Jan 2024 U.S. Market Structure Monthly

MICROSTRUCTURE OBSERVATIONS

- The average daily volume in US equities was 11.6B shares in January 2024, which was down 7% month over month (MoM) but up 3% year over year (YoY).
- Quoted spreads in both S&P 500 and Russell 2000 stocks narrowed in January 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 narrowed 5% to 4.2bps in January 2024 from 4.4bps in December 2023, while the median Russell 2000 stock's spread narrowed 6% to 18.1bps in January 2024 from 19.2bps the prior month.
- Closing auction volume as a percentage of the full day volume for both S&P500 and Russell 2000 stocks grew materially in January 2024 relative to January 2023. The median S&P 500 stock's closing auction volume percentage was 16.2% in January 2023, compared to 12.9% in January 2024. Similarly, for the median Russell 2000 stock, the closing auction volume percentage in January 2024 was 14.2%, compared to 10.7% the prior year.

U.S. MARKET STRUCTURE NEWS1

SEC Adopts Rules Regarding SPAC Disclosure Requirements

The Securities and Exchange Commission, in a 3-2 vote, adopted new rules regarding disclosures on the initial public offerings (IPOs) of special purpose acquisition companies (SPACs) as well as the acquisition of target companies by SPACs. The new rules' requirements include enhanced disclosures about conflicts of interest, SPAC sponsor compensation, and SPAC dilution. The new rules also require registrants to provide additional information about target companies to SPAC investors. The Commission's main stated goal of the new rules is to better align the disclosure rules of SPACs with those of traditional IPOs. In their dissents, SEC Commissioners Hester Peirce and Mark Uyeda said the new rules seek to regulate away a fundraising model that certain companies find beneficial. The new rules will become effective in June 2024.

https://www.sec.gov/news/press-release/2024-8

https://www.wsj.com/finance/regulation/sec-wants-to-make-sure-spac-investors-know-what-theyre-getting-into-510aca30?mod=hp_lista_pos2

SEC Adopts Rules to Designate Certain Treasury Security Participants as Dealers

The SEC, in a 3-2 vote, adopted new rules requiring certain firms that routinely deal in U.S. Treasury securities to register with the SEC, become members of a self-regulatory organization, and comply with federal securities laws and regulatory obligations. The new rules, first proposed in March 2022, would apply to firms that meet either of two activity-based tests. The first test would encompass firms that routinely express trading interest on both the bid and offer, while the second test encompasses firms that derive revenue by trading on the spread. The SEC did scale back the number of tests from the initial rule proposal, including a test that would require a firm to register if they traded greater than \$25 billion in Treasury securities in 4 of the preceding 6 months. The SEC estimates the new rules will apply to 43 firms.

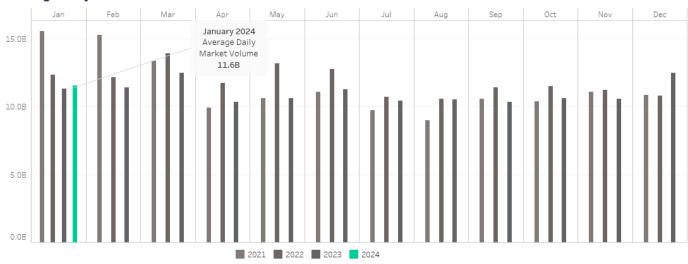
¹ The summaries set forth herein are qualified in their entirety by the underlying rules, filings and referenced materials.

In their dissent, SEC Commissioners Hester Peirce and Mark Uyeda said the new rules are too broad and would create undue burdens on market participants. Commissioner Peirce also questioned the practical application of the new rule in the crypto markets. The new rules will become effective in April 2024. https://www.sec.gov/news/press-release/2024-14
https://www.reuters.com/markets/us/us-sec-set-adopt-treasury-market-dealer-rule-part-market-overhaul-2024-02-06/

Judge Questions SEC's Claim to Regulate Coinbase

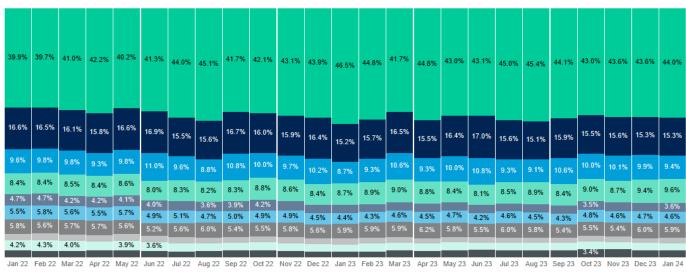
In Coinbase's application seeking to dismiss the SEC's lawsuit against the company, a federal judge questioned whether allowing the SEC to impose its regulations on Coinbase would give the agency authority over markets it currently does not have supervision over. The court did not rule on Coinbase's request but is expected to do so in the coming months. The SEC sued Coinbase in 2023, alleging that the crypto exchange violated rules that require it to register as an exchange and be overseen by the SEC. https://www.wsj.com/finance/regulation/judge-questions-secs-claim-to-regulate-coinbase-ae2f240c

