

Index Rebalancing and Auction Imbalance: Keen to find the Balance?

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AUTHORS

Anna Bennaïm

Cash Equities Intern

Giulia Minoli

Equity Product Manager

Roberto Bonalumi

Head of Equity Business Development

Vincent Boquillon

Head of Equity Trading

For more information, please contact Equities@euronext.com

Introduction to Index Rebalancing and Auction Imbalance

Index Rebalancing refers to the regular adjustment of an index's constituents to ensure it continues to accurately represent its intended composition or objective. Index Rebalancing Days always trigger a significant **increase in equity volumes**, mostly driven by the Closing Auction.

Auction Imbalance refers to the situation in which buy and sell orders for a listed security cannot be fully matched during the auction uncross. This imbalance highlights a temporary disequilibrium between supply and demand, leading to unexecuted orders and signalling the presence of latent liquidity on one side of the market.

As Closing Auction volumes keep growing over time and capture even higher liquidity especially on Index Rebalancing Days, market participants are now demanding a new order type to **'unlock' the untapped liquidity within the Auction Imbalance**.

Executive Summary

1. How large is the 'volumes multiplier' on Rebalancing Days?

The Average Daily Value traded on Euronext-listed stocks is €27.5bn on Rebalancing Days, almost 2x higher than the €14.0bn daily notional on Standard Days. Closing Auction drives most of such growth, capturing €14.8 billion average daily turnover on Rebalancing Days.

2. How does Market Structure evolve on Rebalancing Days?

The average weight of Closing Auction (in percentage of total on-book value traded for Euronext stocks) increases from 25% on Standard Days to 54% on Rebalancing Days.

3. What happens to volumes of stocks entering an Index?

Almost all stocks recently entering CAC40, AEX or FTSE MIB benefited from significant volumes uptick in the 6 months since their index inclusion, with peaks of over +100% increase in Lit Continuous and Auctions turnover.

4. Auction Imbalance: is it a large proportion of Auction volumes?

Auction Imbalance represented 10.1% of Opening turnover and 3.8% of Closing turnover across Euronext stocks in 2024. In nominal terms, the untapped liquidity within Auction Imbalance is equivalent to over €7.0bn monthly unexecuted notional in 2025 YTD.

