



EURONEXT EQUITIES: Liquidity Analysis

Volatility spikes and market quality resiliency since August 2024

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When the "fear index" spikes, we no longer have to be afraid for European market quality

This report focuses on the volatility spikes triggered by global economic events at the beginning of August 2024 and their impact on market quality. It highlights the exchange's role in ensuring efficient price formation during periods of market turbulence, with an analysis of key market quality indicators, showing Euronext's superior stability and performance amid increased volatility.

Methodology

- Market quality metrics are analysed for the main Euronext Indices. Trading venues considered are Euronext, Cboe Europe (Cboe), Aquis Europe (Aquis), Turquoise Europe (Turquoise).
- Volatility is evaluated using the VSTOXX® Index (V2TX), which measures the volatility of the EURO STOXX 50 Index.
- The market quality data in this study is sourced by the independent providers BMLL Technologies and BigXYT. Three metrics are analysed:
 - Average Spread: the mean bid-ask spread of the day, given in basis points relative to the mean mid-point price.
 - European Best Bid & Offer (EBBO) Setting: The number of events where a venue improved the consolidated best ask and bid price, as a percentage of the number of all consolidated ask and bid price improvement events for the instrument.
 - Liquidity at Touch: The time-weighted average amount of notional around at the BBO.
 - Exclusive EBB Presence by Role: The classification of an exchange's role when exclusively at EBB. It can either improve the best bid by setting a new best price (active setter) or maintain its price as all other venues' BB worsens (passive lagger).

Executive summary

- 1. Macroeconomic context:** Spikes in volatility across global equity markets at the beginning of August 2024 were driven mainly by (a) the higher-than-expected unemployment rate in the US and (b) the Bank of Japan's decision to raise interest rates for the second time since 2007. These announcements followed the short-term volatility spike in July after elections in France.
- 2. Volatility figures:** On 5 August 2024, the volatility indices in the US (VIX) and Europe (VSTOXX) reached their highest levels respectively since the Covid pandemic in March 2020 and the Ukraine-Russia geopolitical crisis which started in March 2022.
- 3. Market quality:** Analysis of the recent volatility spikes in August 2024 shows that Euronext maintained stronger market quality than alternative venues, given (a) its crucial role in the price formation process, and (b) efficient liquidity programmes. Market participants in Europe have become more resilient in responding to volatility, and they prioritise Primary Exchanges as a 'safe haven' during market turmoil.

1. Macroeconomic context:

Drivers of the volatility spikes at the beginning of August 2024

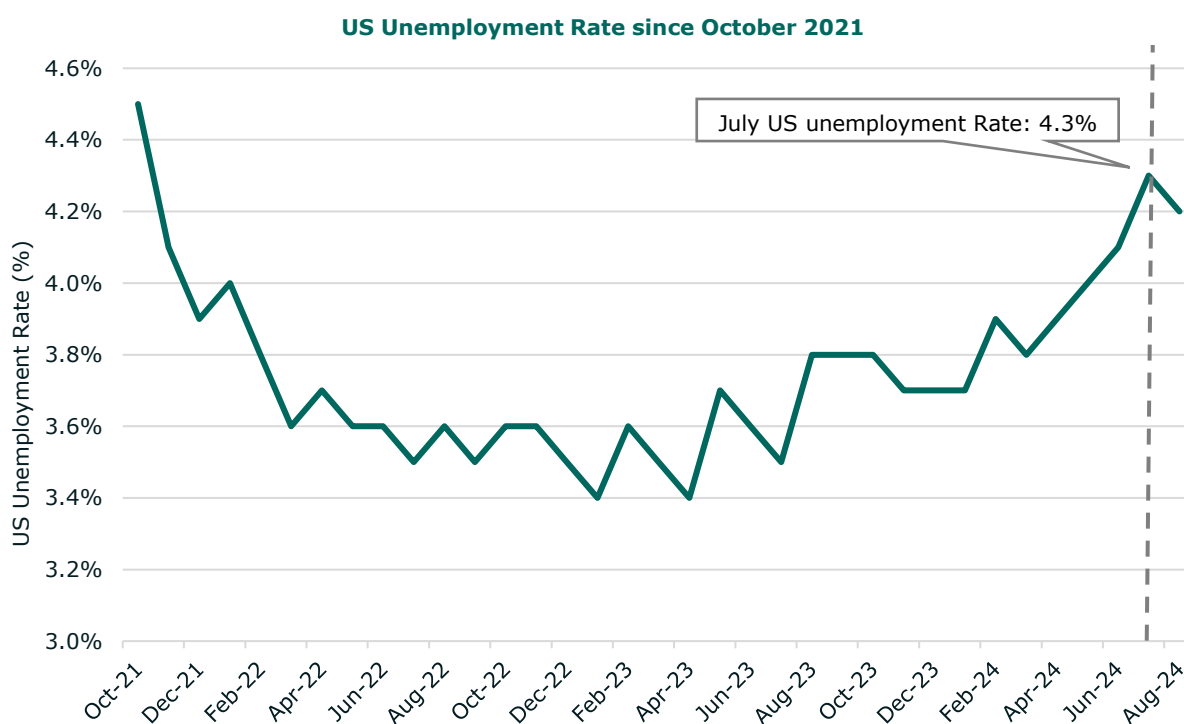
On 2 August 2024, the US Bureau of Labor Statistics released its report on the US unemployment rate for July 2024 revealing a significant cooling of the labour market. **The July headline unemployment rate** (known as “the U-3 unemployment rate” in the US) **climbed to 4.3%, marking its highest level since October 2021.**

