

EVOLUTION OF EU MARKET STRUCTURE

VOLATILITY EFFECTS AND QUALITY OF LIQUIDITY

Study

Executive Summary

ESMA published in April 2026 a call for evidence on the evolving structure of European equity markets, highlighting a decline in the market share of continuous lit order books, alongside with the growth of auctions, frequent batch auctions (FBAs) and systematic internalisers (SIs).

This study examines how volatility affected the distribution of order flow across execution mechanisms for EEA instruments traded in the European Union between 2022 and 2025 and identifies the underlying trends that remain under calm market conditions. It also complements this analysis with an assessment of liquidity quality through the evolution of quoted spreads at execution on continuous lit regulated markets.

The main conclusions are the following:

- **First, volatility influences the distribution of order flow across execution mechanisms.** During periods of market stress, the share of continuous lit trading increases, particularly on regulated markets, while that of auctions and other mechanisms decreases or remains broadly stable. Market participants therefore appear to favour mechanisms offering visible and immediately accessible liquidity. While the direction of this relationship is broadly consistent across the stress episodes observed, its magnitude varies depending on their intensity, duration and nature.
- **Second, the relative decline in continuous lit trading persists, under calm market conditions, although less pronounced.** Volatility therefore explains part of the observed changes without eliminating the underlying redistribution of market shares across execution mechanisms.
- **Third, the decline in the market share of continuous lit trading does not correspond to a contraction in volumes.** Absolute volumes increase for continuous lit trading over the period, albeit more slowly than those executed through FBAs, SIs, auctions and dark trading. They therefore retain substantial activity but capture a smaller share of the overall growth in order flow.
- **Fourth, beyond market-share and volume developments, an assessment of liquidity quality through quoted spreads indicates a gradual and moderate widening across continuous lit markets during calm market conditions.** The widening appears to have been progressive rather than the result of a sudden structural break or market dislocation. The more pronounced increase observed in Q4 2025, with Multilateral Trading Facilities (MTFs)

contributing significantly to the widening would require being monitored to determine whether it persists.

These findings provide insights into developments in continuous lit markets. However, they are not sufficient, on their own, to assess liquidity quality and price formation across execution mechanisms.

A useful next step would therefore be to consider a framework for the ongoing monitoring of market structure, based on a limited set of relevant indicators. These could include, for example, trading volumes, quoted spreads, order book depth and market impact. Given the need for such monitoring to be conducted consistently across the EU and over time, ESMA appears best placed to develop and maintain this framework. Such a framework would allow trends to be assessed consistently over time and help identify areas where more granular analysis may be required. The contribution to price formation of trades executed through frequent batch auctions, systematic internalisers and dark trading would also form part of this monitoring, in order to better assess how these mechanisms interact with, and potentially complement, lit markets in the price formation process.

In April 2026, ESMA published a call for evidence on the structure of European equity markets¹. Its analysis, based on MiFIR transaction reports from 2022 to 2025, highlights a decline in the share of trading on continuous transparent order books, alongside a rise in closing auctions, frequent batch auctions (FBAs), and systematic internalisers (SIs). It questions the impact of this trend on price formation and the quality of execution and whether any regulatory intervention would be needed.

AMAFI considers that the interpretation of this trend should take market conditions into account, in particular volatility, as market participants adapt their execution strategies according to factors such as available liquidity, likelihood of execution and potential price impact. As such, during periods of market stress, they rely more on transparent order books, which offer greater visibility and immediacy of execution².

The period reviewed by ESMA begins with the first two quarters of 2022, which were marked by high volatility and trading volumes³, and then extends into generally calmer market conditions. A direct comparison between the beginning and end of the period could therefore mix volatility-driven effects with structural changes in market structure.

Based on BMLL post-trade transparency data, the analysis compares market shares under calm and stressed conditions, examines their relationship with volatility, assesses trends and absolute trading volumes, and complements these findings with an analysis of quoted spreads on the largest continuous lit regulated markets.

Taken together, these analyses provide a broader view of market dynamics and identify areas where further analysis and ongoing monitoring could strengthen the assessment of liquidity quality and price formation across execution mechanisms.

I. METHODOLOGY

A. PERIMETER

The analysis covers instruments within the European Economic Area (EEA) and, in line with ESMA analysis, the period from the first quarter of 2022 to the fourth quarter of 2025.

It is focused on **addressable liquidity**, meaning trades for which another investment firm or a client could have acted as a counterparty.

The scope includes the following trading mechanisms:

- Continuous lit order books on regulated markets and Multilateral Trading Facilities (MTFs)
- Closing and intraday auctions
- Dark trading

¹ Link: [Call for Evidence on the market structure of European equity markets](#)

² See [Why the Middle East conflict is rewiring the execution dynamics of European market microstructure](#): this analysis observes a shift towards lit continuous trading during heightened volatility, as investors sought greater immediacy and certainty of execution.

³ Periods corresponding to the start of Russia's invasion of Ukraine.

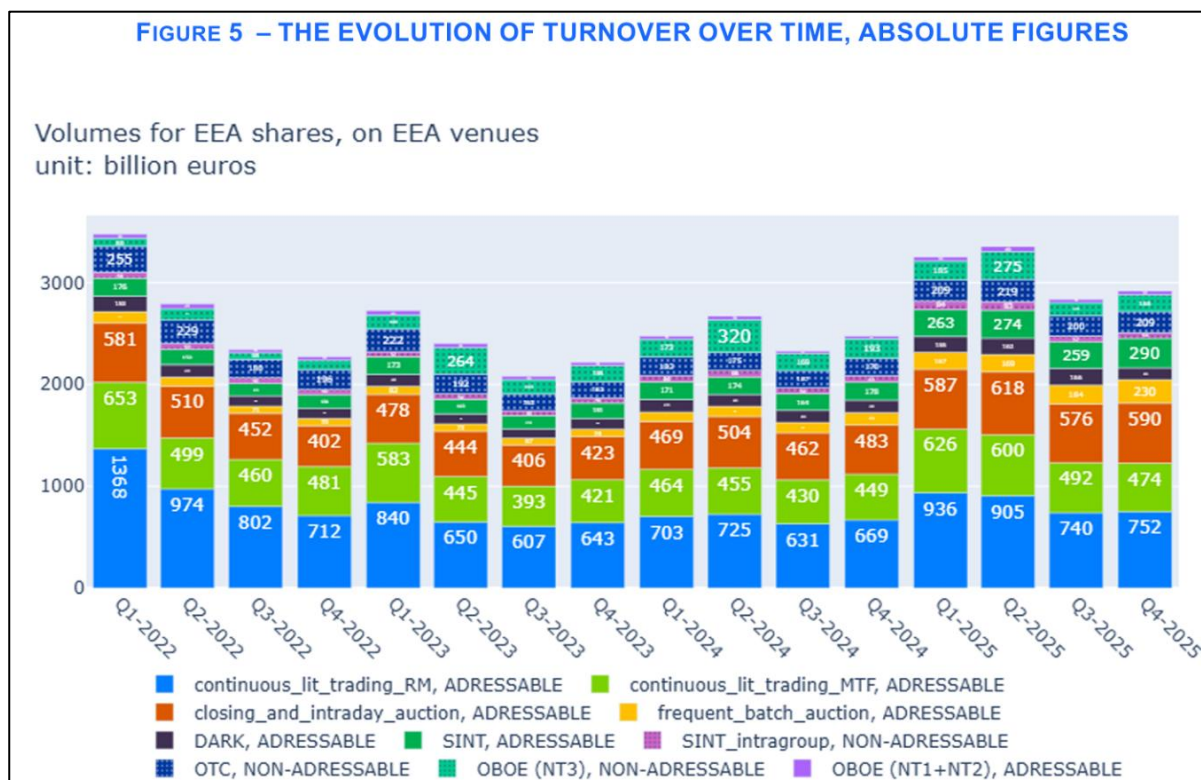
- Frequent batch auctions (FBAs)
- Addressable activity of systematic internalisers (SIs).

For every period, the market **share** for each trading mechanism is calculated as its volume compared to the total addressable volume.

B. DATA SOURCES

The ESMA study is based on transaction reports submitted to competent authorities under MiFIR. As these data are not publicly available, the present analysis relies on BMLL⁴ post-trade transparency data, coming from trading venues and Approved Publication Arrangements (APAs).

