

# EURONEXT EQUITIES: MARKET QUALITY ANALYSIS

## Equity trading 'Made in Italy': From migration to price formation

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**EURONEXT**

# How market quality has evolved since the migration of Borsa Italiana equity markets onto Euronext Optiq®

After publishing studies on [#1] [the evolution of market quality during Covid volatility peaks](#) and (#2) [metrics on the resilience of equities during the Ukraine-Russia geopolitical crisis](#), the Euronext Equities Team now provides (#3) an analysis of Milan equity markets, highlighting the **market quality impact of the successful migration onto the Euronext Optiq® platform**.

## METHODOLOGY

- Scope: market quality metrics and volumes are analysed for **FTSE MIB constituents**, which are the most traded securities of Milan equity markets.
- Date range: from 3 January to 22 September 2023, with a focus on the evolution of key metrics since the migration of Borsa Italiana equity markets onto Euronext Optiq®, which was completed on **27 March 2023**.
- Data source: BMLL Technologies – Vantage dashboard.
- Key metrics: EBBO Setting, Spread, Liquidity at Touch, Time Presence at EBBO, Lit Market Share of Trading. Weekly or Monthly data.
- Trading venues: Euronext Milan, Cboe Europe, Aquis Europe, Turquoise Europe.
- Equiduct market quality metrics are not accounted for because they are not available on BMLL Vantage dashboard and only Central Limit Order Book volumes are taken into consideration. Note that a [comparison between Euronext Milan and Equiduct APEX](#) was presented in March 2023.

## EXECUTIVE SUMMARY

1. Euronext is the [venue for price formation](#) for Milan stocks, as it [sets and improves the EBBO prices over 74% of the time](#), and captures 80.5% [share of Lit trading](#).
2. There is healthy competition across other metrics such as Spread, Liquidity at Touch, Time Presence at EBBO. Since the [migration](#) of Borsa Italiana equity markets onto Optiq®, all such [KPIs have improved for Euronext Milan](#), leading to [80.5% share of Lit trading](#).
3. This outcome is thanks to the adoption of Euronext's Supplemental Liquidity Provision scheme by market makers in Italy, the ramp up of activity in Milan by global banks, and the crucial role of local brokers and the retail community.

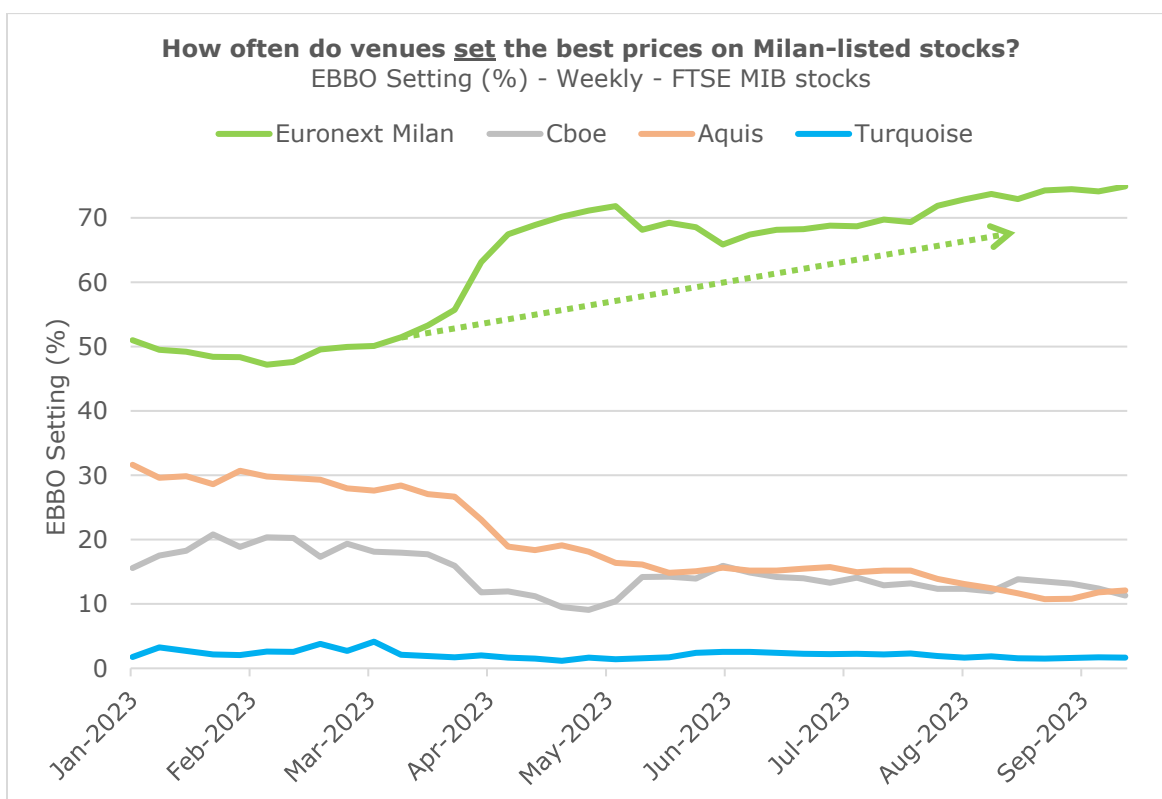
## 1. WHAT PRICE FORMATION MEANS – AND HOW CAN YOU MEASURE IT?