Just days earlier, on 31 July 2024, the Bank of Japan had raised the cost of borrowing for only the second time since 2007, aiming to normalise monetary policy in the country.

The wave of negative macroeconomic news sparked fears of a slowdown across the world’s largest economies:

- US markets fell sharply following the official release of the unemployment rate report on 2 August 2024;
- European stock markets’ performance worsened at the start of the following trading week, on 5 August 2024, due to concerns about a US recession;
- The STOXX Europe 600 closed at -2.2% on 5 August 2024 compared to the previous day, as all major bourses recorded a negative performance on that day;
- The Volatility Index in the US (VIX) surged to 66 points on 5 August, before quickly pulling back to its historical average of 19.5 points a few days later.

Chart: US Unemployment Rate since October 2021



Source: U.S. Bureau of Labor Statistics. U-3 measure of labor underutilization: the number of unemployed as a percentage of the labor force.

2. Volatility figures:

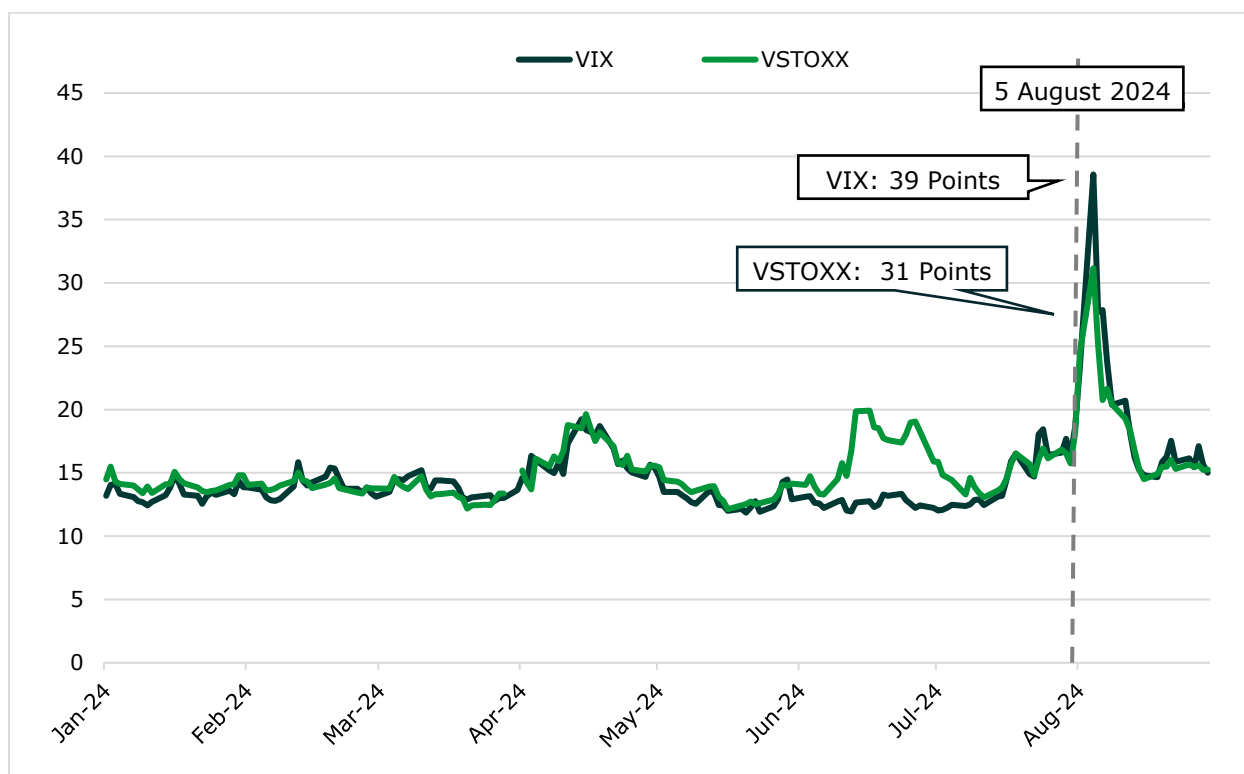
VIX and VSTOXX indices reach the highest levels since the Covid pandemic and Ukraine-Russia geopolitical crisis

