirect emissions, including from their supply chains and

¹ The summaries set forth herein are qualified in their entirety by the underlying rules, filings and referenced materials.

customers' use of their products. Companies will be required to start reporting emissions for fiscal year 2026.

<https://www.sec.gov/news/press-release/2024-31>

<https://www.wsj.com/finance/regulation/sec-climate-disclosure-greenhouse-gases-d57de27c?>

SEC Adopts Rules to Provide More Details on Individual Treasury Trades

The SEC adopted new rules that would make public certain information on individual U.S. Treasury trades, and better align post-trade reporting for Treasuries with the reporting for corporate, municipal, and mortgage-backed bonds. The new rules, first proposed in November 2023 by the Financial Industry Regulatory Authority (FINRA), will result in certain trades' time, price, direction, and volume to be made publicly available at the end of the trading day. Currently, data is only disseminated on an aggregated basis. The new rules will cover the seven "on-the-run" Treasury securities.

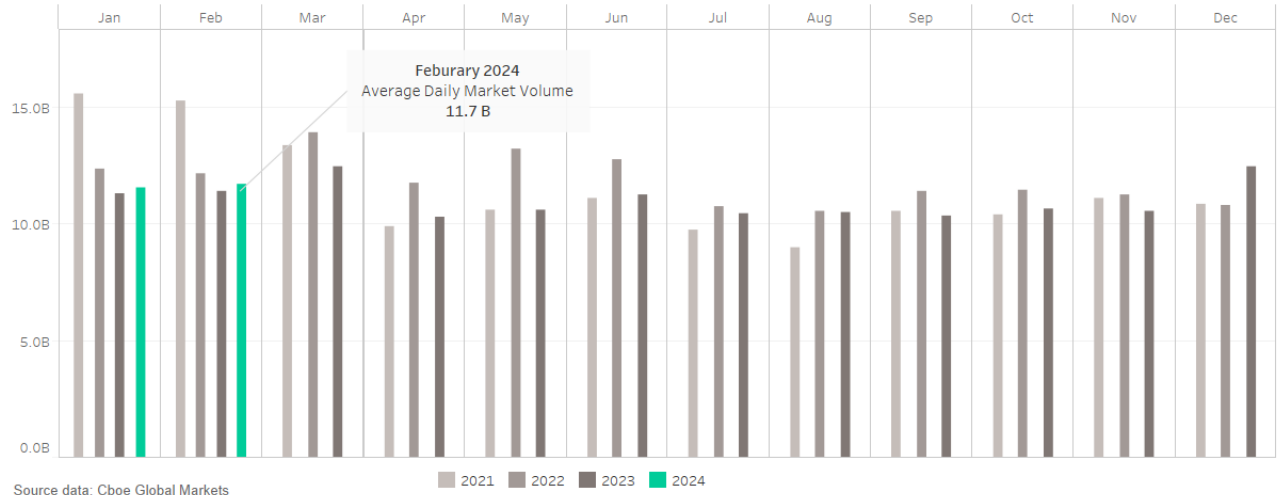
<https://finance.yahoo.com/news/us-release-transaction-data-individual-195324318.html>