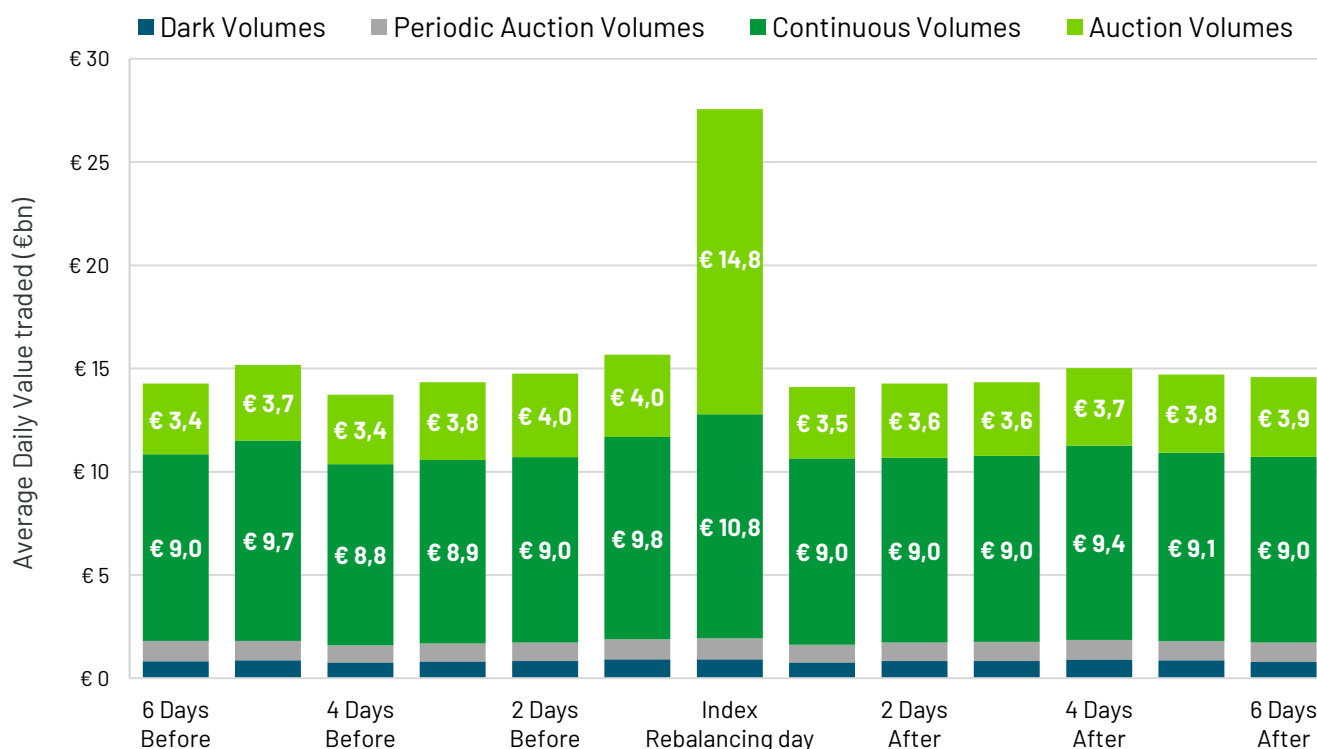
5. Closing Auction Imbalance: is it larger on Rebalancing Days?

In 2025 YTD, the Auction Imbalance on Euronext was more than double on Rebalancing Days (€713 million daily unexecuted notional) compared to Standard Days (€315 million).

1. How large is the 'volumes multiplier' on Rebalancing Days?

For Euronext stocks, the Average Daily Value (ADV) traded on Index Rebalancing Days was **+103%** higher than Standard Days in 2023, **+96%** higher in 2024, and **+53%** higher in 2025. Over the years 2023-2025, the ADV on Rebalancing Days was **€27.5bn**, almost doubling the **€14.0bn** average daily turnover on the Standard Days before and after the rebalancing dates.

Chart 1.1: Daily value traded by Trading Category (€bn) around Rebalancing Days (±6 Days)



Source: Euronext Quant Research, average of all the Index Rebalancing Days of MSCI, CAC, AEX, BEL20, FTSE MIB, and STOXX indexes between Q1 2023 and Q2 2025.

Most of the additional trading activity on Rebalancing Days occurs during the **Closing Auction**, as expected. Auction daily volumes range between **€3.4** and **€4.0 billion** on the days preceding or following Index Rebalancing, and they surge to **€14.8 billion** average daily notional on Rebalancing Days.

There is also a noticeable increase in **Lit continuous** notional, which rise by over **+€1.0 billion** on Index Rebalancing Days compared to the Standard Days.

Overall, this indicates that most of the volumes uplift is concentrated in the Closing Auction, reflecting the execution needs of index-tracking funds. Nonetheless, a portion of the additional activity also occurs during continuous trading which is driven by anticipation, hedging, and pre-positioning behaviours.