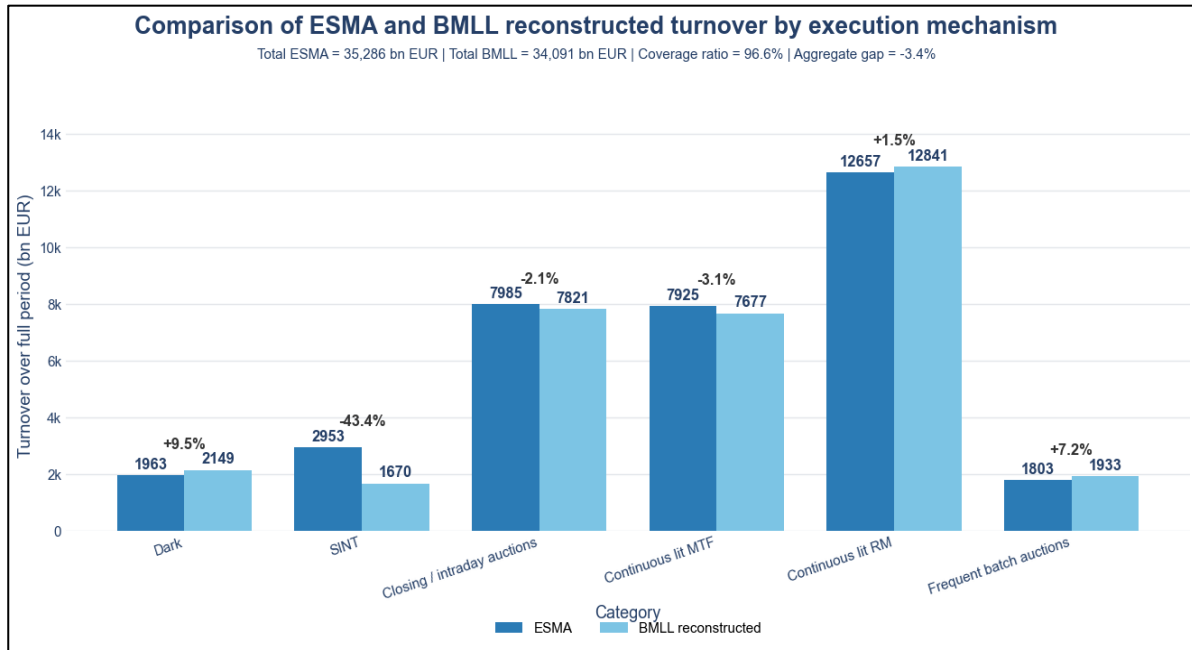
Although MiFIR transaction-reporting data and post-trade transparency data serve different purposes, both can be used to measure EU-wide turnover by execution mechanism. The volumes reconstructed using BMLL data were compared with those published by ESMA. The aggregate discrepancy is around 3% over the full period, supporting the use of BMLL data for the EU-wide analysis conducted in this study. The most discrepancy concerns SIs due to differences in coverage and classification between post-trade transparency data and MiFIR regulatory reports⁵.



Source: Call For Evidence ESMA Market Structure

⁴ BMLL is a provider of harmonized historical market data, notably collected from trading venues and approved publication arrangements. To learn more: [Historical Market Data & Analytics | BMLL](#).

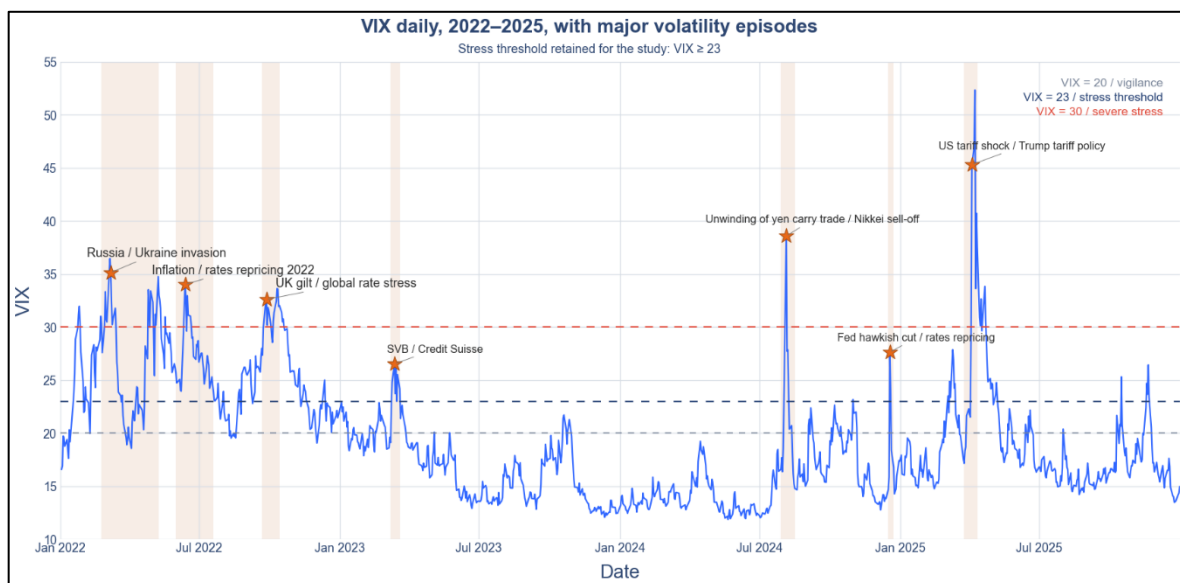
⁵ Differences arise as RTS 22 MiFIR reports and RTS 1 post-trade transparency data do not always rely on identical flags and flags may be used differently by market participants.



Source: AMAFI calculations based on BMLL data

C. MEASUREMENT OF VOLATILITY

Volatility is measured daily using the **VIX**, an indicator of volatility levels. It is used here as a general indicator of the level of market stress.



Source: AMAFI calculations based on BMLL data

The analysis identifies two distinct market regimes:

- **Quiet days:** VIX below 23
- **Stressed days:** VIX greater than or equal to 23

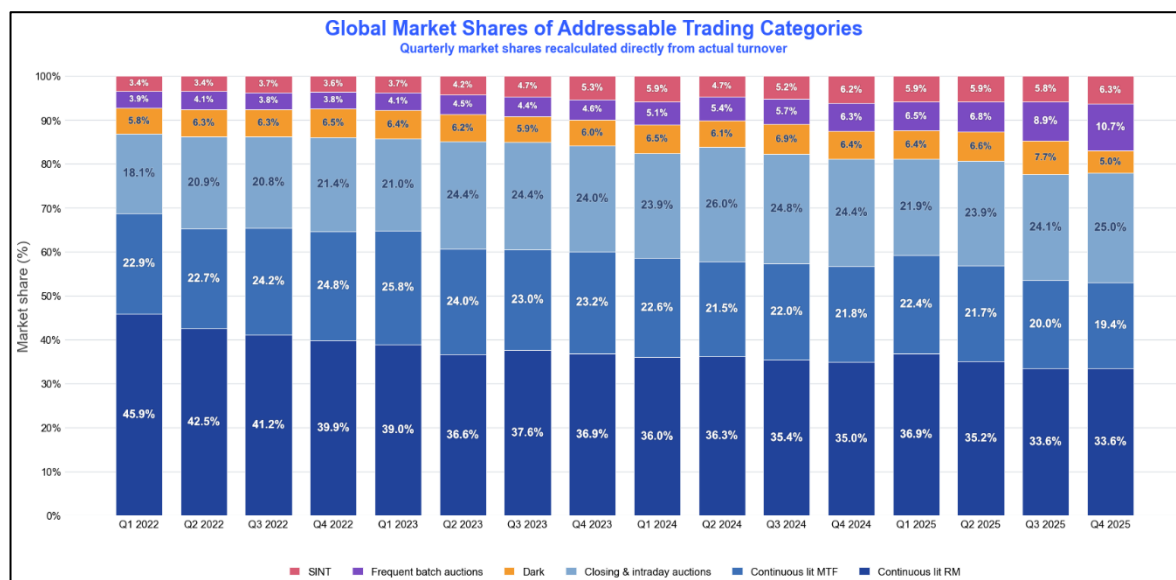
The analysis used to determine this threshold is based on benchmarks commonly found in the literature⁶, which generally associate a VIX below 20 with quiet conditions and a level above 30 with episodes of high stress.

A threshold of 23 was selected as an intermediate cutoff point, tailored to the distribution observed between 2022 and 2025, to identify periods of stress without limiting them solely to extreme episodes. Detailed justification and sensitivity tests are provided in the appendix.

Based on daily data, quarterly market shares are then recalculated for each of the two volatility regimes to isolate the effects of volatility.

II. RESULTS

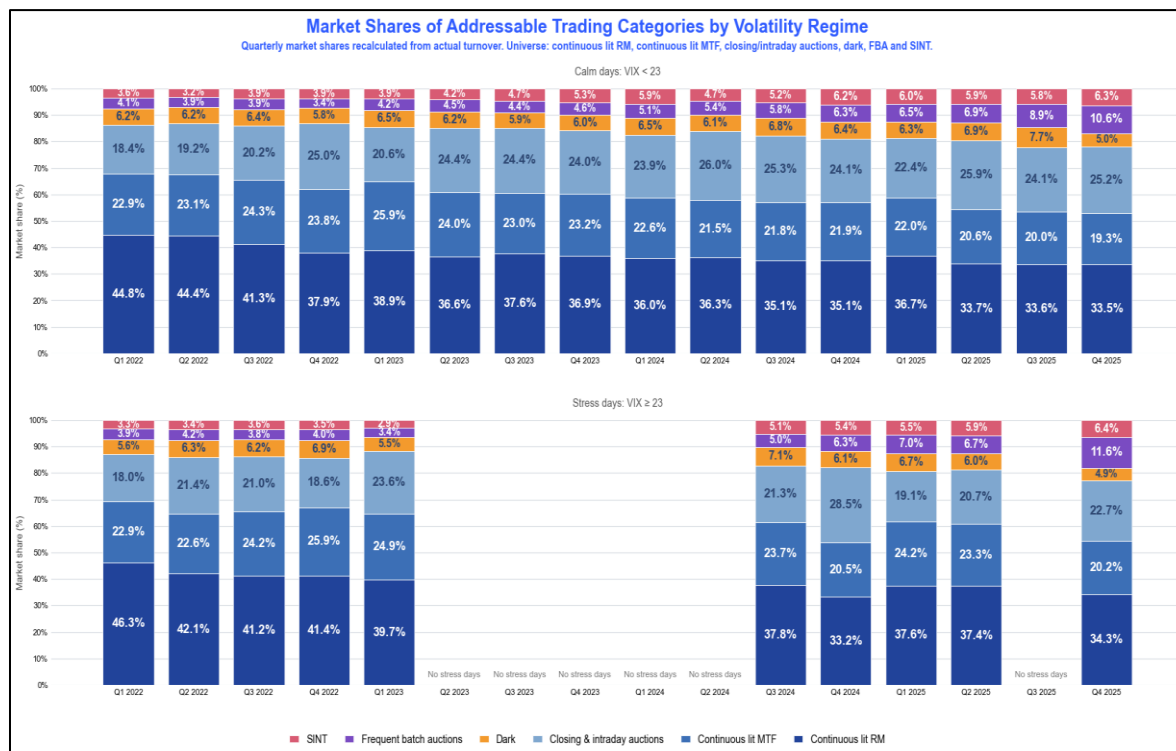
A. MARKET SHARES BY VOLATILITY



Source: AMAFI calculations based on BMLL data

Market shares are recalculated quarterly, on two separate samples: a first one covering quiet day, when the VIX is below 23, and a second one covering stressed days, when the VIX reaches or exceeds that threshold.