SEC Adopts Amendments to Enhance Private Fund Reporting

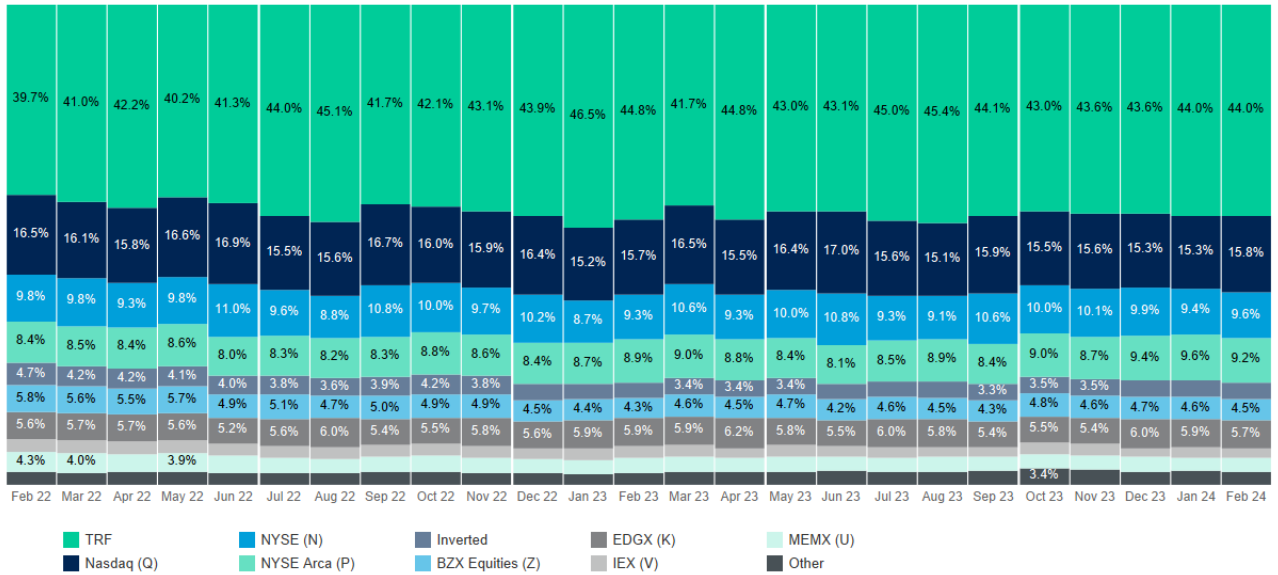
The SEC adopted amendments to Form PF, a confidential reporting form for certain SEC registered investment advisors to private funds. The amendments were designed to enhance the ability of the Financial Stability Oversight Council (FSOC) to monitor systematic risks and improve the SEC's oversight of private fund advisors. The new reporting requirements will include increased disclosures on investment exposures, counterparty risks, currency exposures, portfolio liquidity, and central clearing counterparty reporting.