Average Daily Market Volume



Source data: Cboe Global Markets

Venue Market Share



 ■ TRF
 NYSE (N)
 Inverted
 EDGX (K)
 MEMX (U)

 ■ Nasdaq (Q)
 NYSE Arca (P)
 BZX Equities (Z)
 IEX (V)
 Other

Source data: Cboe Global Markets

ATS **TRF Volume Breakdown** OTC Non ATS 23.0% 25.4% 23.8% 23.3% 22.6% 23.8% 24.9% 24.9% 22.5% 22.8% 24.1% 25.4% 23.7% 24.6% 24.0% 24.8% 26.5% 23.2% 26 1% 24.3% 27.6% 74.6% 74.1% 77.0% 77.0% 76.7% 77.4% 76.2% 75.1% 75.1% 77.5% 77.2% 75.9% 74.6% 76.3% 73.9% 75.7% 75.4% 76.0% 75.2% 72.4% 73.5% 76.8% Jan 22 Feb 22 Mar 22 Apr 22 May 22 Jun 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 Jun 24 Apr 25 Apr 26 Apr 27 Apr 28 Ap Tier1 and Tier2 only; Excludes Dealerweb, Source data: FINRA UBS Intelligent Cross **ATS Market Share** Morgan Stanley 15.3% 14.9% 15.2% 16.0% 15.2% 15.9% 16 5% 15.5% 16.6% 16.2% 15 9% 16.3% 16.8% 16.8% BIDS 12.1% 13.2% Virtu

Other

Bank of America

10.7%

11.6% 11.4% 12.0% 12.1%

6.3% 6.6% 6.7% 7.0%

18.6%

17.1% 17.4%

9.3%

9.0% 9.6%

6.9% 6.9%

19.6% 18.2%

7.0% 6.2%

18.4% 19.6%

Jan 22 Feb 22 Mar 22 Apr 22 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

22.3% 23.0%

10.4% 10.1%

6.3%

10.8% 10.0% _{10.4%} 11.0% 10.4%

6.3% 7.0%

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

9.6%

11.3% 10.8%

6.6% 6.7%

11.6% 11.6%

6.7% 6.8%

23.1% 23.4%

10.4%

10.7%

6.3% 6.1% 6.3%

22.4% 22.5%

10.7%

9.6%

10.8%

6.6%

OTC Non-ATS Market Share

10.6%

6.4%

11.0% 10.5%

6.6% 6.5%

25.4% 25.4%

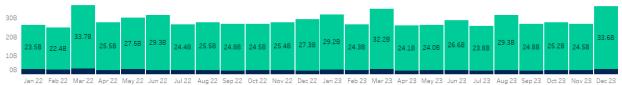


Jan 22 Feb 22 Mar 22 Apr 22 May .. Jun 22 Jul 22 Aug 22 Sep 22 Oct 22 Nov 22 Dec 22 Jan 23 Feb 23 Mar 23 Apr 23 May .. Jun 23 Jul 23 Aug 23 Sep 23 Oct 23 Nov 23 Dec 23 Source: FINRA, NMS Tier 1 & 2 Securities

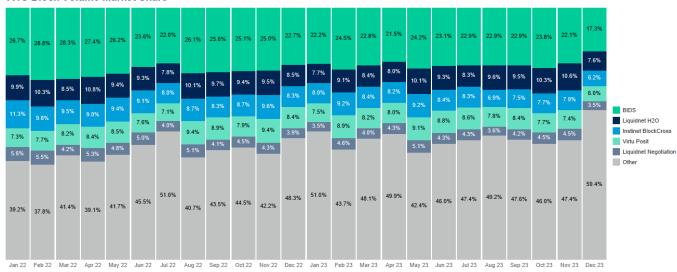




Citadel



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

Quo	tesize	ın	Sha	ares

			2Q 22			3Q 22			4Q 22			1Q 23			2Q 23			3Q 23			4Q 23		1Q 24
		Apr 22	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
First 30 Min	SP500	180	196	195	188	185	183	187	186	189	194		235	229	227	226	222	224	222	230	236	243	247
	RUS2000	236	250	243	232	228	225	232	226	231	250		300	300	298	290		288	288	300	301	307	306
Mid Day	SP500	176	186	190	181	179	184	189	192	194	199	214	228	224	217	216	213	212	211	211	220	224	221
	RUS2000	232	234	246	237	234	235	245	248	250	257		279	283	280	275		275	283	286	300	300	294
Last 30 Min	SP500	190	190	198	197	201	201	212	210	210	216	222	230	231	222	226	222	212	217	212	226	227	222
	RUS2000	255	259	276	267	265	263	274	279	291		283	300	309	300	304		288	303	316	331	318	314
Consod	_																						

