

January 2023

EMEA Market Structure Monthly

MICROSTRUCTURE OBSERVATIONS

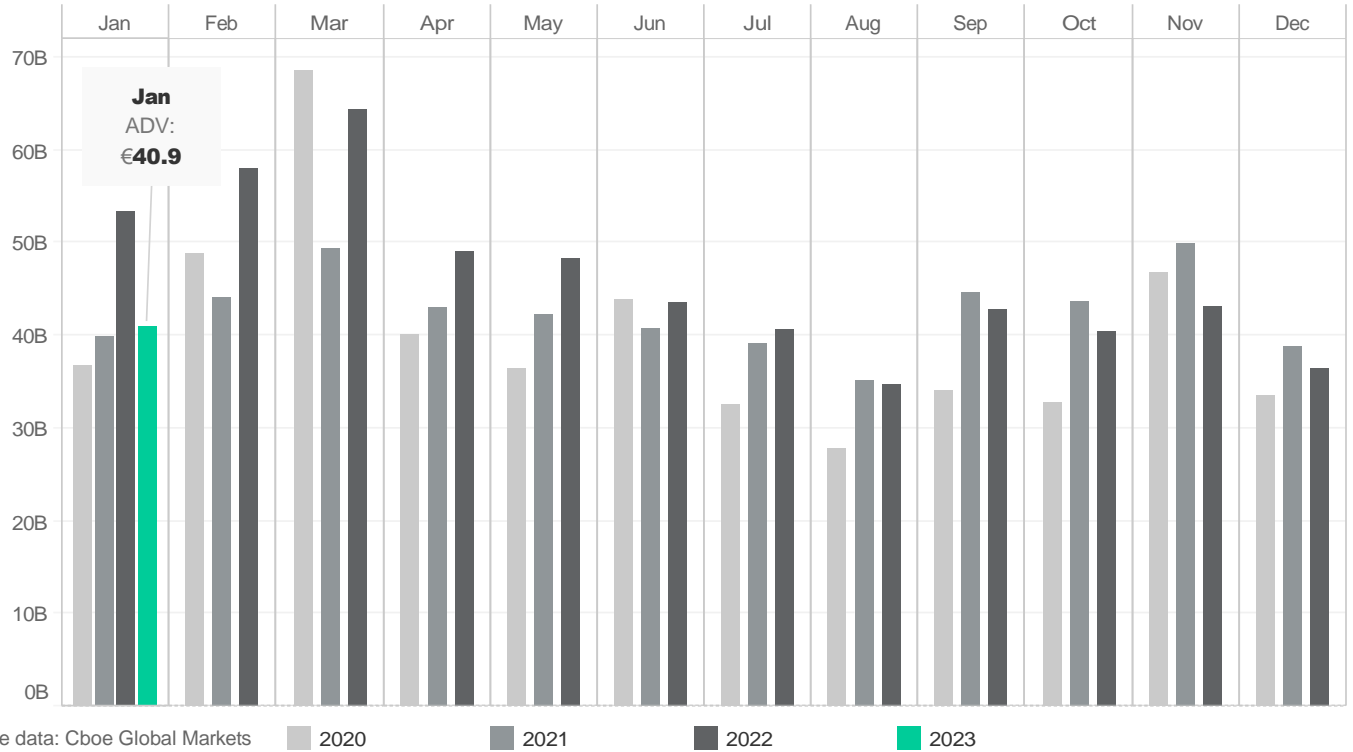
- In January 2023, the average daily volume in EMEA equities increased to €40.9B, 12% higher than previous month (€36.4B); however, much below January 2022's volume, a decrease of 30% (€53.4B).
- The median quote size increased at the European Best Bid and Offer (EBBO) in January for STOXX 50 by 16% and STOXX 600 by 13% during the intraday trading period (08:30 to 16:00 GMT) compared to the previous month.
- Median quoted spreads at the EBBO didn't change significantly in January compared to the previous month; STOXX 50 increased 3% to 3.2bps and STOXX 600 symbol spreads decreased by 4% to 4.9bps, during the intraday trading period.
- Volatility levels didn't change significantly in January; STOXX 50 volatility increased by 6% and STOXX 600 volatility decreased by 2% during intraday trading compared to the previous month.
- The market share distribution between venue types changed minimally compared to the previous month. Primary Auctions market share decreased by 5%. Both Primary and MTF lit market share increased by 0.3% and 1.7%, respectively. Dark venues market share increased by 1.8% and Frequent Batch Auctions ("FBA") venues market share increased as well by 0.3% relative to the previous month.
- Turquoise's market share decreased by 2% while Aquis's market share hit a record of 8%, reflecting an increase of 2% relative to the previous month.
- In January, the closing auction volume decreased as a percentage of the daily volume; STOXX50 closing auction volume was down 2.9% to 20.6% and STOXX600 was down 2.0% to 19.3%.