<https://www.sec.gov/news/press-release/2024-17>

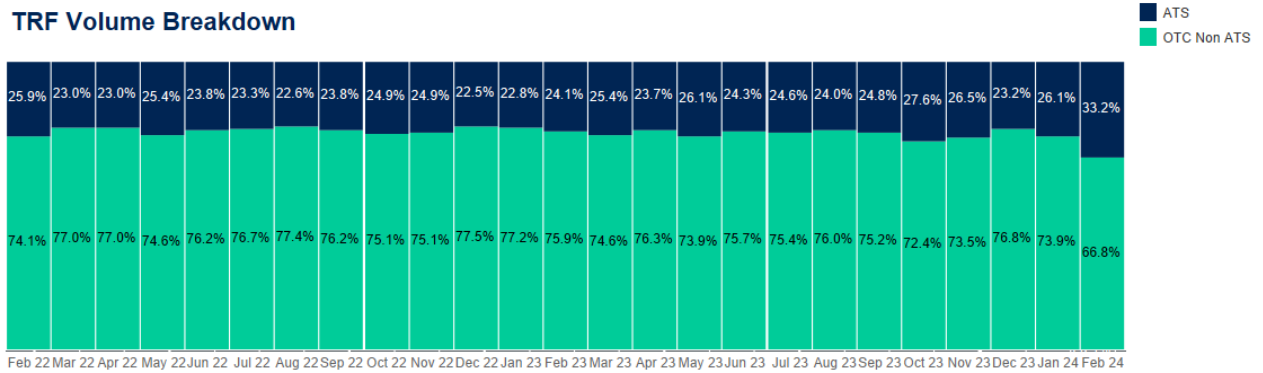
Average Daily Market Volume



Venue Market Share

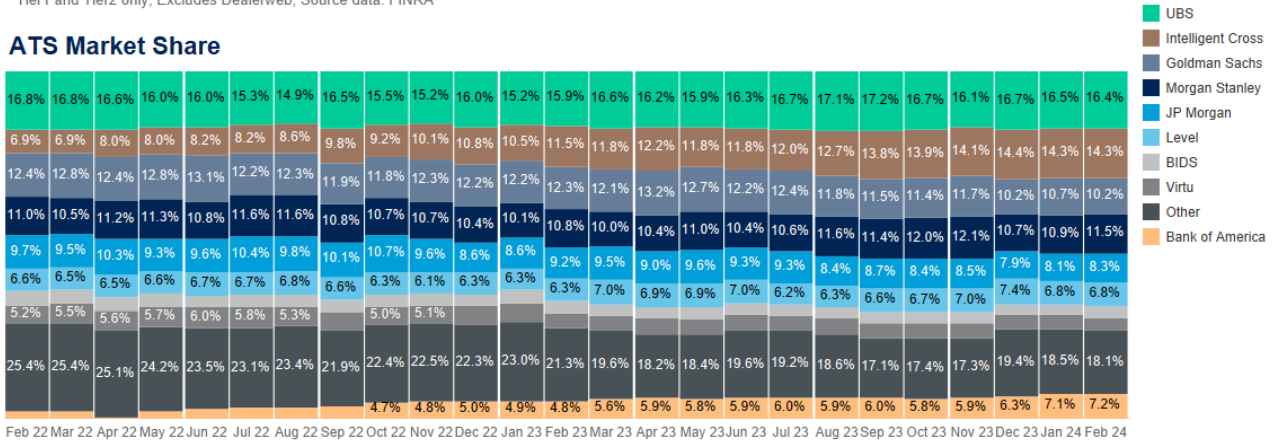


TRF Volume Breakdown



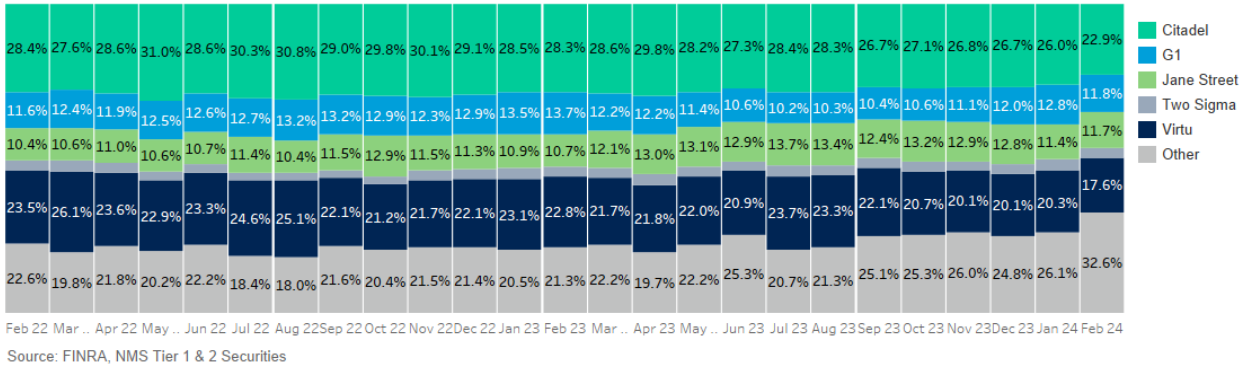
Tier1 and Tier2 only; Excludes Dealerweb, Source data: FINRA

ATS Market Share



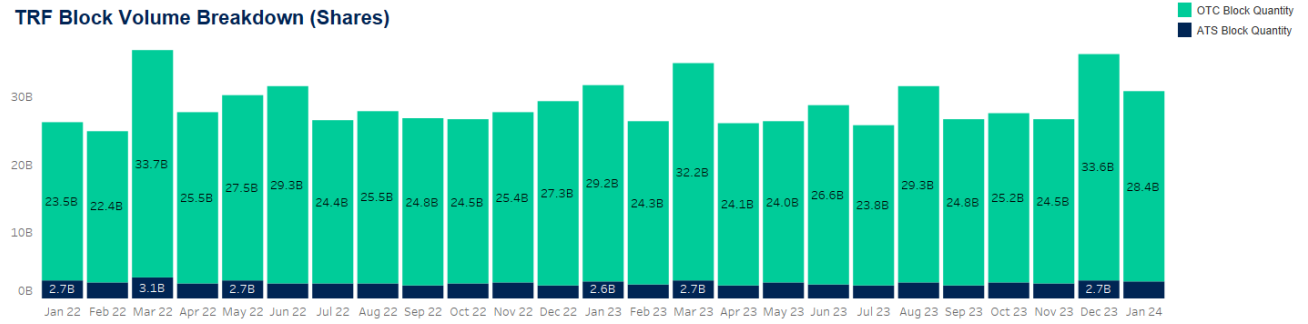
Excludes Dealerweb, OTC; Venues rolled up to firm level; Source data: FINRA

