April 2024 EMEA Market Structure Monthly

MICROSTRUCTURE OBSERVATIONS

- EMEA equities daily turnover was down 2% MoM at €44.6B.
- Lit volume shifted away from auctions and onto continuous trading Primary and MTF order books, whilst Periodic Auctions recorded a year high share of 7.7%.
- Touch quote sizes increased to the highest levels observed so far this year, accompanied by wider spreads.

EMEA MARKET STRUCTURE NEWS

Fragmentation and Regulatory Complexity Pose Main Hurdles to European ETF Growth

Market participants exchanged views on the current regulatory landscape in Europe and how these pose a significant threat to future growth within ETFs. A centralized tape would help solve some of the issues around fragmentation, however this is still far off. The US in contrast, has a very centralized model, making settlement more certain and giving participants the confidence to transact more freely.

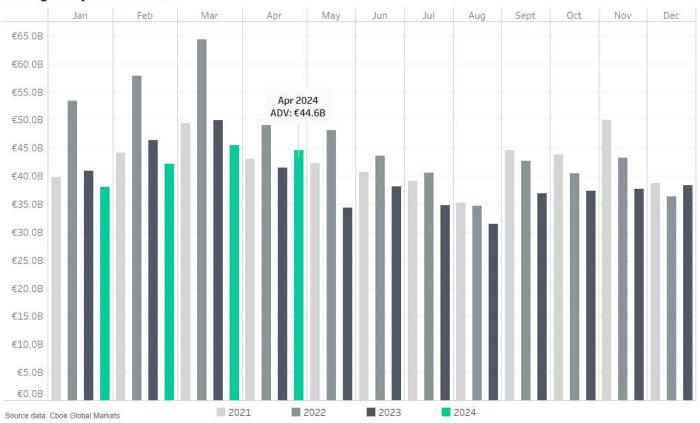
https://www.thetradenews.com/fireside-friday-with-generali-insurance-asset-managements-marie-france-gavillon/

Relationships Between the Buy-Side and Market Makers Strengthen as Volumes in Europe Decrease

Buy-side firms continue to increase the scope of products they route to market makers. Despite low overall market volumes, 40% of brokers surveyed by The Trade plan to increase their cashequity broker lists over the next 12 months. Buy-side firms access principle liquidity in European ETFs through their broker connections as well as direct connections with principal market making desks. These connections allow for cost effective executions and lower overall market impact.

https://www.thetradenews.com/relationships-between-the-buy-side-and-market-makers-look-to-be-solidifying-in-the-face-of-low-volumes-survey-finds/