Spread Bps

First 30 Mir	SP500	13.4	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
	RUS2000	51.3	57.0	50.4	48.1	45.3	43.2	49.2	51.1	49.8	47.8	47.1	48.9	44.7		45.4	40.3	40.8	39.4	45.6	48.1	44.8	43.6
Mid Day	SP500	5.5	6.5	5.7	5.2	4.7	4.9	5.4	5.5	5.1	4.9	5.0	5.1	4.4		4.6	4.2	4.8	4.6	5.4		4.4	4.2
	RUS2000	22.5	25.0	21.6	20.4		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		18.1
Last 30 Mir	SP500	3.6	3.9	3.5	3.2	2.9		3.4	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
	RUS2000	16.6	18.1	16.2	15.4	14.1	14.1	14.7	15.5		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

One Minute Volatility Bps

First 30 Mir	SP500	20.2	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
	RUS2000	21.7	26.9	24.1	26.6	21.0	20.8	23.1	21.4	16.2	16.2			14.6	15.9	16.5	16.2	15.1	14.0	17.6	17.6	16.3	16.1
Mid Day	SP500	8.2	9.9	8.3	7.5	6.2	8.6	8.1	6.8		5.7		6.7	4.9	5.4	4.8	4.6	4.9	4.1	6.2	4.9	4.3	4.6
	RUS2000	6.8	9.0	6.8	6.1	5.5	7.4	6.7	5.4			4.5	5.5	2.9	3.6	3.3	3.0	2.8	1.5	3.2	2.4	2.8	2.9
Last 30 Min	SP500	9.1	10.8	9.0	7.9	6.2	9.3	8.8	7.1	6.5		6.9	7.4	5.9	6.0	5.5	5.4	5.7	5.1		5.3	5.0	5.3
	RUS2000	8.8	9.8	8.1	6.9	6.2	8.9	7.2	6.8		5.4	6.9	7.9	5.4		5.2	4.9	5.0	3.8	4.5	4.5	5.6	5.0

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%	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%	0.8%	0.7%	0.6%	0.7%		0.6%	0.6%	0.7%	0.7%

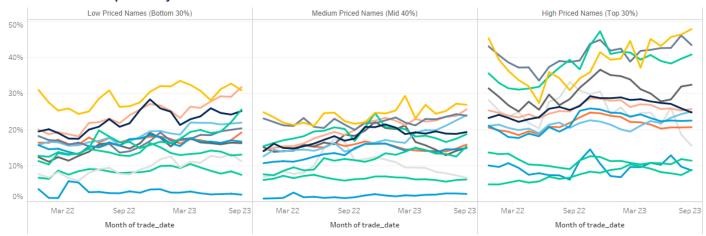
First 30 Min	SP500	9.3%	9.3%	9.4%	9.8%	9.6%	9.0%	9.0%	9.2%	8.6%		8.6%	8.5%	8.7%	8.8%		9.1%	8.4%	8.1%	8.1%	8.5%	8.0%	8.3%
	RUS2000	7.6%	8.2%	7.6%	8.1%	8.2%	7.4%	7.6%		7.2%	7.5%		7.2%	7.3%	7.5%	7.3%	7.5%	7.3%	6.9%	6.4%	7.0%	6.9%	7.7%
Last 30 Min	SP500	19.0%	18.6%	19.2%	18.6%	18.8%	18.7%	18.8%	18.7%	19.0%	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%
	RUS2000	19.6%	19.7%	19.8%	20.3%	20.4%		20.0%	21.0%	20.0%		20.6%	19.9%	20.4%	19.9%	20.1%	20.3%	20.8%	21.3%	20.9%	20.6%	20.1%	19.6%

Close	SP500	11.8%	10.9%		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%
	RUS2000	10.6%	9.1%	10.8%	11.9%	10.4%	11.4%		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%

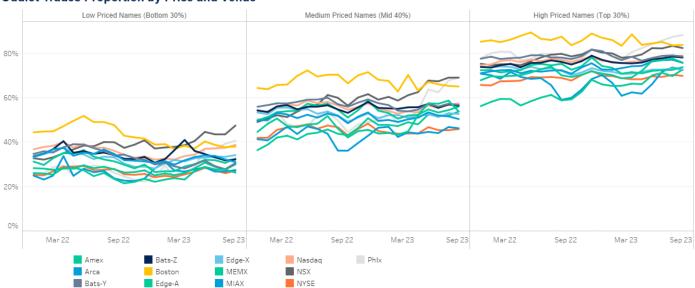
Median used for all metrics

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

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