Efficient price formation is the pillar of equity markets, as it represents the ability of a trading venue to match supply and demand to define stock prices in a fair and orderly manner.

There are several metrics which identify the market quality of order books across different trading venues. To measure the quality of price formation, **EBBO Setting describes how often trading venues improve the consolidated best bid/ask prices.**

- In Q1-2023, Euronext Milan set the best bid/ask prices approximately 49% of the time, 1.7x more frequently than the best performing MTF.
- Since the migration of Borsa Italiana equity markets onto Optiq® on 27 March 2023, **Euronext Milan has experienced a striking improvement up to 74.5% EBBO Setting**, while the MTFs now set the best EBBO less than 13% of the time.

EBBO Setting (%)	Euronext Milan	Cboe Europe	Aquis Europe	Turquoise Europe
Before Optiq migration 03 Jan - 24 Mar 2023	<b>49.6%</b>	18.5%	29.2%	2.7%
After Optiq migration 27 Mar - 22 Sep 2023	<b>69.6%</b>	12.9%	15.6%	1.9%
September 2023 MTD	<b>74.5%</b>	12.3%	11.6%	1.7%
Absolute variation (September vs pre Optiq)	<b>+24.9%</b>	<b>-6.2%</b>	<b>-17.6%</b>	<b>-1.0%</b>

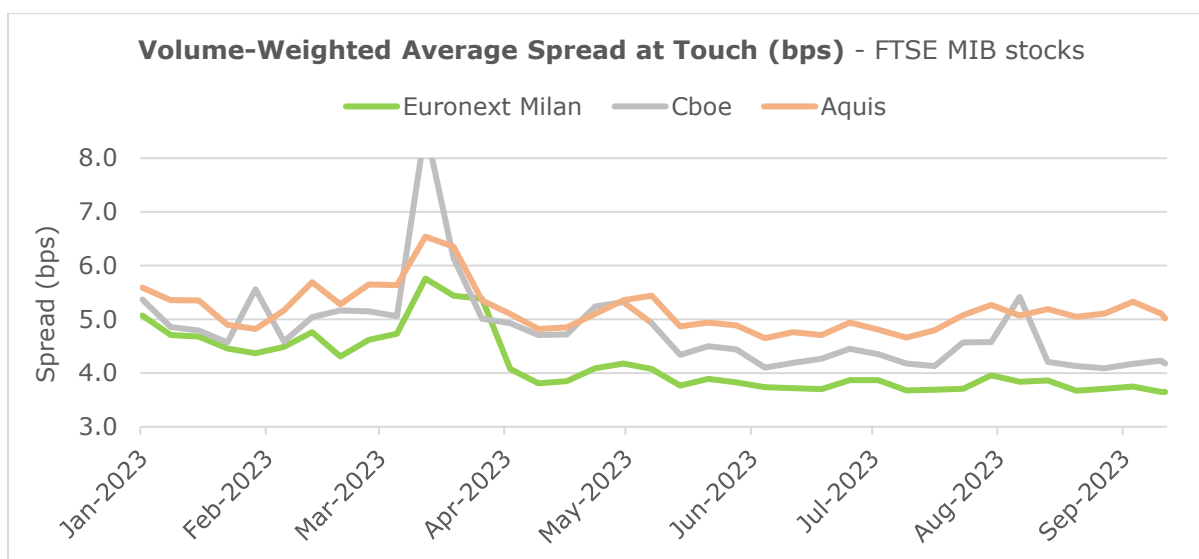


## 2. OTHER MARKET QUALITY METRICS – WHAT CAN YOU LOOK AT?

Beyond analysing EBBO Setting as the measure of price formation, **several market quality metrics matter for investors and trading members**. You will find below observations for main Central Limit Order Book venues offering liquidity on FTSE MIB stocks, based on the independent definitions provided by BMLL Technologies Vantage Dashboard (see *Glossary*).