⁶ See, in particular, Investopedia, *Cboe Volatility Index (VIX)*; Hsu & Murray, *On the Volatility of Volatility*.



Source: AMAFI calculations based on BMLL data

The comparison highlights a relative shift in flows during periods of market stress. In most of the quarters with a significant number of stress days, the combined share of continuous order books on regulated markets and MTFs is higher than on calm days.

Conversely, closing and intraday auctions, as well as the category comprising dark trading, FBA, and SI, do not show the same relative increase. Volatility therefore appears to favour mechanisms offering immediately visible and accessible liquidity. Stress periods therefore lead to a consistent shift towards continuous trading, particularly on regulated markets.

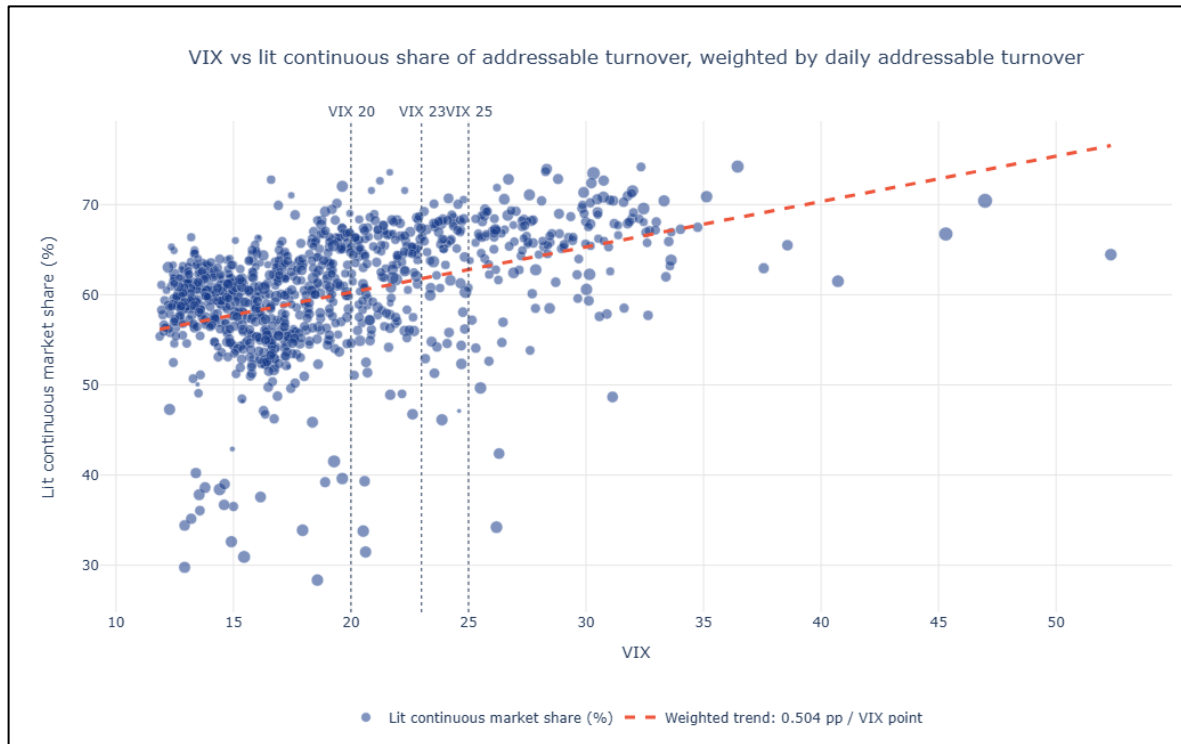
The magnitude of this shift nevertheless varies across episodes, reflecting differences in their intensity, duration and origin. The results should therefore be interpreted as a general directional pattern rather than as a uniform response to all periods of market stress.

B. CORRELATION BETWEEN VOLATILITY AND MARKET SHARE

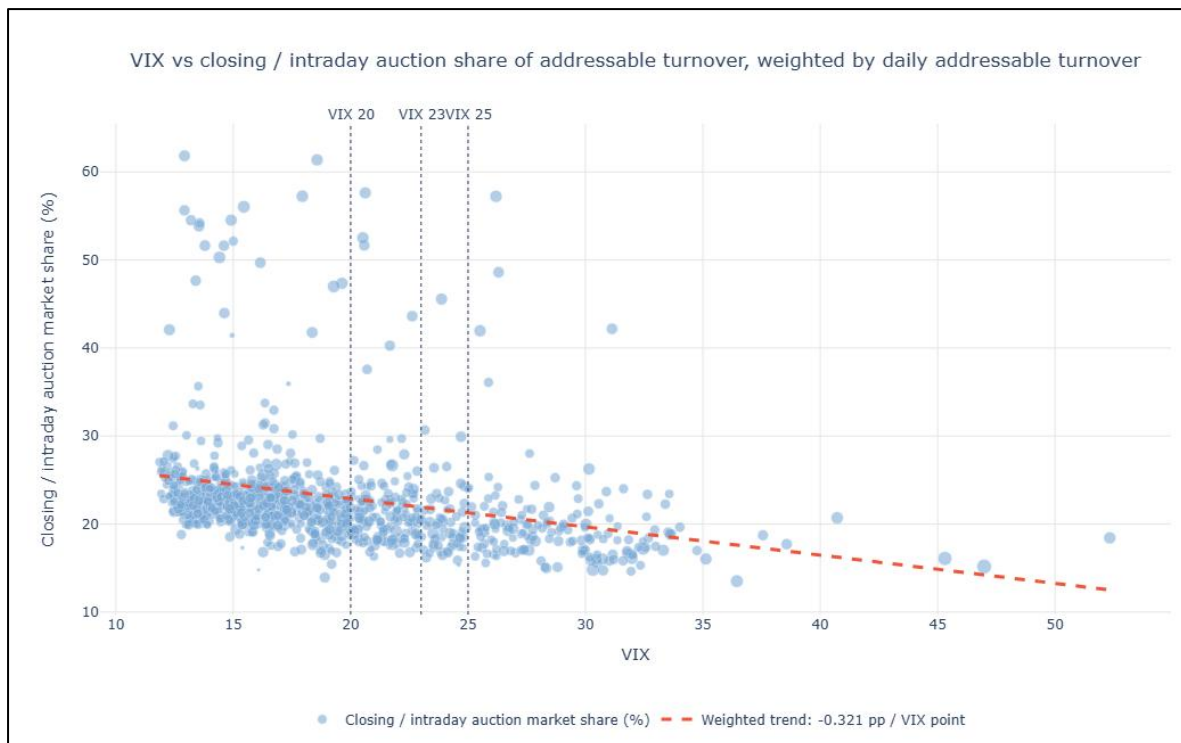
To examine whether a correlation exists between volatility and market share, the analysis is conducted daily across three segments:

- Continuous trading: regulated markets and MTFs
- Closing and intraday auctions

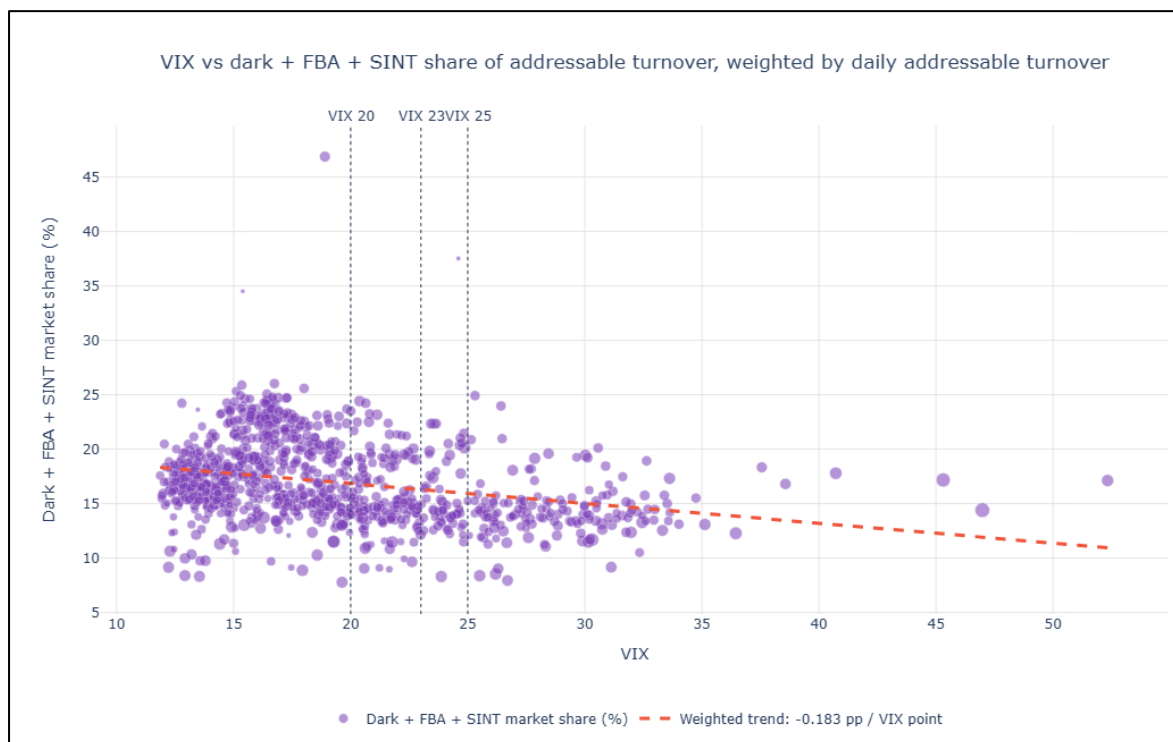
- Other mechanisms: Dark trading, FBA, and SIs



Source: AMAFI calculations based on BMLL data



Source: AMAFI calculations based on BMLL data



Source: AMAFI calculations based on BMLL data

Each dot represents a trading day. The VIX is shown on the horizontal axis, and the mechanism's share of addressable volume on the vertical axis. The size of the dot reflects the total volume traded during the day, giving greater visual weight to the most active sessions.

The results confirm the initial observation. On average, an increase by one point of the VIX translated into:

- an average increase of 0.504 percentage points in the continuous trading share,
- a 0.321 percentage point decrease in the auction share,
- a 0.183 percentage point decrease in the combined share of dark trading, FBA, and Sis.

The correlation is therefore **positive for continuous trading and negative for the other mechanisms** analysed.

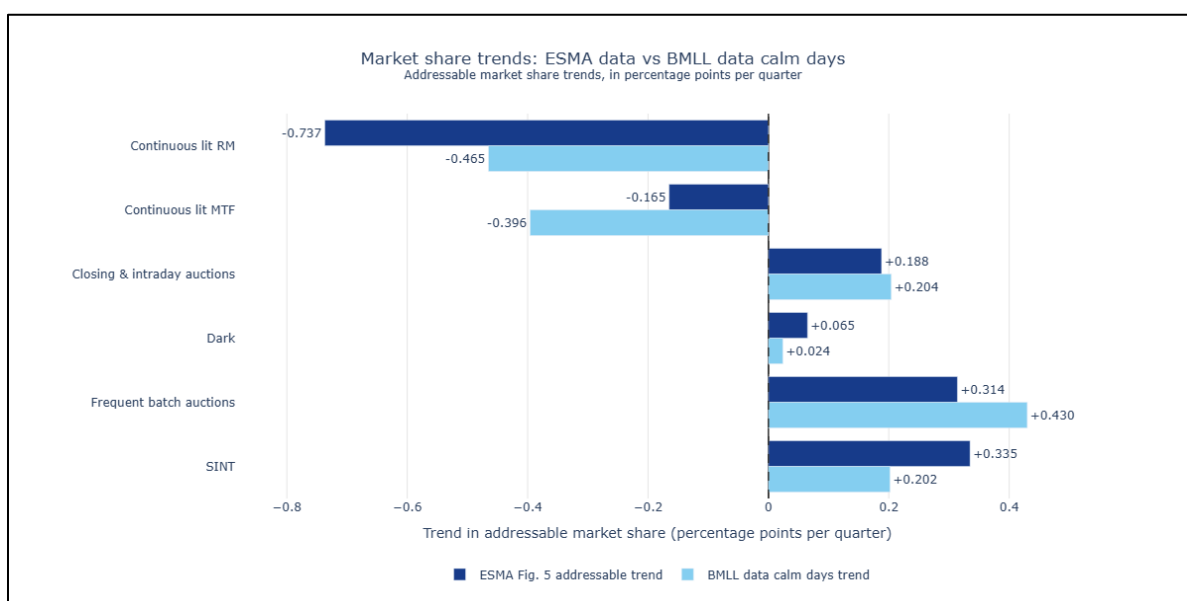
Detailed statistical tests, including Pearson and Spearman coefficients, p-values, and R^2 , are detailed in the appendix. They show statistically significant relationships between volatility and market shares, with a relatively strong positive correlation for continuous trading on regulated markets. However, the low R^2 values indicate that the VIX alone explains only a limited share of daily market-share variations. The results therefore identify a clear directional relationship, but not a precise predictive relationship.

C. MARKET SHARES TRENDS (CALM PERIODS)

As mentioned above, trading patterns during stress periods are more variable across episodes, reflecting differences in their intensity, duration and origin. The following analysis therefore focuses on calm periods, which provide a more stable basis for assessing underlying market share trends and limit the influence of episodic volatility shocks.

To avoid taking an exceptionally volatile and active period as the starting point, the trend analysis uses the **third quarter of 2022** as a baseline. The rationale for excluding Q1 and Q2 2022 is detailed in Appendix C.

For each trading mechanism, quarterly market shares are recalculated using only volumes recorded on calm days, defined as days when the VIX is below 23. A linear trend is then estimated across all quarters from Q3 2022 to Q4 2025. Its slope measures the average change in market share, expressed in percentage points per quarter. The result is therefore based on the entire series, rather than merely comparing the first and last quarters.



Source: AMAFI calculations based on BMLL data

The chart compares trends derived from ESMA's data with those calculated using BMLL data for calm days only, defined as days with a VIX below 23.

For continuous lit regulated market, trading overall, the decline remains visible under calm market conditions but is less pronounced than in ESMA's published series (0.465 market share points per quarter, compared to -0.737 in the ESMA data).

More broadly, the direction of the main trends across execution mechanisms remains broadly consistent with ESMA's findings, although their magnitude varies, with some trends becoming less pronounced and others more pronounced.

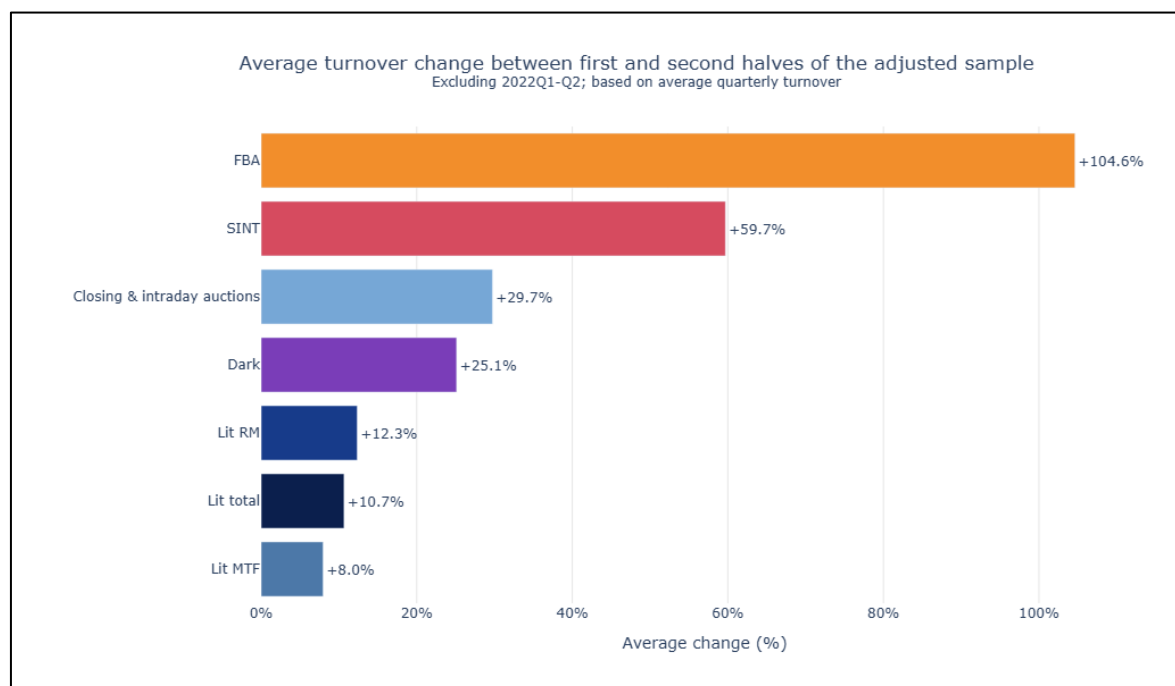
D. CHANGES IN VOLUMES IN ABSOLUTE TERMS (CALM PERIODS)

The analysis of market shares is complemented by an analysis of absolute volumes to determine whether the relative decline of continuous trading comes solely from faster growth in other mechanisms or also reflects a drop in its own activity level, in volume terms, as such a decrease could affect the liquidity pool available for price formation on these execution venues.