On 5 August 2024, the VIX index, which measures the 30-day expected volatility of the US stock market, recorded its highest day-on-day change of +65% since before the Covid-19 pandemic. **The VIX volatility index reached an intraday peak of 66 points on 5 August, the highest level since the beginning of the Covid pandemic in March 2020.**

European markets reacted similarly: the VSTOXX index, which measures the implied volatility on the EURO STOXX 50, jumped by +35% on 2 August and +27% on 5 August. **On 5 August, the VSTOXX reached an intraday peak of 41 points, the highest value since the beginning of the Ukraine-Russia geopolitical crisis in February 2022.**

Both the VIX and VSTOXX indices have since normalised in the second week of August, with values in line with historical average.

Chart: Daily volatility levels in the US (VIX) and Europe (VSTOXX) in 2024



From January to July 2024 volatility was exceptionally low, with the VSTOXX never surpassing 22 points intraday.

The VSTOXX index shows a spike from mid-June to early July 2024, which is not the case for the VIX Index. This spike in European volatility is due to Emmanuel Macron's announcement on 9 June 2024, calling a French parliamentary election. Uncertainty around the French election led to high volatility until the first round of the election on 30 June 2024.

3. Market quality and price formation:

Euronext's resiliency to key volatility events

To better understand the crucial role of stock exchanges in reacting to volatile periods, we can examine the market conditions from 2 August to 5 August 2024. During this period of heightened volatility Euronext demonstrated superior market quality to alternative venues:

- **Euronext maintained the tightest spread**, averaging at 4.0 basis points (bps) on CAC 40 stocks, 5.5 bps on FTSE MIB stocks and 4.6 bps on AEX stocks.
- **Euronext is the venue for price formation**, setting more than 72% of all EBBO Setting events on CAC 40 stocks, 76% on FTSE MIB stocks and 67% on AEX stocks.

Average Spread:

- During periods of heightened volatility, such as the early August sell-off, **the difference in spreads between Euronext and MTFs increases compared to calmer market conditions**. From 2 August to 5 August, Euronext's average spread on CAC 40 stocks was 1.4 times lower than that of other MTFs, with a difference of 1.8 bps. In contrast, during low-volatility periods, the spread gap narrows to 1.1 bps.
- **The trend is even more pronounced on FTSE MIB stocks**, where the gap went from 2.7 bps in low-volatility environments to 6.7 bps during the latest volatility spikes.