EMEA MARKET STRUCTURE NEWS

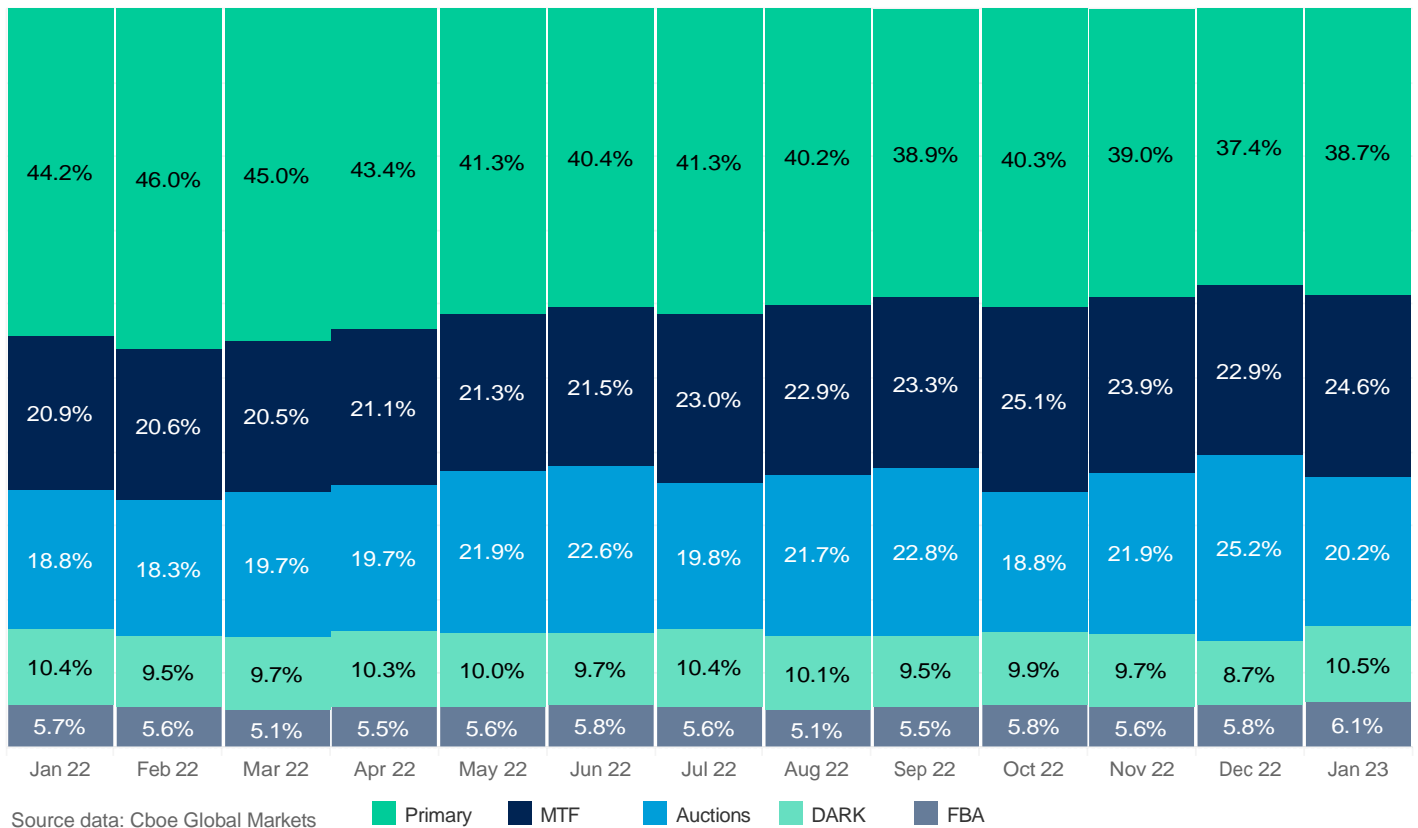
Here are the top 7 market structure trends we will be watching in 2023:

1. How far will the FCA and ESMA regulation diverge from each other in 2023?
2. How will Dark Volume Cap regulation adjustments impact Dark trading market share?
3. Will Close volumes as a % of daily volume continue to increase in 2023 and what % of flow will happen away from primary markets?
4. How much market share growth will Frequent Batch Auctions ("FBA") have in 2023?
5. How will usage of AI in Equity Trading increase in 2023?
6. How will German acceptance of PFOF expand to other European markets this year?
7. How will outsourcing Execution Services and Trading trends grow in 2023?

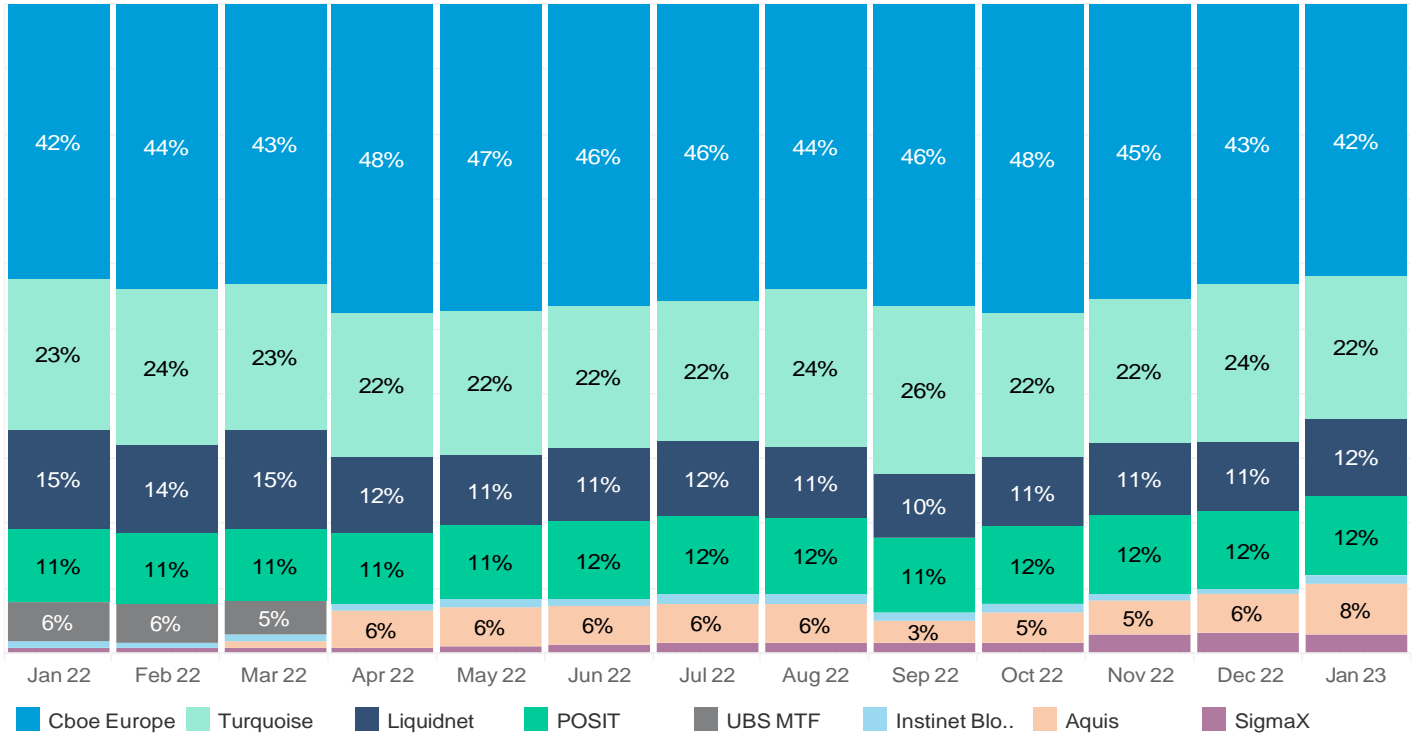
Average Daily Market Volume



Venue Type Market Share

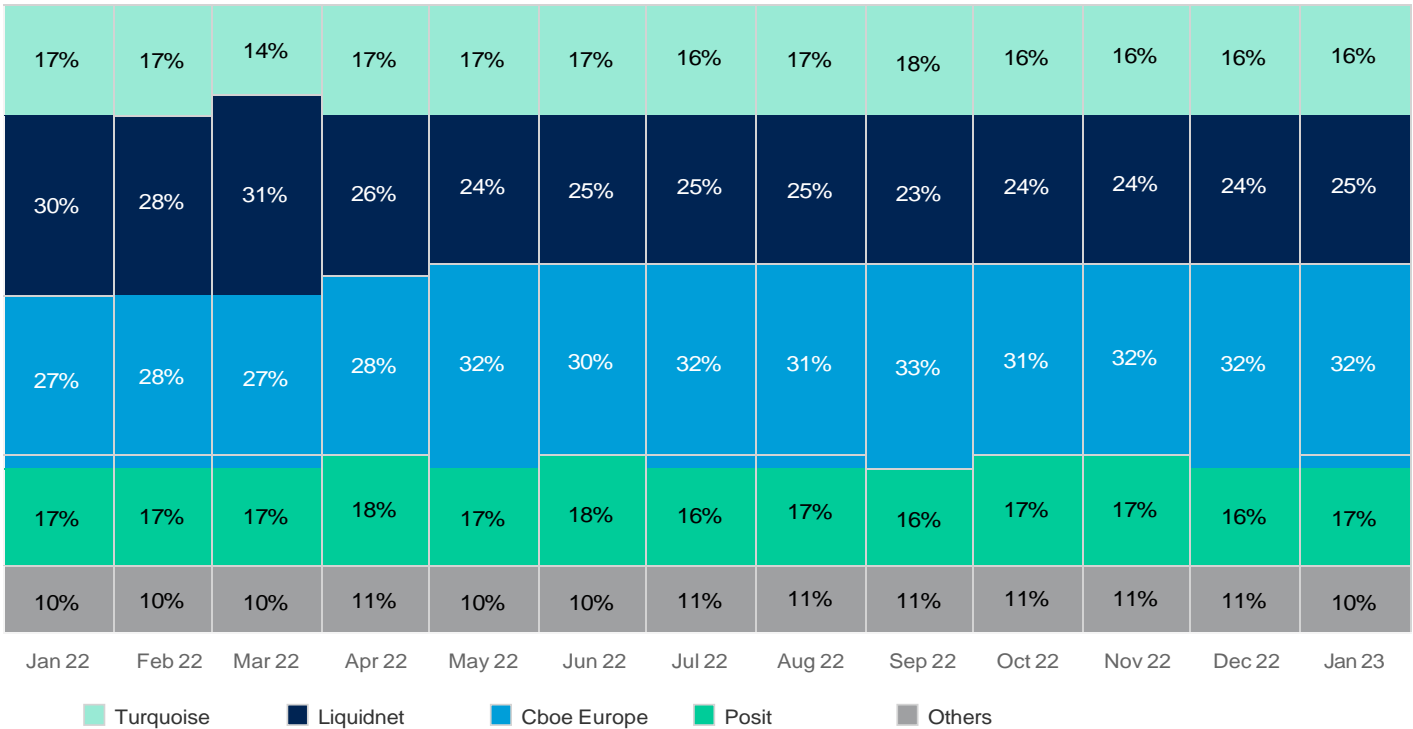


Dark Market Share



Source data: Cboe Global Markets

Block Market Share



Large In Scale values as per defined per symbol by ESMA; Source data: Virtu Financial