### 2A. Volume-Weighted Average Spread at Touch (bps)

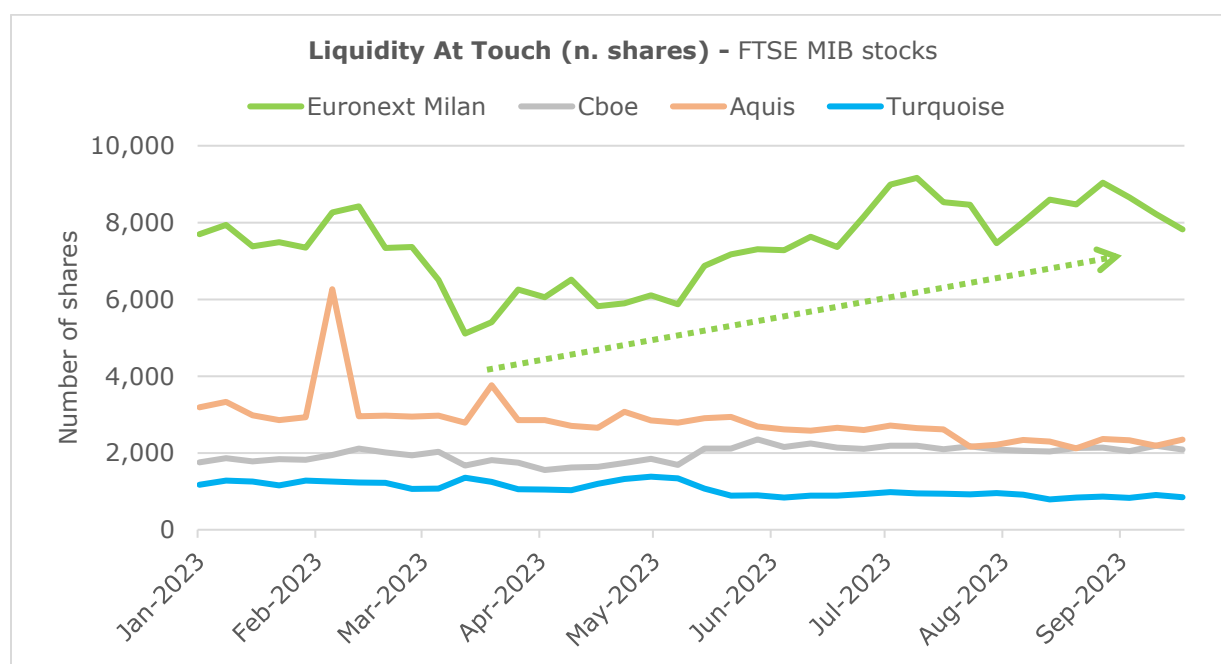
- **Euronext Milan offers the tightest spreads** on Italian blue-chip stocks, compared to the Central Limit Order Book of the main MTFs:



Note: Turquoise Europe not included because avg spread is 10-20bps and it would skew the chart.

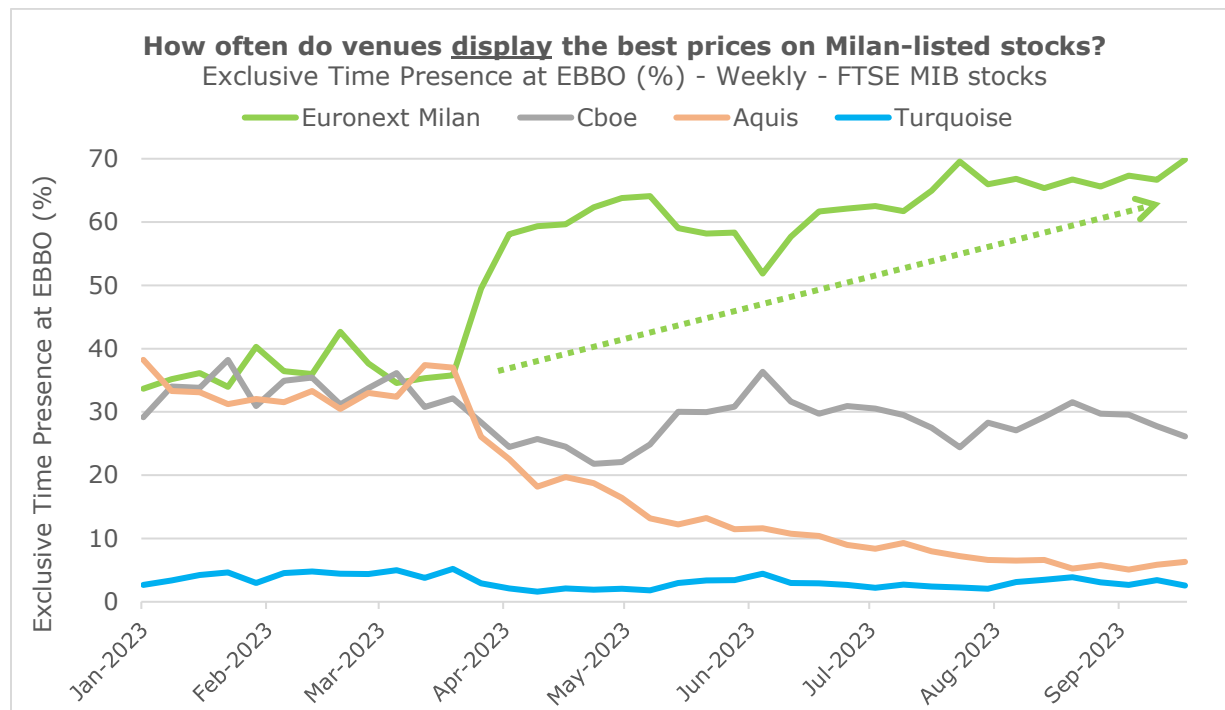
### 2B. Liquidity at Touch in number of shares