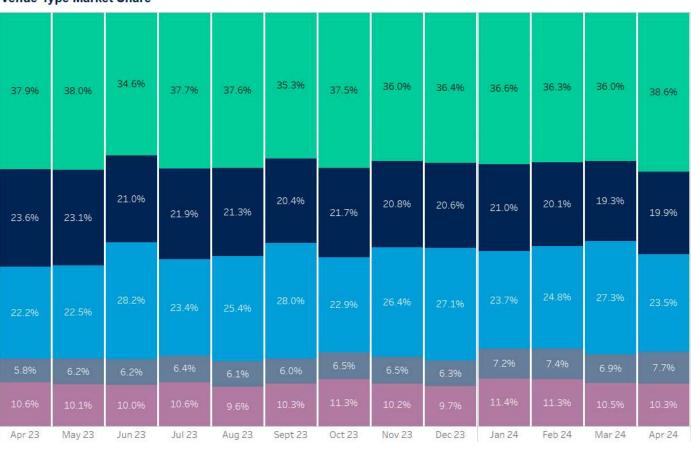
Average Daily Market Volume



Venue Type Market Share

Source data: Choe Global Markets

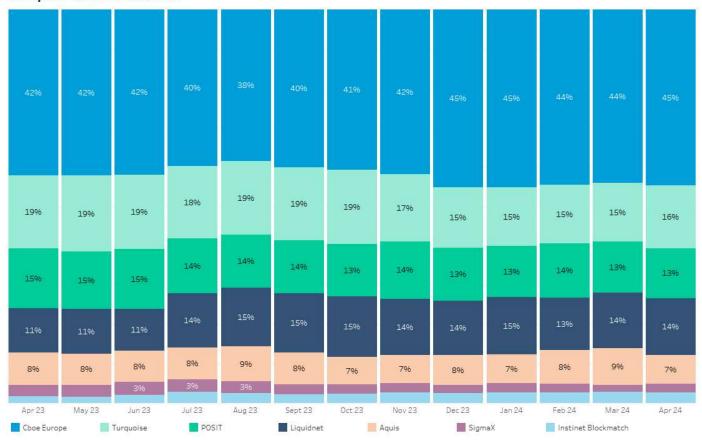
Primary MTF



Auctions FBA

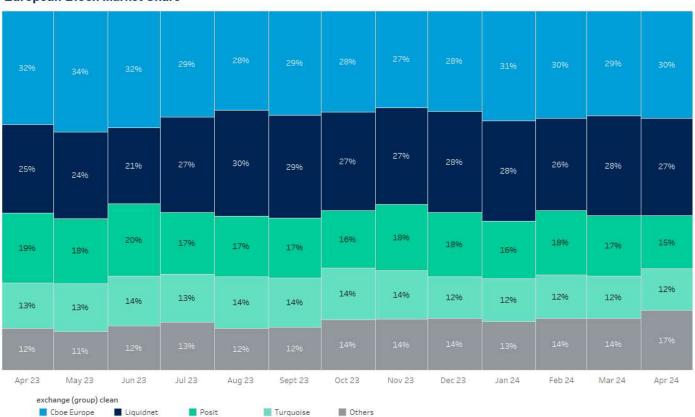
Dark

European Dark Market Share



Source data: Choe Global Markets

European Block Market Share



Quotesize in Notional USD

| | | 2Q 23 | | | 3Q 23 | | | 4Q 23 | | | 1Q 24 | | | 2Q 24 |
|------------------|------------|-----------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|--------|
| | | Apr 23 | May 23 | Jun 23 | Jul 23 | Aug 23 | Sept 23 | Oct 23 | Nov 23 | Dec 23 | Jan 24 | Feb 24 | Mar 24 | Apr 24 |
| 8:00 - 8:30 | Stoxx50 | 31.3K | 29.3K | 25.8K | 27.9K | 28.0K | 25.1K | 23.5K | 25.8K | 25.6K | 24.4K | 25.2K | 27,5K | 33.0K |
| | Stoxx600 | 15.2K | 14.3K | 13.5K | 13.0K | | 12.1K | 11.1K | 11.5K | 12.1K | 11.7K | 12.0K | 12.7K | 13.7K |
| 8:30 - 16:00 | Stoxx50 | 42.1K | 39.4K | 34.2K | 39.0K | 39.9K | 36.5K | 37.3K | 38.2K | 38.7K | 36.4K | 40.6K | 43.0K | 54.4K |
| | Stoxx600 | 19.1K | 18.0K | 17.6K | 17.1K | 16.2K | 16.1K | 15.3K | 15.4K | 16.7K | 16.8K | 16.9K | 18.5K | 20.5K |
| 16:00 - 16:30 | Stoxx50 | 49.5K | 47.3K | 41.8K | 48.1K | 51.5K | 51.6K | 51.8K | 51.5K | 53.8K | 48.4K | 55.4K | 60.8K | 70.2K |
| | Stoxx600 | 24.1K | 23.4K | 23.3K | 22.9K | 21.3K | 22.7K | 20.4K | 21.6K | 23.3K | 23.4K | 23.8K | 26.2K | 29.1K |
| Spread | Bps | | | | | | | | | | | | | |
| 8:00 - 8:30 | Stoxx50 | 5.4 | 5.5 | 5.3 | 5.2 | 4.8 | 4.7 | 4.6 | 4.7 | 4.6 | 4.5 | 4.6 | 4.7 | 6.0 |
| | Stoxx600 | 8,3 | 8.4 | 8.0 | 8.1 | 8.1 | 7.9 | 8.5 | 8.3 | 7.7 | 7.8 | 7.9 | 7.9 | 8.8 |
| 8:30 - 16:00 | Stoxx50 | 3,4 | 3.4 | 3.3 | 3.4 | | 3.2 | 3.3 | 3.1 | 3.0 | 3.1 | 3.0 | 3.1 | 4.1 |
| | Stoxx600 | 5.1 | 5.1 | 5.0 | 5.1 | 5.1 | 5.0 | 5.6 | 5.2 | 4.9 | 4.9 | 4.9 | 4.8 | 5.5 |
| 16:00 - 16:30 | Stoxx50 | 3.1 | 3.1 | 3.1 | 3.1 | 3.0 | 2.7 | 2.8 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 3.8 |