Average spread CAC 40	Euronext	Average of MTFs	Euronext vs MTFs	Cboe	Aquis	Turquoise
Sell-off in August 2024*	4.0 bps	5.8 bps	-1.8 bps	4.5 bps	4.9 bps	7.0 bps
Low-volatility environment**	3.6 bps	4.7 bps	-1.1 bps	3.9 bps	4.3 bps	5.4 bps

Average spread FTSE MIB	Euronext	Average of MTFs	Euronext vs MTFs	Cboe	Aquis	Turquoise
Sell-off in August 2024*	5.5 bps	12.2 bps	-6.7 bps	7.4 bps	6.8 bps	17.0 bps
Low-volatility environment**	4.6 bps	7.3 bps	-2.7 bps	5.2 bps	5.5 bps	9.3 bps

Average spread AEX 25	Euronext	Average of MTFs	Euronext vs MTFs	Cboe	Aquis	Turquoise
Sell-off in August 2024*	4.6 bps	8.2 bps	-3.5 bps	6.2 bps	5.6 bps	10.1 bps
Low-volatility environment**	3.9 bps	5.2 bps	-1.4 bps	4.2 bps	4.6 bps	6.2 bps

EBBO Setting Percentage:

- On CAC 40 stocks, in a low-volatility environment Euronext sets the EBBO 62% of the time out of all EBBO Setting events. **During heightened volatility, such as the August sell-off, the percentage of EBBO Setting events increases to 72% for Euronext.**
- This is even more pronounced for FTSE MIB stocks, with the percentage of EBBO Setting events increasing to 74% for Euronext during the August sell-off.

EBBO Setting Percentage CAC 40	Euronext	Cboe	Aquis	Turquoise
Sell-off in August 2024*	72%	13%	12%	3%
Low-volatility environment**	62%	20%	12%	6%

EBBO Setting Percentage FTSE MIB	Euronext	Cboe	Aquis	Turquoise
Sell-off in August 2024*	74%	10%	14%	2%
Low-volatility environment**	64%	17%	16%	3%

EBBO Setting Percentage AEX	Euronext	Cboe	Aquis	Turquoise
Sell-off in August 2024*	66%	12%	19%	3%
Low-volatility environment**	62%	18%	14%	6%

Observation dates: * From 2 August to 5 August 2024. ** From 2 January to 31 July 2024.

4. Conclusion

At the beginning of August, the Bank of Japan's rate increase and unexpected US unemployment data led to a sharp increase in volatility globally, with the VIX and VSTOXX reaching their highest levels since the Covid pandemic and Ukraine-Russia crisis.

Euronext consistently maintained significantly tighter spreads and superior EBBO setting performance compared to MTFs. In periods of heightened volatility, such as the global sell-off of early August, Euronext reinforces its leading position even more decisively, widening the gap with MTFs. This highlights Euronext's crucial role in providing reliable market quality and price formation, particularly during periods of stressed market conditions.

Previous Euronext market quality studies:

- [Equity market quality in times of volatility \(December 2021\)](#)
- [Is the Equity Market becoming more resilient to global turmoil? \(May 2022\)](#)

APPENDIX: Overview of market quality metrics since 2023

A diverse combination of EBBO Setting and Average Spread metrics should be analysed to evaluate the price-forming capability of trading venues: such metrics confirm **Euronext's superior market quality across the seven marketplaces it operates**.

Euronext sets the best prices 3 to 11 times more frequently than the main MTFs, displays the tightest spreads, and captures the highest share of trading on domestic equities.

This appendix focuses on daily observations from January 2023 to September 2024 for (a) EBBO Setting, (b) Average Spread and (c) Liquidity at Touch (defined as the time-weighted average amount of notional around at the BBO). Some comments are also available for (d) EBBO Exclusive Presence with a Passive vs Active Role.