- Euronext Milan offers Liquidity around the BBO which is **4-9x higher** than MTFs:



## 2C. Exclusive Time Presence At EBBO (%)

- Until March 2023, Euronext Milan was the venue exclusively displaying the best bid/ask prices **36.5%** of the time, in line with the main MTFs.
- Since the Optiq migration, the Exclusive Time Presence at EBBO has increased sharply for Euronext Milan, **increasing up to 68.0%** in September.



Exclusive Time Presence at EBBO (%)	Euronext Milan	Cboe Europe	Aquis Europe	Turquoise Europe
Before Optiq migration 03 Jan - 24 Mar 2023	<b>36.5%</b>	33.4%	33.6%	4.2%
After Optiq migration 27 Mar - 22 Sep 2023	<b>62.3%</b>	28.2%	11.3%	2.7%
September 2023 MTD	<b>68.0%</b>	27.8%	5.7%	2.9%
Absolute variation (September vs pre Optiq)	<b>+31.5%</b>	<b>-5.6%</b>	<b>-27.9%</b>	<b>-1.3%</b>

## 2D. Reminder: comparison between Euronext Milan and Equiduct APEX

A [research study](#) was published in March 2023 to analyse the performance of aggressive executions on Italian stocks, by comparing Lit trades on Borsa Italiana with the Equiduct MTF.

- Considering all trades on Equiduct APEX, retail **net EBBO improvements** on trades for Milan stocks **are worse on Equiduct** than those on Euronext Milan **by -1.18 bps**.
- Also considering trades below €50k and the impact of explicit trading fees, Equiduct APEX's net improvement versus Euronext Milan is still negative.

The full report can be requested contacting: [QuantReports@euronext.com](mailto:QuantReports@euronext.com)

### 3. RECENT IMPROVEMENTS FOR EURONEXT MILAN – WHY?

The improvements of Euronext Milan market quality metrics can be explained by:

- Implementation of **SLP** (Supplemental Liquidity Provider) scheme for FTSE MIB stocks.
- The ramp-up of **global banks'** activity in Milan, leveraging on the Optiq® platform.
- The strong presence of **local brokers** and the **retail community** centralising their flow on Borsa Italiana.

Such diversity of flow contributed to the market quality improvements, which ultimately resulted in **higher share of Lit trading (continuous & auctions) for Euronext Milan**:

	Euronext Milan	Cboe Europe	Aquis Europe	Turquoise Europe	Equiduct
Jan-2023	<b>75.8%</b>	15.1%	6.6%	2.0%	0.6%
Feb-2023	<b>77.1%</b>	14.2%	6.2%	1.9%	0.6%
Mar-2023	<b>75.8%</b>	15.8%	5.8%	2.1%	0.5%
Apr-2023	<b>77.7%</b>	14.3%	5.6%	1.9%	0.6%
May-2023	<b>77.3%</b>	15.9%	4.7%	1.8%	0.4%
Jun-2023	<b>78.3%</b>	15.1%	4.3%	1.8%	0.5%
Jul-2023	<b>78.3%</b>	15.2%	4.0%	1.9%	0.6%
Aug-2023	<b>79.6%</b>	14.6%	3.6%	1.7%	0.5%
Sep-2023	<b>80.5%</b>	14.0%	3.4%	1.6%	0.6%
Variation Sept vs March (pre Optiq)	<b>+4.7%</b>	<b>-1.8%</b>	<b>-2.4%</b>	<b>-0.5%</b>	<b>+0.1%</b>

### CONCLUSION

We recognise that the Optiq migration for Milan has required substantial effort by market participants, and that it can be complex to navigate across the different market quality metrics that venues adopt to compare order books.