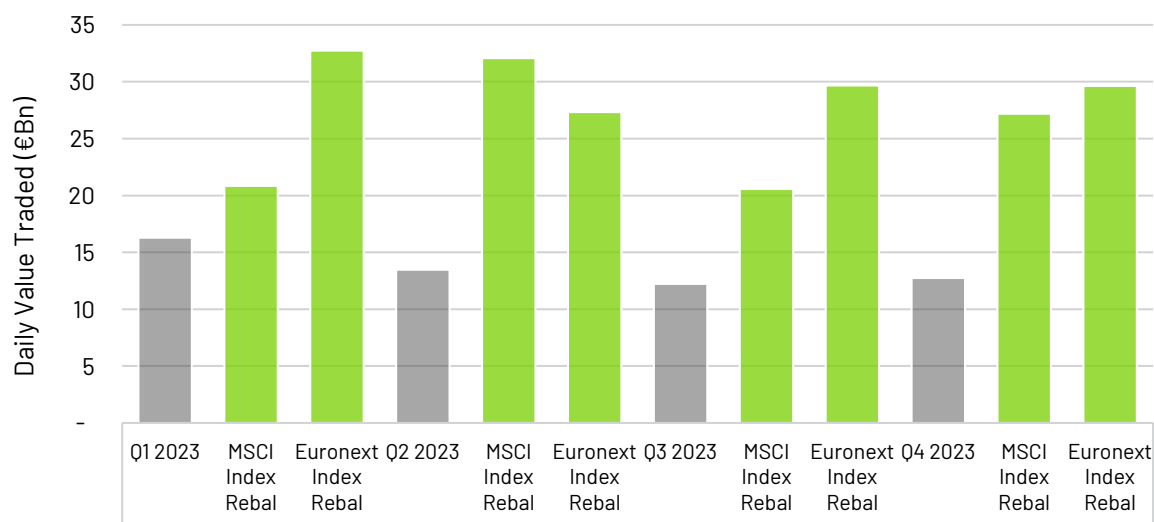
Table 1.1: Daily value traded on Standard Days vs Rebalancing Days since Q1 2023

	Standard Days	Index Rebalancing Days		
Quarter	Average Daily Value traded (€bn)	Daily Value Traded (€bn)	Rebalancing Day	Stock Index
Q1 2023	€16.3bn	€20.8 bn	28-Feb-23	MSCI Index
		€32.7 bn	17-Mar-23	CAC, AEX, BEL20, FTSE MIB, STOXX
Q2 2023	€13.5 bn	€32.1 bn	30-May-23	MSCI Index
		€27.3 bn	16-Jun-23	CAC, AEX, BEL20, FTSE MIB, STOXX
Q3 2023	€12.2 bn	€20.6 bn	31-Aug-23	MSCI Index
		€29.7 bn	15-Sep-23	CAC, AEX, BEL20, FTSE MIB, STOXX
Q4 2023	€12.7 bn	€27.2 bn	30-Nov-23	MSCI Index
		€29.6 bn	12-Dec-23	CAC, AEX, BEL20, FTSE MIB, STOXX
Q1 2024	€14.1 bn	€23.8 bn	29-Feb-24	MSCI Index
		€33.0 bn	15-Mar-24	CAC, AEX, BEL20, FTSE MIB, STOXX
Q2 2024	€14.7 bn	€27.1 bn	31-May-24	MSCI Index
		€27.6 bn	21-Jun-24	CAC, AEX, BEL20, FTSE MIB, STOXX
Q3 2024	€13.2 bn	€16.3 bn	30-Aug-24	MSCI Index
		€26.4 bn	20-Sep-24	CAC, AEX, BEL20, FTSE MIB, STOXX
Q4 2024	€14.2 bn	€26.1 bn	28-Nov-24	MSCI Index
		€25.4 bn	20-Dec-24	CAC, AEX, BEL20, FTSE MIB, STOXX
Q1 2025	€18.8 bn	€29.7 bn	28-Feb-25	MSCI Index
		€33.4 bn	21-Mar-25	CAC, AEX, BEL20, FTSE MIB, STOXX
Q2 2025	€18.6 bn	€31.1 bn	30-May-25	MSCI Index
		€31.5 bn	20-Jun-25	CAC, AEX, BEL20, FTSE MIB, STOXX