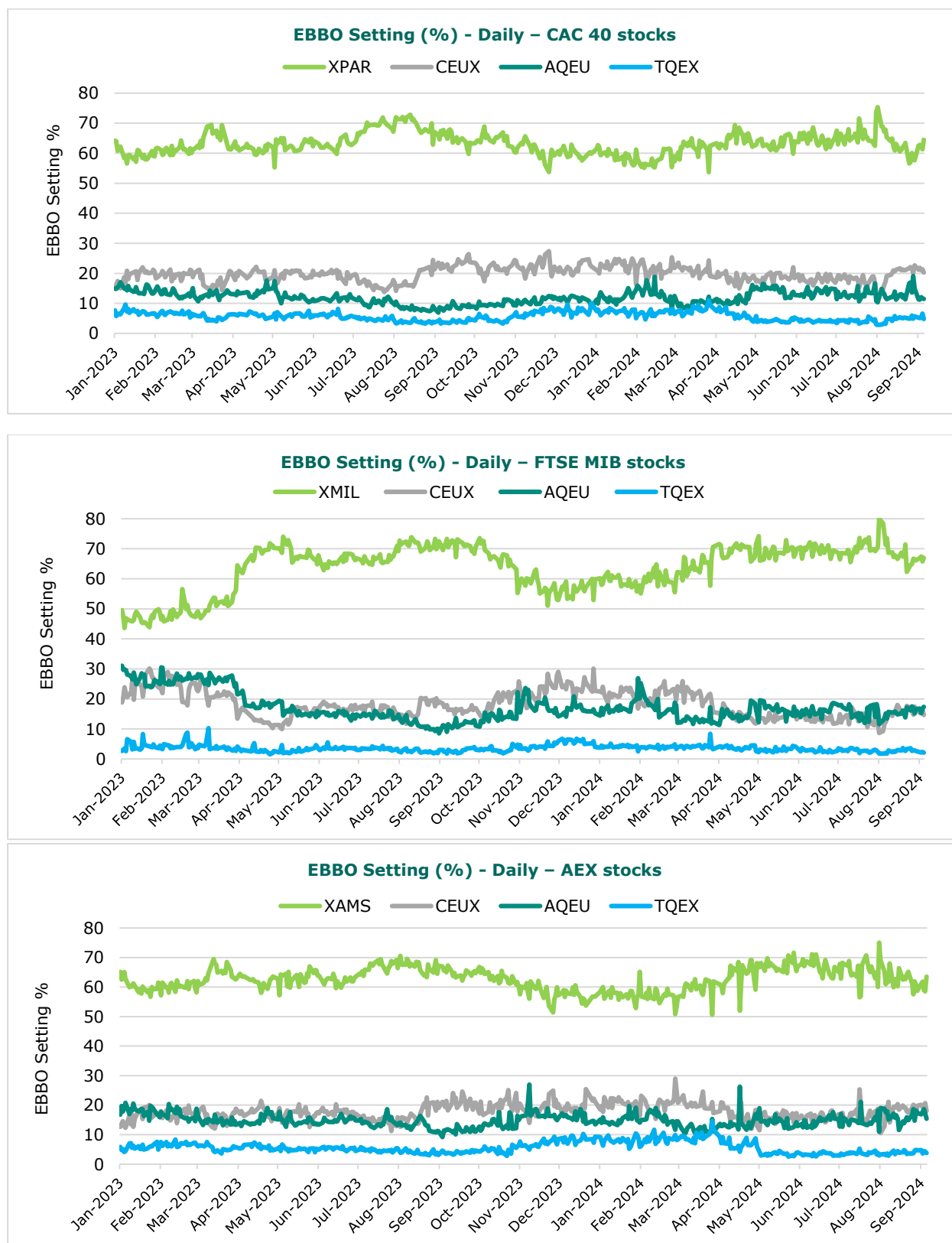
		Average values in 2024 YTD*			
		Euronext	Cboe	Aquis	Turquoise
EBBO Setting (%)	Paris (CAC 40)	62.5%	19.7%	12.6%	5.6%
	Milan (FTSE MIB)	66.3%	16.7%	15.8%	3.4%
	Amsterdam (AEX)	62.5%	18.1%	14.6%	5.8%
Average Spread (bps)	Paris (CAC 40)	3.7 bps	3.9 bps	4.3 bps	5.4 bps
	Milan (FTSE MIB)	4.6 bps	5.3 bps	5.5 bps	9.5 bps
	Amsterdam (AEX)	3.9 bps	4.3 bps	4.6 bps	6.3 bps
Liquidity at Touch (€k)	Paris (CAC 40)	€44.9k	€24.7k	€13.9k	€7.4k
	Milan (FTSE MIB)	€55.9k	€22.2k	€15.2k	€5.3k
	Amsterdam (AEX)	€35.9k	€21.4k	€11.7k	€6.4k

Source: BMLL Technologies. 2024 Year-To-Date until 6 September 2024.

a) EBBO Setting: how often do venues improve the consolidated EBBO?