OTC Non-ATS Market Share

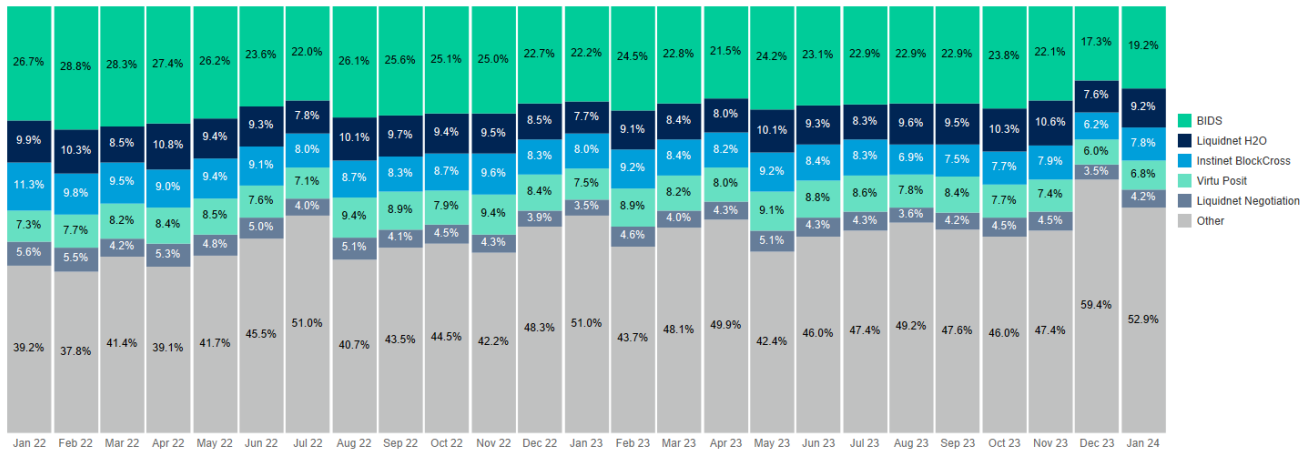


Source: FINRA, NMS Tier 1 & 2 Securities

TRF Block Volume Breakdown (Shares)