As with the trend analysis, the first two quarters of 2022 are excluded due to their atypical nature, as detailed in Appendix C.

For each mechanism, daily traded volumes are aggregated by quarter over the adjusted period, from Q3 2022 to Q4 2025. The fourteen quarters are then divided into two sub-periods of equal length (Q3 2022–Q1 2024 and Q2 2024–Q4 2025) for comparison purposes.

The average quarterly volume is calculated for each sub-period, with the change between the two expressed as a percentage. This method limits the impact of any single exceptional quarter and measures the evolution of the average level of activity, rather than simply comparing the beginning with the end of the period.



Source: AMAFI calculations based on BMLL data

The analysis shows that, in absolute terms, **continuous lit trading maintains a substantial base of activity**. Excluding early 2022, volumes traded on regulated markets increased by **12.35%**, while those executed on MTFs rose by **7.96%**. Continuous trading therefore increased in absolute term.

However, other mechanisms grew at a faster pace over the same period: closing and intraday auctions increased by **29.7%**, FBA by **104.6%**, dark trading by **25.1%**, and SIs by **59.7%**.

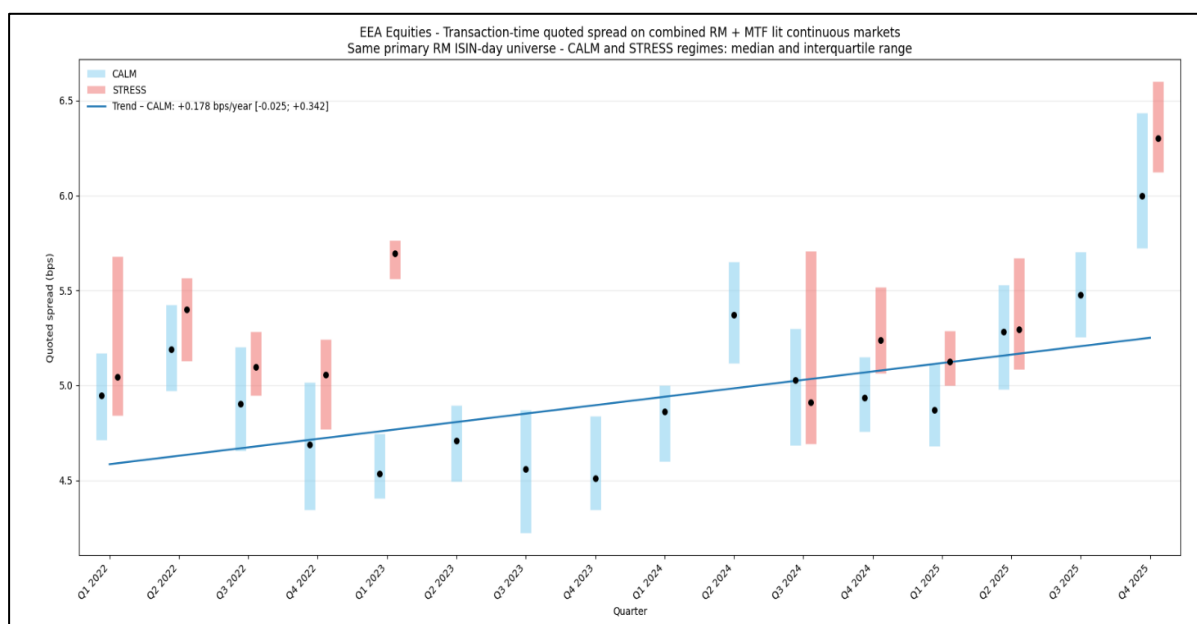
This faster growth shows that the **increase in addressable volumes has been captured primarily by other mechanisms**, in particular FBAs and SIs.

This mitigates the market share trend analysis. The relative decline in continuous trading does not primarily reflect a decrease in its own volumes, but rather the faster growth of other mechanisms in the context of increasing overall volumes. **Continuous lit trading therefore retains a significant activity base, while capturing a smaller share of the growth in trading flows.**

E. EVOLUTION OF LIQUIDITY QUALITY ON CONTINUOUS LIT ORDER BOOKS (CALM PERIODS)

To extend the analysis of market shares and trading volumes to liquidity quality, the evolution of quoted spreads is examined on a combined RM and MTF basis, using the same primary regulated market ISIN-day universe as in the core analysis, namely the six largest continuous lit regulated markets: Germany, France, Italy, the Netherlands, Sweden and Spain. These markets account for more than 80% of the turnover of EU regulated markets over the period.

For each trade executed, the quoted spread available on the venue at execution is snapshotted, using the best bid and ask and expressed in basis points. Spreads are first aggregated daily at security level using trade-notional weights. Securities are then weighted by turnover to calculate the daily first, median and third quartiles of the spread distribution. These daily measures are then aggregated by quarter, with a distinction between quiet market conditions, defined as a VIX below 23, and stressed market conditions, defined as a VIX greater than or equal to 23.

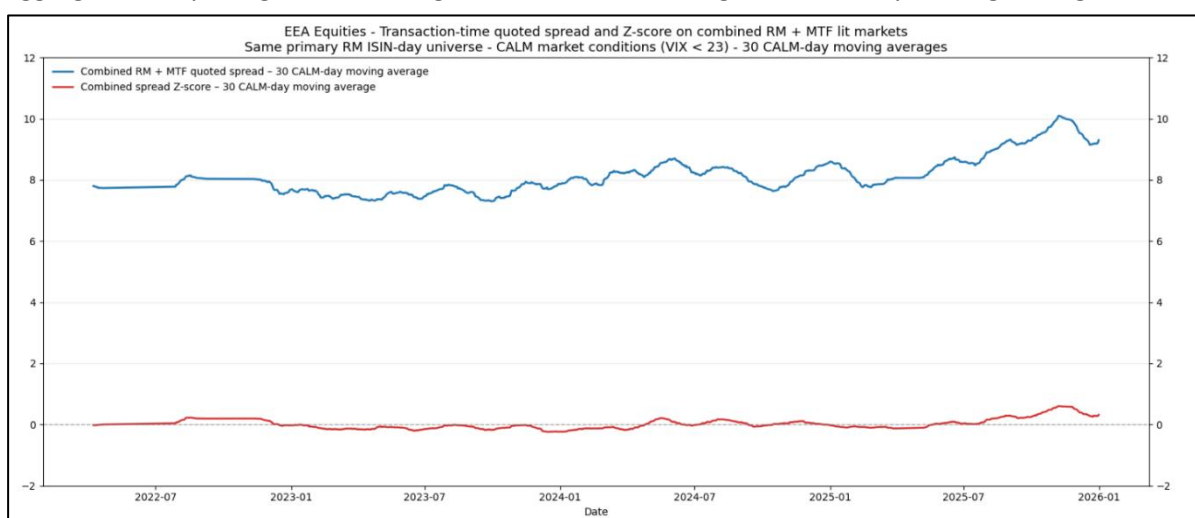


Source: AMAFI calculations based on BMLL data

The analysis shows a **gradual widening of quoted spreads over the 2022-2025 period**. Considering calm market days only, the trend in quarterly medians amounts to **+0.178 basis points per year**. Applied over the 4 years period, this corresponds to an increase of approximately **0.7 basis points**,

suggesting a **moderate deterioration** of the spreads. The increase becomes more pronounced in Q4 2025 and appears to be driven mainly by wider spreads on MTFs. Continued monitoring will be important to determine whether this development reflects a persistent trend or a temporary market phenomenon.

To assess whether this evolution reflects isolated abnormal deviations or a more gradual shift in spread levels, a **Z-score** is calculated for each security, measuring the difference between its daily spread and its historical average, expressed in units of its historical standard deviation. Z-scores are then aggregated daily using turnover weights and smoothed using a 30-calm-day moving average.



Source: AMAFI calculations based on BMLL data

The **Z-score provides a useful perspective on this evolution**. It remains broadly close to zero throughout the period, with positive and negative deviations generally limited to **a few tenths of a standard deviation**. A positive Z-score indicates that spreads are, on a turnover-weighted basis, above their respective historical norms, while a negative Z-score indicates the opposite.

As a robustness check, the same analysis was conducted using longer smoothing windows. The conclusion remains unchanged with both 60- and 90-calm-day moving averages, with the Z-score remaining broadly close to zero over the available period.

The absence of persistently large deviations suggests that the observed widening does not reflect a sudden structural break or repeated broad market dislocations. Rather, the widening of quoted spreads appears to be **gradual and diffuse**, with spreads more frequently standing above their historical norms towards the end of the period, but without exceptional deviations.

In conclusion, the analysis points to a gradual and moderate widening in quoted spreads under calm market conditions, without evidence of a sudden break or episodes of generalised market disruption. The more pronounced widening observed in Q4 2025, mainly on MTFs, would require being monitored to assess whether it develops into a persistent trend or remains temporary. Further analysis in the appendix, splitting regulated markets and MTFs, supports the same overall conclusion. Regulated markets show a gradual widening of spreads, while MTF spreads widen more markedly during major periods of market stress.

III. CONCLUSION

The study outlines four key findings.