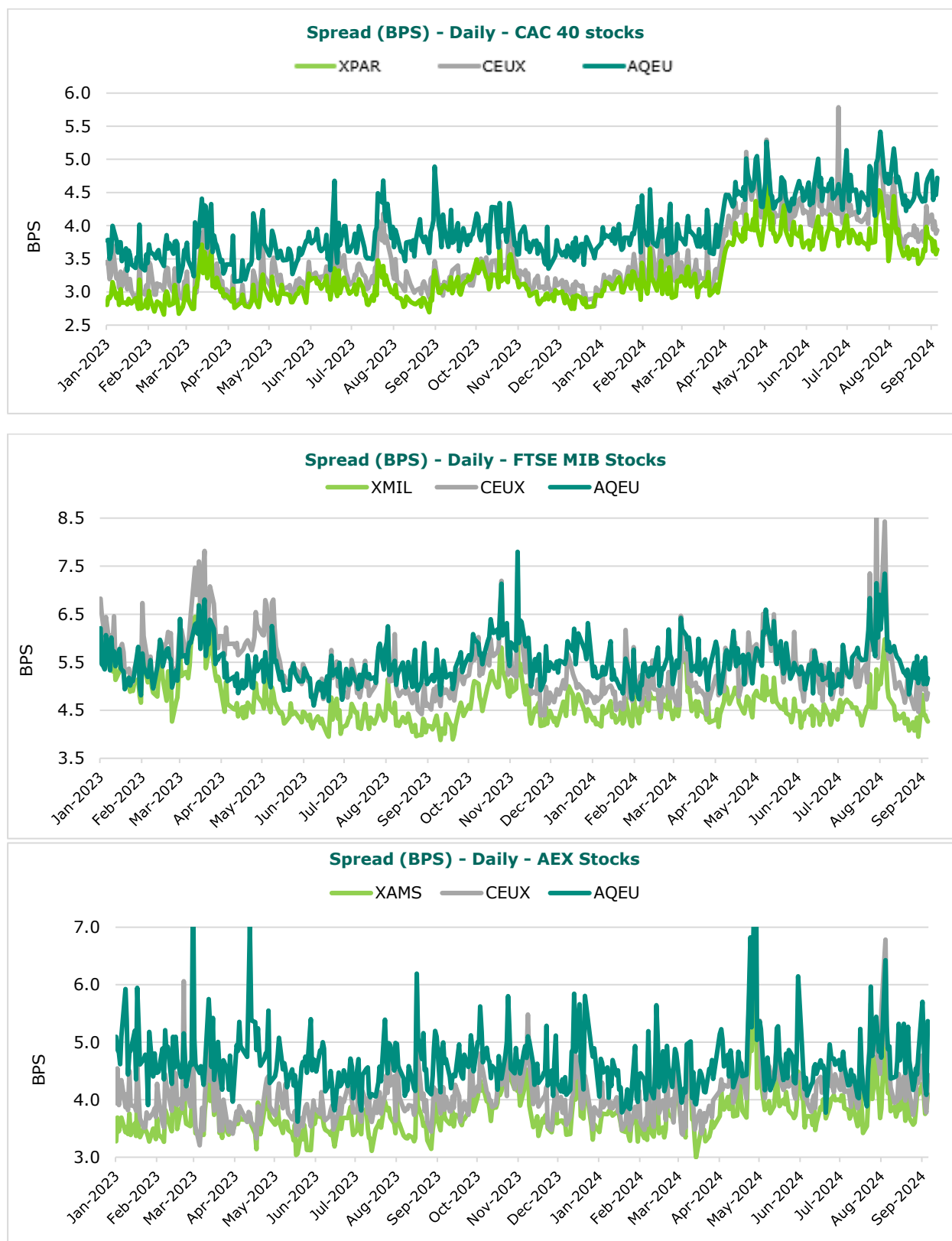
Euronext leads with EBBO Setting percentage consistently higher than main MTFs.