| | Stoxx600 | 4.5 | 4.4 | 4.5 | 4.5 | 4.6 | 4.4 | 4.9 | 4.5 | 4.4 | 4.2 | 4.2 | 4.2 | 4.8 |
| One Mi | nute Volat | ility Bps | 5 | | | | | | | | | | | |
| 8:00 - 8:30 | Stoxx50 | 12.3 | 12.4 | 11.4 | 11.4 | 10.4 | 10.2 | 12.2 | 10.4 | 9.3 | 10.8 | 10.8 | 9.8 | 11.3 |
| | Stoxx600 | 11.7 | 11.1 | 10.2 | 10.4 | 9.6 | 9.4 | 11.7 | 10.5 | 9.6 | 10.1 | 10.6 | 10.2 | 11.1 |
| 8:30 - 16:00 | Stoxx50 | 5.5 | 5.1 | 5.1 | 5.0 | 5.3 | 5.2 | 6.1 | 4.7 | 4.3 | 4.8 | 4.6 | 4.6 | 5.2 |
| | Stoxx600 | 4.8 | 4.6 | 4.5 | 4.5 | 4.5 | 4.6 | 5.6 | 4.8 | 4.2 | 4.4 | 4.3 | 4.3 | 4.8 |
| 16:00 - 16:30 | Stoxx50 | 5.9 | 5.7 | 5.8 | 5.1 | 5.4 | 4.8 | 5.8 | 4.7 | 4.3 | 4.3 | 4.3 | 4.2 | 5.1 |
| | Stoxx600 | 4.5 | 4.5 | 4.4 | 4.2 | 4.3 | 4.2 | 5.1 | 4.3 | 4.0 | 3.9 | 4.0 | 4.0 | 4.5 |
| Percen | t ADV by | Time of | Day | | | | | | | | | | | |
| Open | Stoxx50 | 1.0% | 1.0% | 1.1% | 1.196 | 1.0% | 1.0% | 1.0% | 0.9% | 1.4% | 1.1% | 1.1% | 1.1% | 1.1% |
| | Stoxx600 | 0.6% | 0.6% | 0.6% | 0.6% | 0.5% | 0.5% | 0.5% | 0.5% | 0.7% | 0.6% | | 0.6% | 0.6% |
| 8:00 - 8:30 | Stoxx50 | 2.9% | 3.4% | 3.0% | 4.1% | 6.4% | 7.3% | 4.3% | 4.1% | 4.0% | 4.1% | 4.0% | 3.5% | 3.6% |
| | Stoxx600 | 6.5% | 6.6% | 5.7% | 5.7% | 5.7% | | 4.8% | 4.8% | 5.0% | 5.1% | 4.9% | 5.0% | 5.1% |
| 16:00 - 16:30 | Stoxx50 | 2.0% | 2.8% | 2.9% | 4.4% | 8.4% | 11.2% | 5.1% | 4.8% | 4.6% | 4.496 | 4.0% | 3.6% | 4.296 |
| | Stoxx600 | 13.3% | 13.9% | 13.6% | 14.4% | 15.8% | 16.1% | 14.7% | 13.0% | 13.796 | 12.9% | 12.5% | 12.5% | 13.6% |
| Close | Stoxx50 | 26.6% | 28.9% | 32.6% | 29.1% | 27.7% | 31.5% | 28.2% | 29.4% | 31.7% | 30.7% | 29.9% | 33.4% | 30.5% |
| | Stoxx600 | 29.8% | 30.6% | 34.9% | 32.4% | 32.8% | 34.5% | 31.9% | | 34.3% | 32.9% | 34.0% | 34.4% | 33.7% |

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 data: Virtu Financial

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)