First, volatility influences the distribution of addressable flows. During periods of market stress, the relative share of continuous trading increases, particularly on regulated markets. Market participants thus appear to favour mechanisms offering visible and immediately accessible liquidity. **While the direction of this relationship is broadly consistent across the stress episodes observed, its magnitude varies depending on their intensity, duration and nature.**

Second, the relative decline in continuous lit trading persists under calm market conditions, although it is less pronounced overall. This trend also remains observable when the atypical first two quarters of 2022 are excluded. Volatility therefore explains part of the observed changes without eliminating the underlying redistribution of market share across execution mechanisms.

Third, this relative decline does not represent a contraction in continuous trading volumes in absolute terms. Excluding early 2022, volumes are rising on both regulated markets and MTFs, albeit less rapidly than those of periodic auctions, systematic internalisers (SIs), auctions, and dark trading. Continuous trading thus maintains a significant level of activity while capturing a smaller share of the growth in addressable volumes.

Fourth, beyond market-share and volume developments, an assessment of liquidity quality through quoted spreads indicates a gradual and moderate widening across continuous lit markets, including under calm market conditions. This widening appears to have been progressive rather than a sudden structural break or broad-based market dislocation. The more pronounced increase observed in Q4 2025, with MTFs contributing significantly to the widening would require being monitored to determine whether it persists.

These findings provide useful insights into developments in continuous lit markets. However, they are not sufficient, on their own, to fully assess liquidity quality and price formation across the different execution mechanisms. A useful next step would therefore be to consider a framework for the ongoing monitoring of market structure, based on a limited set of relevant indicators. These could include, for example, trading volumes, quoted spreads, order book depth and market impact. Given the need for this monitoring to be conducted consistently across the EU and over time, ESMA appears best placed to develop and maintain it. Such a framework would allow developments to be assessed consistently over time and help identify areas where more targeted analysis may be warranted.

The contribution to price formation of trades executed through frequent batch auctions, systematic internalisers and dark trading would also form part of this monitoring, in order to better assess how these mechanisms interact with, and potentially complement, lit markets in the price formation process.

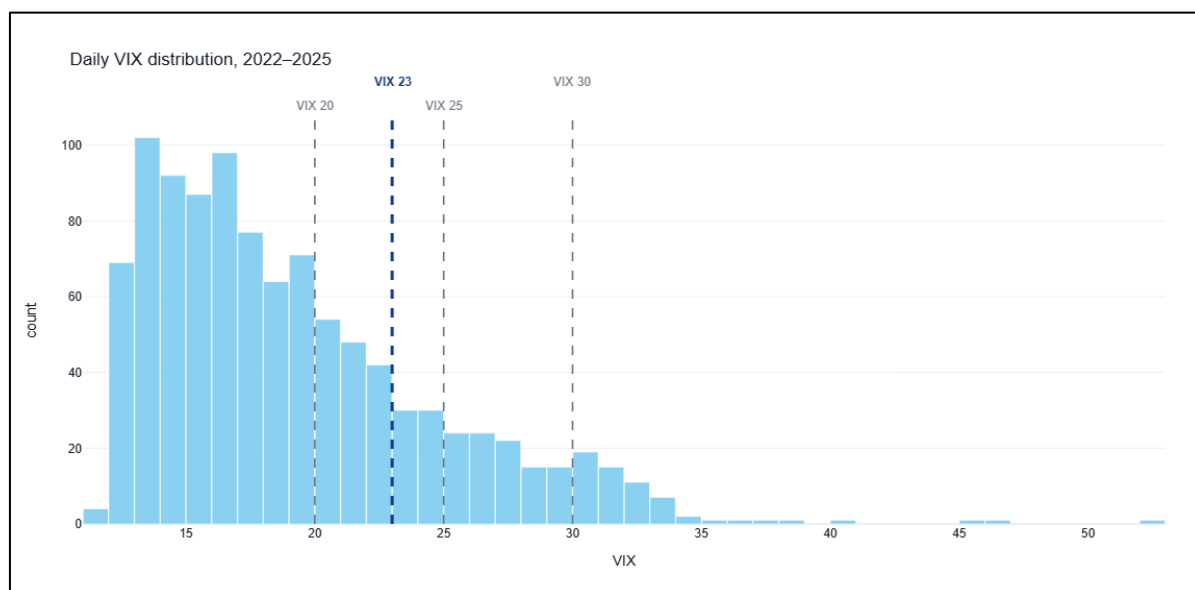
IV. APPENDICES

A. VIX AT 23, OUR VOLATILITY THRESHOLD

This appendix explains the rationale for the VIX threshold used to distinguish between calm and stressed market days, based on both market benchmarks and the distribution observed over the period.

In this study, VIX is used as a general indicator of the level of market stress, rather than as a specific measure of European equity volatility.

There is no universal threshold for distinguishing between a calm period and a period of stress. However, levels of 20 and 30 are commonly used as benchmarks: a VIX below 20 is generally associated with relatively calm conditions, while a level above 30 corresponds to high uncertainty. These levels represent market conventions rather than regulatory thresholds⁷.



Source: AMAFI calculations based on BMLL data

The distribution of the VIX between 2022 and 2025 is primarily concentrated below 23, with a more limited number of days at high levels. **The threshold of 23 thus makes it possible to isolate periods of tension without being limited solely to extreme episodes.**

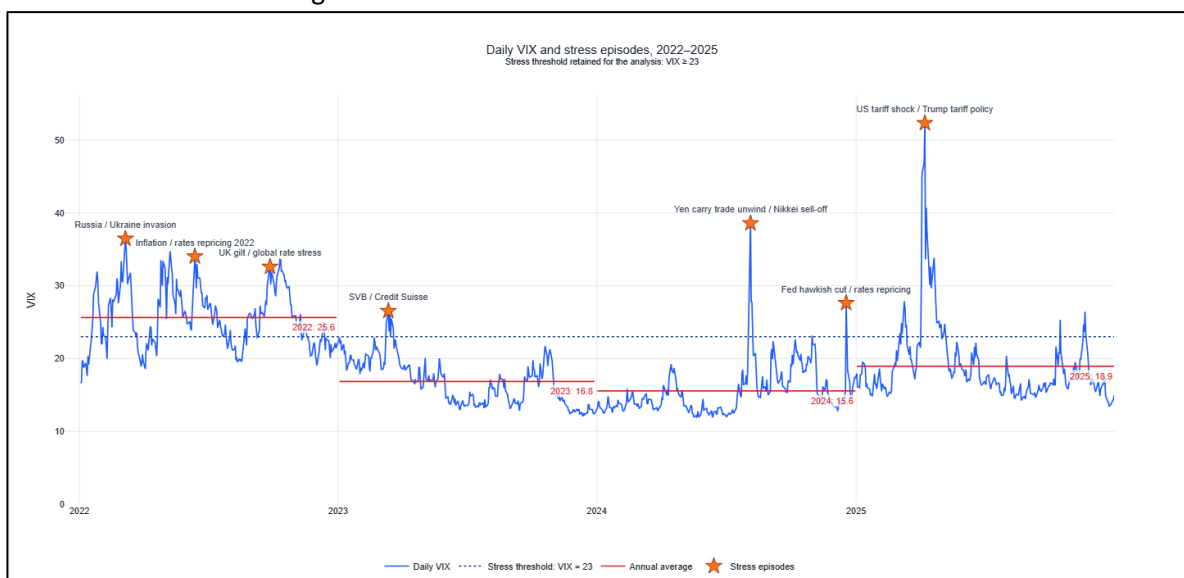
⁷ See, in particular, Investopedia, *Cboe Volatility Index (VIX)*; Hsu & Murray, *On the Volatility of Volatility*.

Threshold	Days classified as stress (%)	Average event coverage (%)	Minimum event coverage (%)	Stress score
VIX ≥ 20	35.53	73.70	31.82	27.55
VIX ≥ 23	21.55	57.35	22.73	50.87
VIX ≥ 25	15.73	44.77	13.64	42.86
VIX ≥ 30	6.02	24.12	0.00	-10.33

Source: AMAFI calculations based on BMLL data

The threshold of 20 captures more of the identified episodes but classifies over a third of days as "stressed." Conversely, the thresholds of 25 and 30 are more selective but are less effective at capturing certain episodes. **With a threshold of 23, 21.55% of days are classified as stressed, and an average of 57.35% of the days within the identified episodes are covered.**

The stress score is an internal indicator used to compare the ability of each threshold to cover periods of tension while remaining selective.



Source: AMAFI calculations based on BMLL data

Market conditions vary significantly from year to year. The average VIX stood at **25.6 in 2022**, compared to **16.8 in 2023**, **15.6 in 2024**, and **18.9 in 2025**. The period thus begins with a volatility regime markedly higher than that observed subsequently, despite several isolated spikes.

This difference supports a distinction between calm days and periods of market stress.

B. STATISTICAL TESTS: RELATIONSHIP BETWEEN VOLATILITY AND MARKET SHARE

This appendix explains the strength, intensity, and limitations of the relationship observed between volatility and the market shares of various execution mechanisms.

The regressions are weighted by the total addressable volume for each day: a trading session with high volumes carries more weight in the estimation.

For each trading day, the analysis relates the VIX level to the market share of a given execution mechanism. Four indicators are used: Pearson and Spearman correlations, the p-value, and the coefficient of determination R^2 .⁸

Mechanism	Variation per 1-point VIX change	P-value	R^2	Interpretation
Continuous lit	+0,504 point	$1,20 \times 10^{-45}$	0,178	Positive relationship
Closing and intraday auctions	-0,321 point	$6,81 \times 10^{-19}$	0,074	Negative relationship
Dark, FBA et SI	-0,183 point	$1,83 \times 10^{-21}$	0,085	Negative relationship

Source: AMAFI calculations based on BMLL data

The p-values are well below 0.01; therefore, the hypothesis of a zero slope is rejected at the 1% significance level for all three segments. The observed relationship between volatility (VIX) and market share for each mechanism is statistically significant.