It is also evident that Milan's migration to Euronext's Optiq platform in April 2023 led to steady improvement of Euronext's EBBO Setting performance for FTSE MIB stocks.



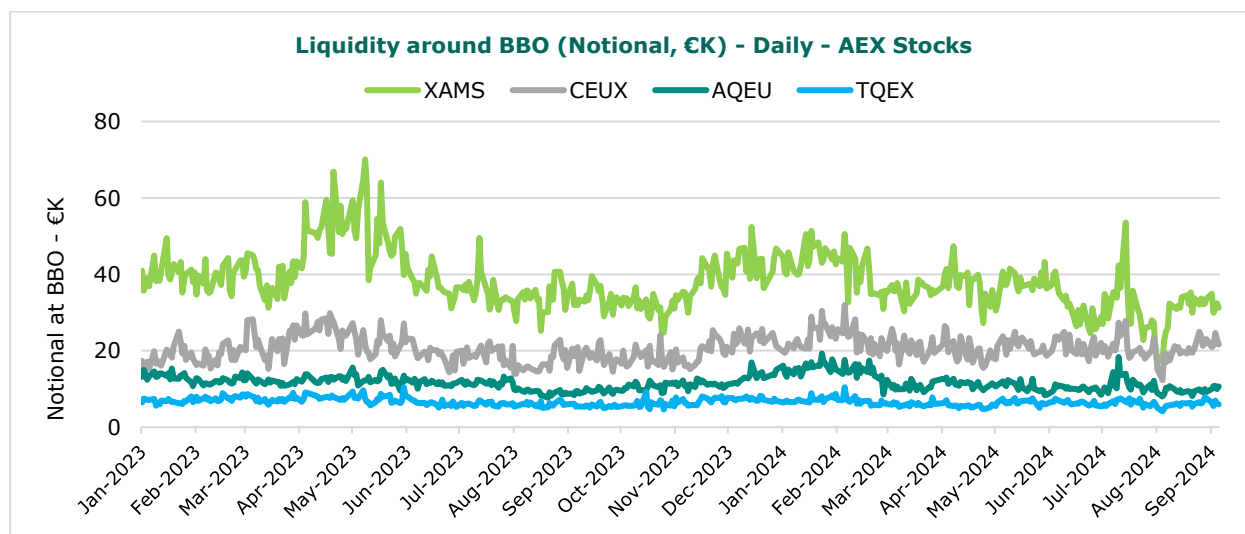
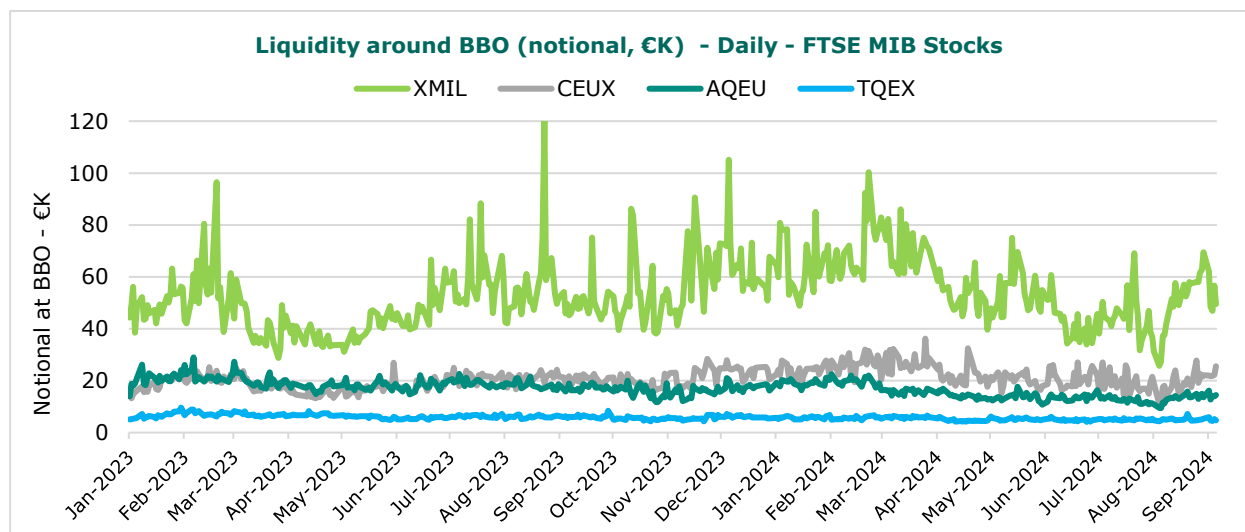
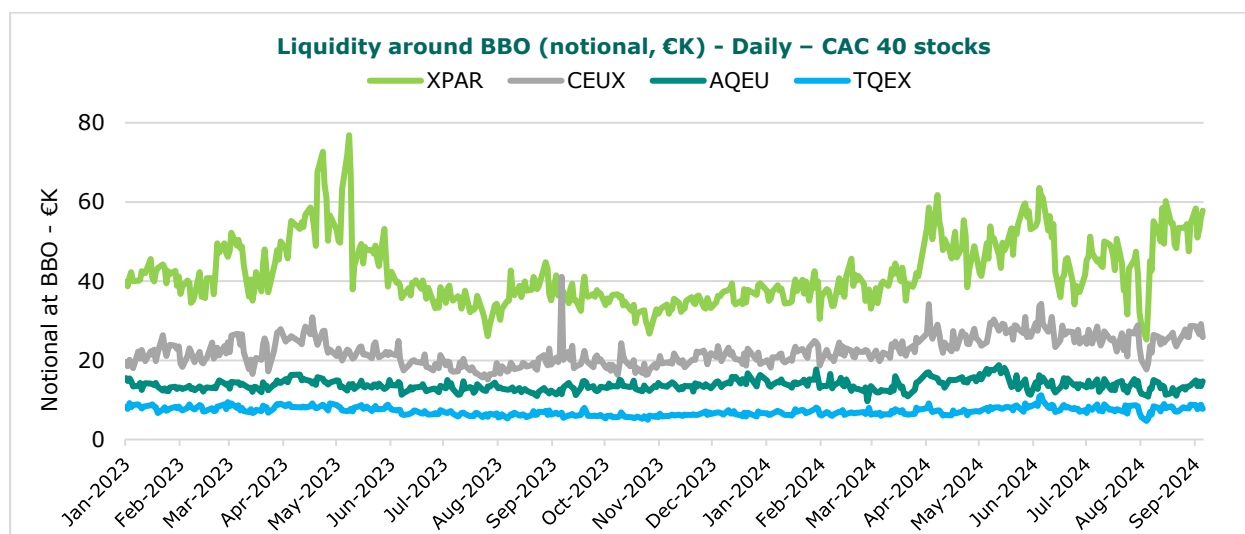
b) Spread: what is the average difference between bid prices and ask prices?

Analysing the average spread across Euronext's main markets (Paris, Milan, Amsterdam) since January 2023, there is a healthy competition among lit trading venues, and **Euronext stands as the venue with the tightest spreads i.e. lowest implicit cost of trading.**



c) Liquidity at Touch: which venue displays the largest notional liquidity at the BBO?

Despite some short-term swings, **the notional Liquidity available at Touch is at least twice as high on Euronext** compared to best-performing MTFs.



d) Exclusive EBB Presence breakdown: when venues are uniquely displaying the EBB, are they actively setting it or passively lagging?

EBBO Presence alone is not necessarily a meaningful metric for price formation:

- Having a high Passive Role in EBB Exclusive Presence may not reflect true price-forming behaviour, but rather lagging in price updates.
- However, Euronext's higher **Active Role in EBB Exclusive Presence** demonstrates that it is the venue providing the **exclusive best bid prices through rapid price updates**.