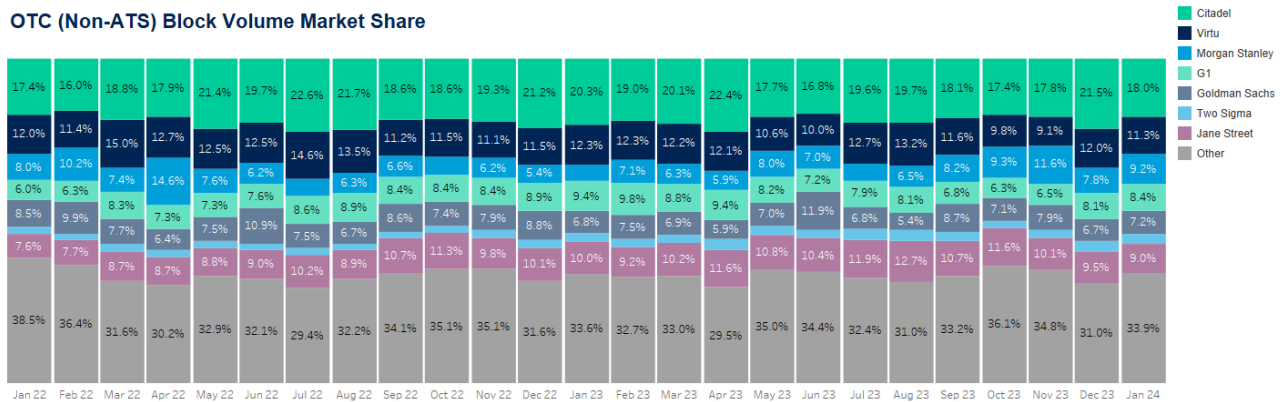


ATS Block Volume Market Share



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

		2Q 22		3Q 22			4Q 22			1Q 23			2Q 23			3Q 23			4Q 23			1Q 24	
		May 22	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
First 30 Min	SP500	196	195	188	185	183	187	186	189	194	218	235	229	227	226	222	224	222	230	236	243	247	240
	RUS2000	250	243	232	228	225	232	226	231	250	271	300	300	298	290	278	288	288	300	301	307	306	300
Mid Day	SP500	186	190	181	179	184	189	192	194	199	214	228	224	217	216	213	212	211	211	220	224	221	218
	RUS2000	234	246	237	234	235	245	248	250	257	262	279	283	280	275	270	275	283	286	300	300	294	283
Last 30 Min	SP500	190	198	197	201	201	212	210	210	216	222	230	231	222	226	222	212	217	212	226	227	222	221
	RUS2000	259	276	267	265	263	274	279	291	289	283	300	309	300	304	289	288	303	316	331	318	314	304

Spread Bps

First 30 Min	SP500	15.1	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
	RUS2000	57.0	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
Mid Day	SP500	6.5	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
	RUS2000	25.0	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
Last 30 Min	SP500	3.9	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
	RUS2000	18.1	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

One Minute Volatility Bps

First 30 Min	SP500	24.0	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
	RUS2000	26.9	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
Mid Day	SP500	9.9	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
	RUS2000	9.0	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
Last 30 Min	SP500	10.8	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
	RUS2000	9.8	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

Percent ADV by Time of Day

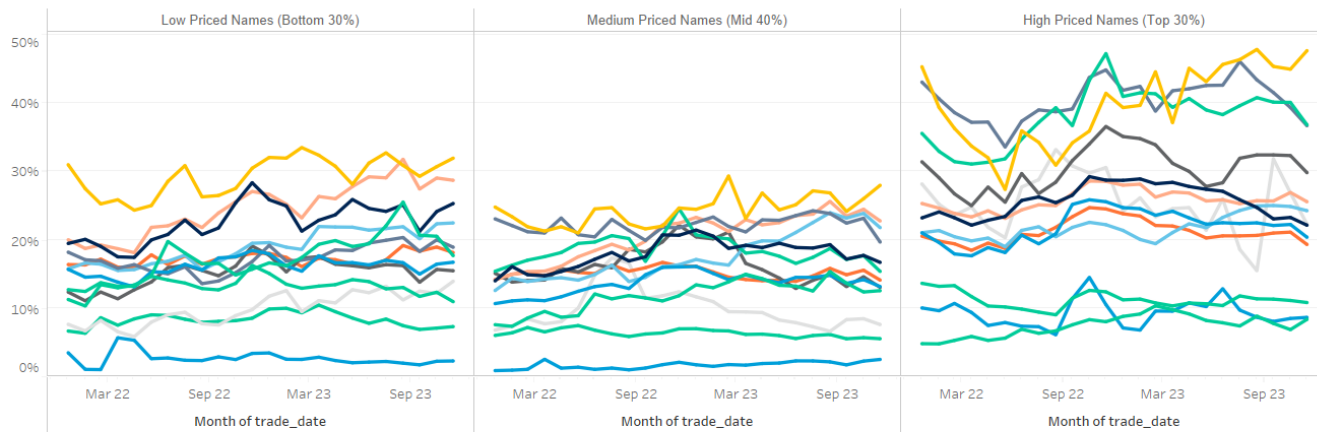
Open	SP500	1.1%	1.0%	1.0%	1.1%	1.0%	0.9%	0.9%	0.9%	1.1%	0.9%	1.0%	0.9%	1.1%	1.0%	1.0%	1.0%	0.9%	0.9%	0.9%	0.9%	0.9%	1.0%	
	RUS2000	0.7%	0.7%	0.7%	0.7%	0.8%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.8%	0.7%	0.6%	0.7%	0.7%	0.6%	0.6%	0.7%	0.7%	0.9%	0.8%
First 30 Min	SP500	9.3%	9.4%	9.8%	9.6%	9.0%	9.0%	9.2%	8.6%	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%	
	RUS2000	8.2%	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%	
Last 30 Min	SP500	18.6%	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%	
	RUS2000	19.7%	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%	
Close	SP500	11.8%	10.9%	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%
	RUS2000	10.6%	9.1%	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%