However, the R^2 values, ranging from 0.074 to 0.178, remain low.

The VIX explains approximately:

- 17.8% of daily variations in the continuous trading share
- 7.4% of those in auctions
- 8.5% of those in dark pools, FBA, and SIs

These levels are consistent with a single-variable analysis. The choice of execution mechanism also depends on order size and nature, available liquidity, market impact risk, execution probability, and investor-specific constraints.

⁸ Pearson measures the direction and strength of the linear relationship between two variables, whereas Spearman measures whether they tend to move in the same direction, without assuming a linear relationship.

These coefficients range from -1 to +1; in absolute terms, a relationship is considered weak below 0.20, moderate between 0.20 and 0.40, relatively strong between 0.40 and 0.60, and strong above that level.

P-values below 0.01 indicate that the observed relationships are statistically significant at the 1% level.

R^2 measures the proportion of daily market share variations explained by the VIX.

The results thus highlight a **directional relationship** rather than a model capable of precisely predicting market shares. Nor do they, on their own, establish a causal relationship.

Mechanism	Pearson	Spearman	Significance	Interpretation
Regulated market continuous trading	0,4703	0,4613	$p < 0,001$	Relatively strong positive relationship
MTF continuous trading	0,2620	0,3060	$p < 0,001$	Moderate positive relationship
Closing and intraday auctions	-0,2851	-0,4938	$p < 0,001$	Negative relationships, stronger in terms of rank
Dark trading	-0,0272	-0,0056	$p = 0,3835 / p = 0,8569$	No identifiable relationship
FBA	-0,2471	-0,3576	$p < 0,001$	Moderate negative relationship
SI	-0,2802	-0,4123	$p < 0,001$	Moderate to relatively strong negative relationship

Source: AMAFI calculations based on BMLL data

The positive relationship between volatility and continuous trading is primarily driven by **regulated markets**. It also exists for MTFs but appears less pronounced.

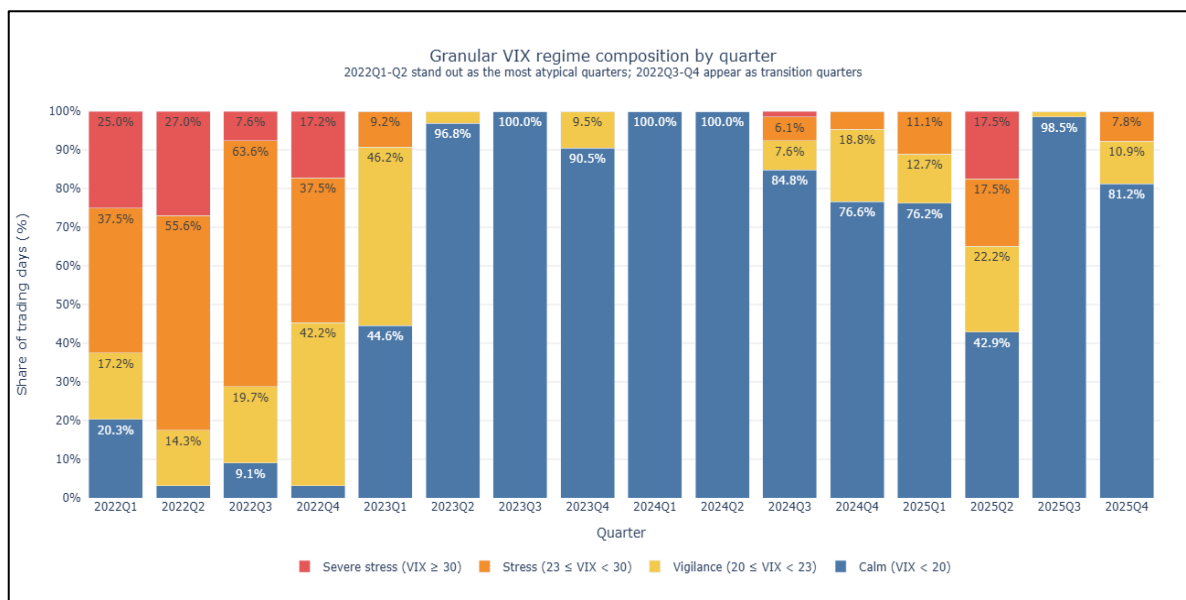
Auctions, FBAs, and SIs exhibit a negative relationship with VIX. For auctions and SIs, the absolute value of the Spearman coefficient is higher than that of the Pearson coefficient; the relationship appears consistent in direction, though not perfectly linear.

Conversely, the coefficients for dark trading are close to zero, and their p-values exceed 5%. Consequently, the hypothesis of no correlation cannot be rejected for this mechanism.

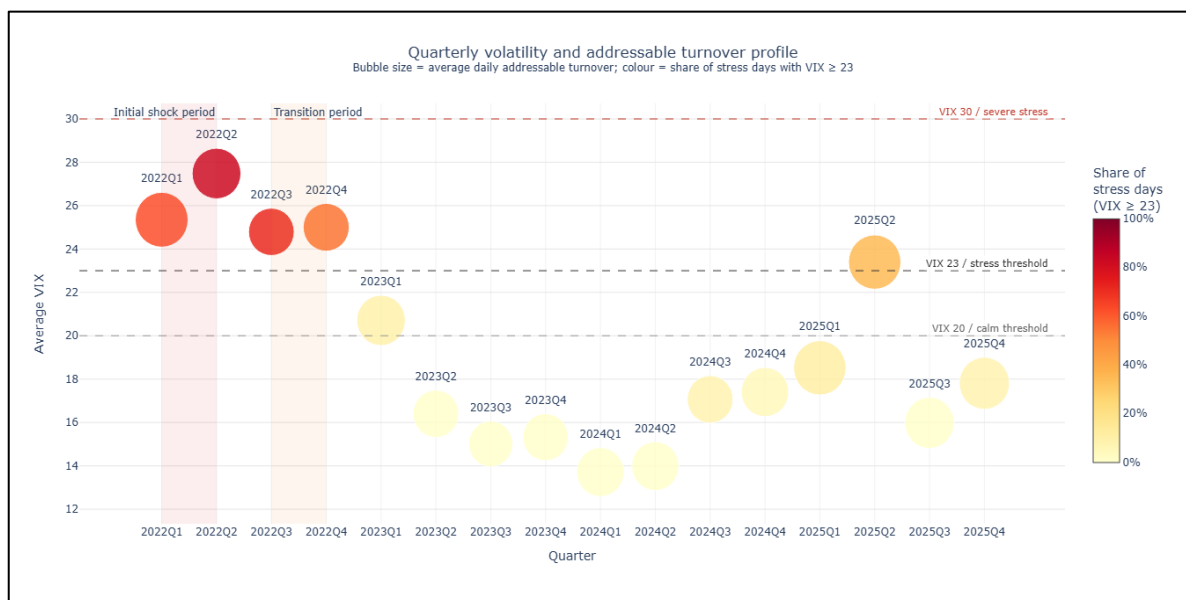
C. PROCESSING OF THE FIRST TWO QUARTERS OF 2022

This appendix aims to justify excluding the first two quarters of 2022 from the trend and absolute volume analyses, so that an atypical starting point does not distort the interpretation of medium-term trends.

The first two quarters of 2022 are excluded from the analysis of trends and absolute figures.



Source: AMAFI calculations based on BMLL data



Source: AMAFI calculations based on BMLL data

They exhibit three atypical characteristics:

- A high average VIX: **25.6 in the first quarter and 27.2 in the second quarter**
- A high proportion of high-stress days: the VIX was at or above 23 during **62.5% and 82.6%** of trading sessions, respectively
- Trading volumes among the highest for the period (2022–2025)

This situation reflects the initial shock associated with the invasion of Ukraine, accelerating inflation, and shifting interest rate expectations. A trend calculated starting from the first quarter of 2022 would therefore compare an exceptionally volatile and active starting point with generally calmer subsequent periods. This could artificially exaggerate changes in market share or volumes.

The third and fourth quarters of 2022 also show high volatility levels but represent more of a transition period. They have been retained so as not to limit the analysis solely to calm periods.