Quotesize in Notional USD

		1Q 22			2Q 22			3Q 22			4Q 22			1Q 23
		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
8:00 - 8:30	Stoxx50	19.0K	16.6K	17.5K	18.5K	18.1K	21.0K	16.8K	19.2K	18.3K	18.0K	23.6K	25.9K	30.2K
	Stoxx600	10.5K	9.6K	10.3K	11.1K	10.7K	10.1K	9.6K	10.3K	11.1K	9.9K	10.8K	12.3K	13.7K
8:30 - 16:00	Stoxx50	33.8K	29.7K	23.1K	25.8K	26.4K	33.9K	26.0K	26.6K	25.8K	25.1K	34.3K	35.4K	41.2K
	Stoxx600	17.0K	15.5K	12.6K	14.0K	13.3K	12.9K	11.9K	12.2K	13.4K	11.5K	13.0K	14.9K	16.8K
16:00 - 16:30	Stoxx50	37.9K	35.1K	28.3K	33.3K	33.1K	39.8K	31.3K	31.4K	29.0K	28.8K	40.9K	42.2K	49.6K
	Stoxx600	19.1K	18.6K	14.6K	17.0K	16.0K	15.4K	14.6K	14.7K	15.0K	13.8K	16.6K	18.6K	20.4K

Spread Bps

8:00 - 8:30	Stoxx50	3.9	4.4	5.2	4.9	4.9	5.3	5.8	4.9	5.2	5.2	4.7	4.7	4.7
	Stoxx600	7.9	8.7	9.9	8.9	9.2	9.4	10.3	9.1	9.4	9.8	9.0	8.7	8.3
8:30 - 16:00	Stoxx50	2.5	2.7	3.2	3.0	3.0	3.4	3.6	3.2	3.5	3.4	3.1	3.1	3.2
	Stoxx600	4.7	5.0	5.8	5.2	5.6	5.9	6.3	5.4	5.9	6.0	5.3	5.1	4.9
16:00 - 16:30	Stoxx50	2.2	2.3	2.7	2.5	2.6	2.8	3.0	2.7	2.9	2.8	2.6	2.8	2.8
	Stoxx600	4.1	4.1	4.7	4.4	4.7	4.8	5.1	4.5	4.8	4.9	4.3	4.4	4.1

One Minute Volatility Bps

8:00 - 8:30	Stoxx50	14.4	16.8	21.5	17.8	16.2	16.3	21.5	14.2	17.1	16.9	13.4	11.5	11.5
	Stoxx600	13.7	15.8	20.8	16.8	15.9	15.6	17.8	13.8	16.9	17.4	14.8	12.2	11.9
8:30 - 16:00	Stoxx50	6.6	7.8	10.0	7.3	7.3	7.6	10.2	6.6	8.7	8.1	5.9	5.0	5.3
	Stoxx600	5.9	6.7	8.5	6.5	6.8	6.8	7.7	5.9	7.4	7.6	6.0	5.0	4.9
16:00 - 16:30	Stoxx50	6.7	7.0	9.5	7.2	8.4	8.1	9.2	6.9	8.5	8.5	6.0	5.5	5.6
	Stoxx600	5.5	5.5	7.3	6.0	7.0	6.5	6.8	5.4	6.8	7.0	5.4	4.8	4.6

Percent ADV by Time of Day

Open	Stoxx50	1.1%	1.0%	0.9%	1.0%	0.9%	0.9%	0.7%	0.7%	0.7%	0.7%	0.7%	0.9%	0.9%
	Stoxx600	0.7%	0.6%	0.5%	0.5%	0.5%	0.5%	0.4%	0.4%	0.4%	0.3%	0.4%	0.4%	0.5%
8:00 - 8:30	Stoxx50	8.1%	7.1%	6.1%	6.4%	5.8%	11.8%	17.0%	10.9%	11.5%	11.6%	10.1%	7.1%	6.4%
	Stoxx600	5.8%	5.6%	5.7%	6.0%	5.7%	6.1%	7.0%	7.2%	7.9%	7.8%	7.4%	6.5%	7.8%
16:00 - 16:30	Stoxx50	16.1%	15.5%	16.9%	14.8%	15.3%	16.2%	16.1%	12.3%	11.0%	12.2%	10.2%	6.9%	5.5%
	Stoxx600	12.7%	12.2%	12.4%	10.6%	11.9%	12.1%	12.7%	13.7%	12.9%	12.2%	11.8%	11.0%	11.8%
Close	Stoxx50	21.8%	21.5%	23.8%	23.7%	23.8%	25.4%	24.3%	22.4%	20.4%	18.1%	19.6%	23.5%	21.9%
	Stoxx600	24.2%	24.5%	24.2%	26.1%	24.3%	26.3%	23.2%	21.3%	20.5%	18.3%	18.6%	21.5%	21.4%

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

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