Median used for all metrics

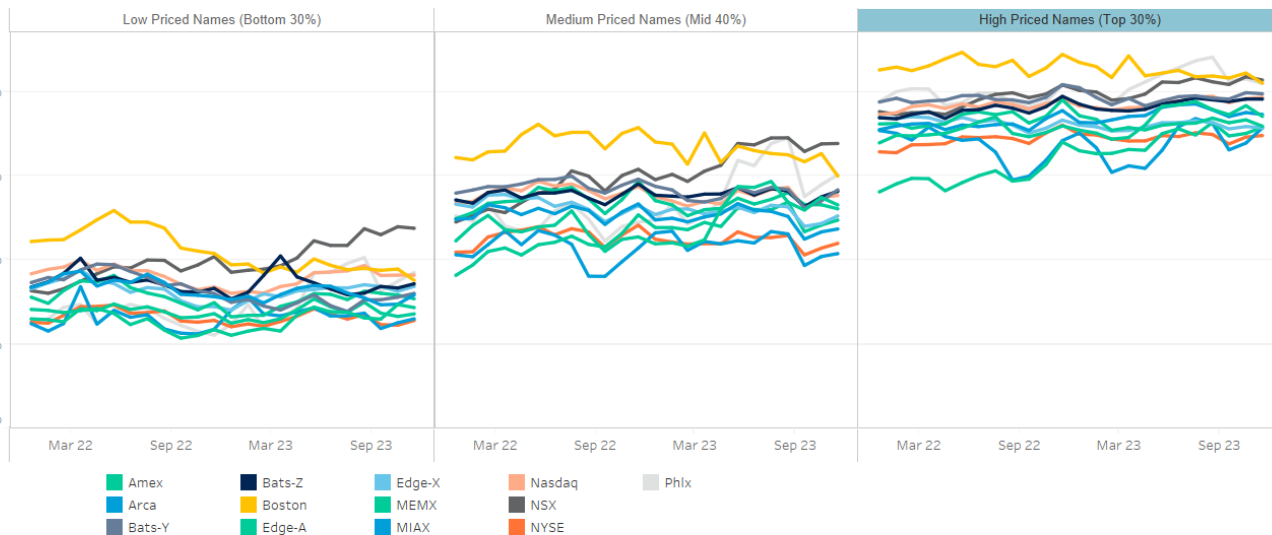
One minute volatility is calculated using the difference between the high and low price within a one minute time bin, divided by that bin's VWAP

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.

To learn more, contact your sales representative or call our desk at:

APAC +852.2846.3592 | **CAN** +1.416.874.0800 | **EMEA** +44.20.7670.4066 | **US** +1.646.682.6199

info@virtu.com | www.virtu.com

© 2024 Virtu Financial, Inc. All rights reserved. Not to be reproduced or retransmitted without permission. These materials are for informational purposes and are not intended to be used to make trading or investment decisions, they are not intended as an offer to sell or the solicitation of an offer to buy any security or financial product, and are not intended as advice (investment, tax or legal). The information contained herein includes Virtu proprietary information and/or has been taken from sources we believe to be reliable, but we do not represent or warrant that such information is accurate or complete and it should not be relied upon as such.

Securities products and services are offered by the following subsidiaries of Virtu Financial, Inc. In the U.S., Virtu Americas LLC, member FINRA and SIPC; in Canada, Virtu Canada Corp., member Canadian Investor Protection Fund and Canadian Investment Regulatory Organization; in Europe, Virtu Europe Trading Limited, registered in Ireland No. 283940 ("VETL") (VETL is authorized and regulated by the Central Bank of Ireland), and Virtu Financial Ireland Limited, registered in Ireland No. 471719 ("VFIL") (VFIL is authorized and regulated by the Central Bank of Ireland). The registered office of VETL and VFIL is North Dock One, Fifth Floor, 91-92 North Wall Quay, Dublin 1, Ireland, D01 H7V7; in Asia, Virtu ITG Hong Kong Limited (SFC License No. AHD810), Virtu ITG Singapore Pte Limited (CMS License No. 100138-1), and Virtu ITG Australia Limited (AFS License No. 219582)