Consequently:

- The daily analysis of the relationship between volatility and market share covers the entire 2022–2025 period
- The analysis of trends and absolute figures begins in the **third quarter of 2022**

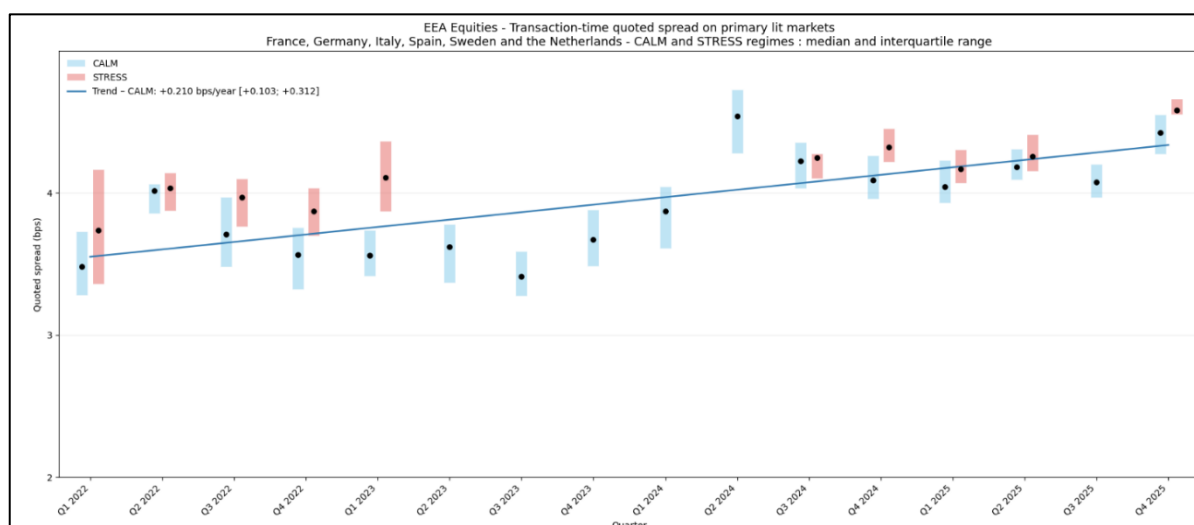
This exclusion serves as a robustness check. It does not imply that the data from the first two quarters are incorrect, but rather that they are not representative of a normalized baseline for assessing medium-term trends.

D. QUOTED SPREADS AT EXECUTION ON REGULATED MARKETS AND MTFs

This appendix examines regulated markets and MTFs separately to assess whether the widening observed in the combined RM & MTF analysis is common to both segments or primarily driven by one of them.

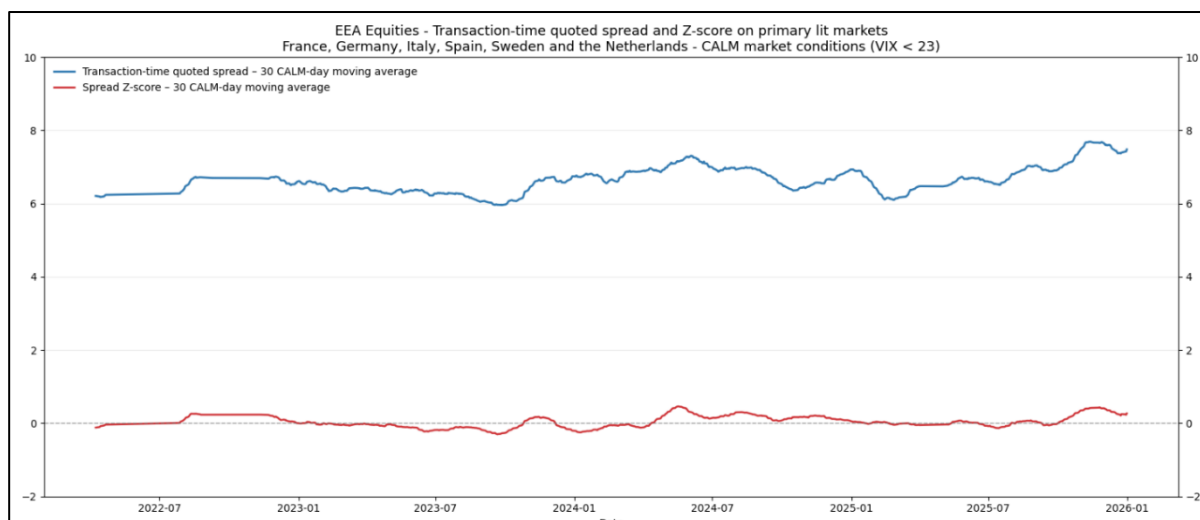
Regulated markets

On regulated markets, quoted spreads show a **gradual widening over the 2022–2025 period**. Considering calm market days only, the trend in quarterly medians amounts to +0.210 basis points per year, corresponding to an increase of approximately 0.8 basis points over the period.



Source: AMAFI calculations based on BMLL data

The corresponding Z-score remains broadly close to zero throughout the period, with deviations generally limited to a few tenths of a standard deviation. The widening therefore appears **progressive rather than the result of a sudden or persistent disruption in liquidity conditions**.

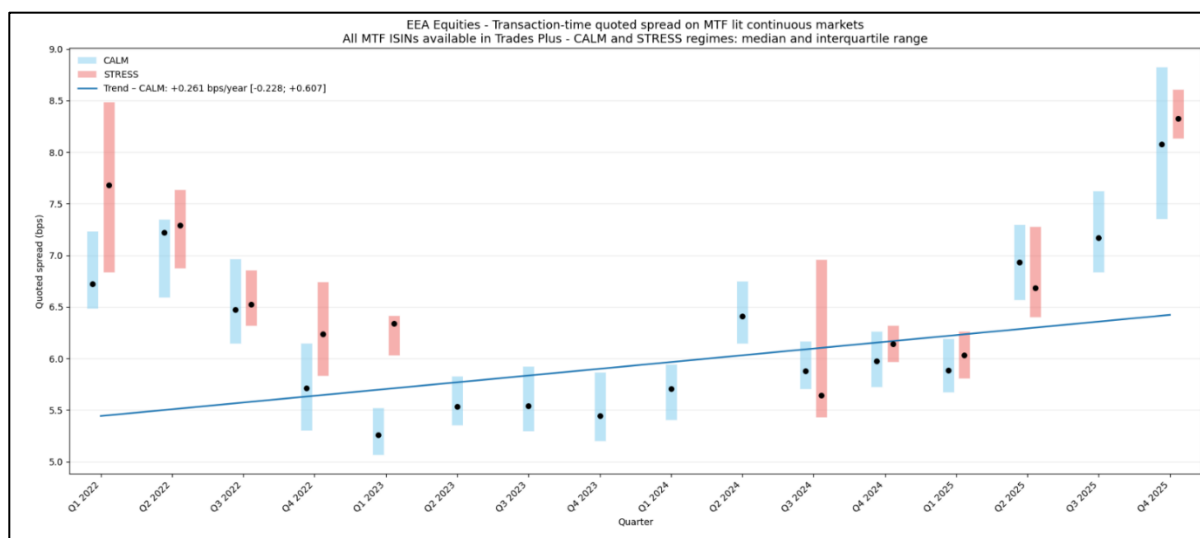


Source: AMAFI calculations based on BMLL data

As a robustness check, the same analysis using **60- and 90-calm-day moving averages** leads to the **same conclusion**.

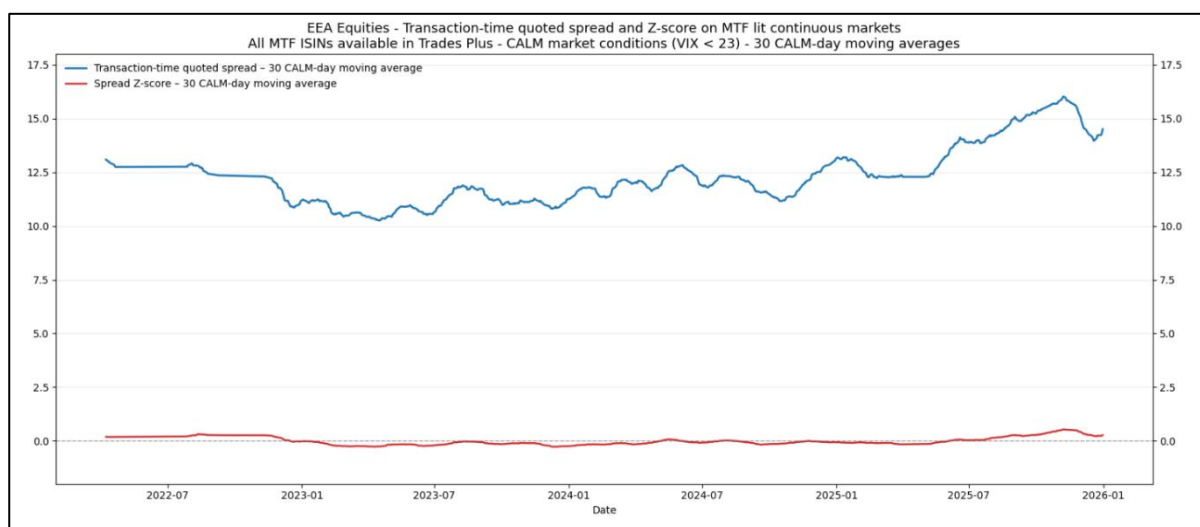
MTFs

MTF quoted spreads display a **more variable pattern**, more pronounced widening during some stress episodes and a marked increase in Q4 2025. Under calm market conditions, the estimated trend in quarterly medians is also positive, at +0.261 basis points per year.



Source: AMAFI calculations based on BMLL data

Despite this greater variability, the MTF Z-score also remains **broadly close to zero over most of the period**. It becomes more positive towards the end of the sample but does not indicate a persistent break from historical spread conditions.



Source: AMAFI calculations based on BMLL data

As for regulated markets, the conclusion remains unchanged when using **60- and 90-calm-day moving averages**.

In conclusion, the separate analyses support the conclusion of the combined RM and MTF analysis. Regulated markets exhibit a gradual widening of quoted spreads, while MTF spreads are more variable and widen more markedly during some periods of market stress. In both cases, Z-scores remain broadly close to zero, providing no evidence of a persistent structural break in liquidity conditions.