In this study, the Euronext Equities Team has connected these two elements to demonstrate that **the commitment by market participants in migrating to Euronext Optiq® technology and leveraging on Euronext's federal model has led to significant market quality improvements – and therefore higher Lit market share – for Borsa Italiana**:

- **Price formation:** Euronext EBBO Setting on Milan blue-chip stocks has increased from 50% to **74.5%** over the last 6 months, while each of the MTFs now sets the best prices less than 13% of the time. Borsa Italiana now captures **80.5%** of FTSE MIB lit volumes.
- **Market quality:** Euronext Milan offers the tightest spreads (**< 3.7bps**) on Milan stocks compared to the CLOB of MTFs, Liquidity around BBO (**8,000 shares**) is 4x higher than MTFs, and Exclusive Presence at EBBO has also increased sharply (from 36.5% to **68%**)
- **Clients' activity:** SLP scheme adoption by market makers, global banks ramping up in Italy, strong local banks and retail community all contributed to such improvements.

## RECAP OF KEY METRICS

		Euronext Milan	Cboe	Aquis	Turquoise
<b>EBBO Setting (%)</b>	Before Optiq	<b>49.6%</b>	18.5%	29.2%	2.7%
	September 2023	<b>74.5%</b>	12.3%	11.6%	1.7%
	Variation	<b>+24.9%</b>	<b>-6.2%</b>	<b>-17.6%</b>	<b>-1.0%</b>
	MTF vs Euronext	--	6.1x worse	6.4x worse	44.9x worse
<b>Spread at Touch (bps)</b>	Before Optiq	<b>4.8 bps</b>	5.4 bps	5.5 bps	17.5 bps
	September 2023	<b>3.7 bps</b>	4.2 bps	5.2 bps	11.2 bps
	Variation	<b>-1.1 bps</b>	<b>-1.2 bps</b>	<b>-0.3 bps</b>	<b>-6.3 bps</b>
	MTF vs Euronext	--	0.5 bps worse	1.5 bps worse	7.5 bps worse
<b>Liquidity at Touch (n. shares)</b>	Before Optiq	<b>7,188</b>	1,883	3,328	1,215
	September 2023	<b>8,229</b>	2,109	2,290	859
	Variation	<b>+1,041</b>	<b>+226</b>	<b>-1,038</b>	<b>-356</b>
	MTF vs Euronext	--	3.9x worse	3.6x worse	9.6x worse
<b>EBBO Exclusive Time Presence (%)</b>	Before Optiq	<b>36.5%</b>	33.4%	33.6%	4.2%
	September 2023	<b>68.0%</b>	27.8%	5.7%	2.9%
	Variation	<b>+31.5%</b>	<b>-5.5%</b>	<b>-27.8%</b>	<b>-1.3%</b>
	MTF vs Euronext	--	2.4x worse	11.8x worse	23.5x worse

## GLOSSARY

- **EBBO:** European Best Bid and Offer (or Ask) prices.
- **EBBO Exclusive Time Presence (in %):** percentage of time during the continuous trading period where there is exactly one venue with an order equal to the bid price and simultaneously exactly one venue with an order equal to the ask price of the EBBO.  
*ExclusiveTimeAtEBBO|Percentage.*
- **EBBO Setting (in %):** number of events where this venue improved the consolidated best ask price, as a percentage of the number of all consolidated ask price improvement events for the instrument. Analogous definition of EBBO Setting for bid prices.  
*EBBOSetter|AskMeanPercentage* and *EBBOSetter|BidMeanPercentage*, then blended.
- **Liquidity at Touch in Notional (in €m) or in Number of Shares:** time weighted average amount of notional or number of shares around the BBO at best first limits.  
*TWALiquidityAroundBBO|Ask1LevelsNotional* and *TWALiquidityAroundBBO|Ask1LevelsNotional*.  
*TWALiquidityAroundBBO|Ask1LevelsSharesl* and *TWALiquidityAroundBBO|Ask1LevelsShares*.
- **Lit Market Share of Trading (in %):** value traded in lit continuous and auction trading for a venue, divided by the value traded in lit continuous and auction trading for all the venues taken into account.
- **Volume-Weighted Average Spread at Touch (in bps):** volume-weighted bid-ask spread of the day, given in basis points relative to the mean mid-point price. *Spread|Re|VWA.*



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