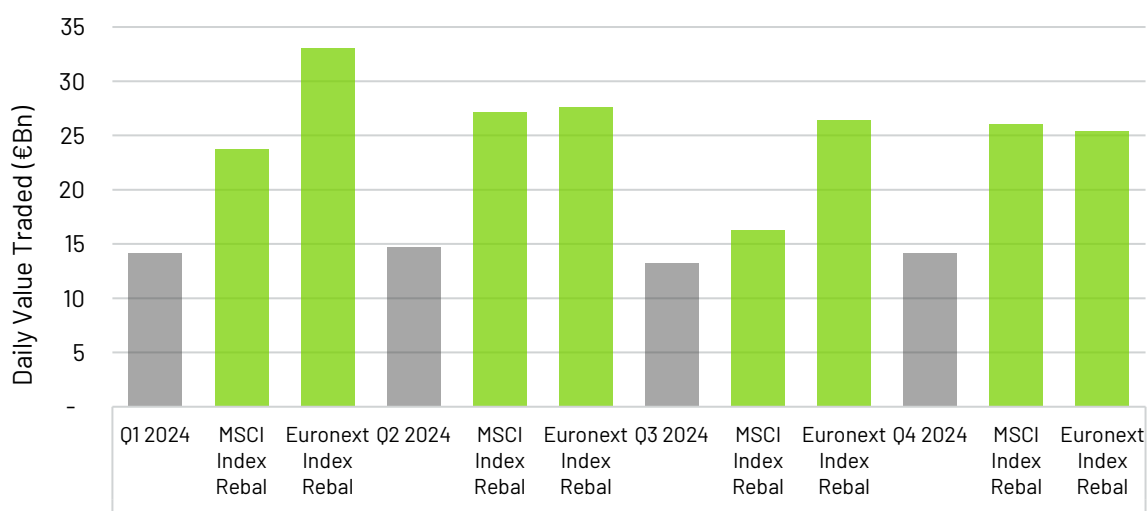
In every quarter from Q1-2023 to Q2-2025, daily volumes on Rebalancing Days exceeded significantly the average daily turnover of Standard Days. Such spike is even more **evident in March, June, September, and December**, coinciding with key global rebalancing cycles.

Chart 1.2: Daily value traded on **Standard Days** vs **Rebalancing Days** in each Quarter

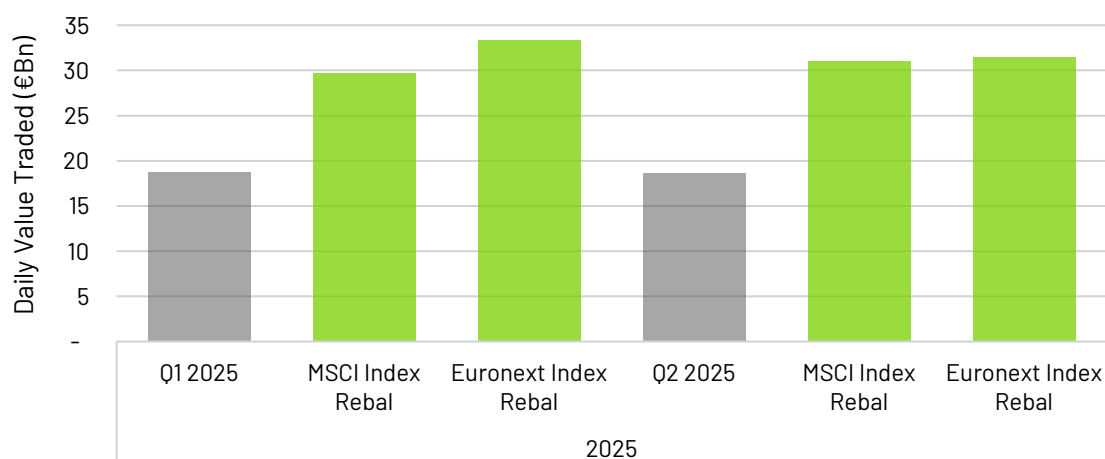
Year 2023:



Year 2024:



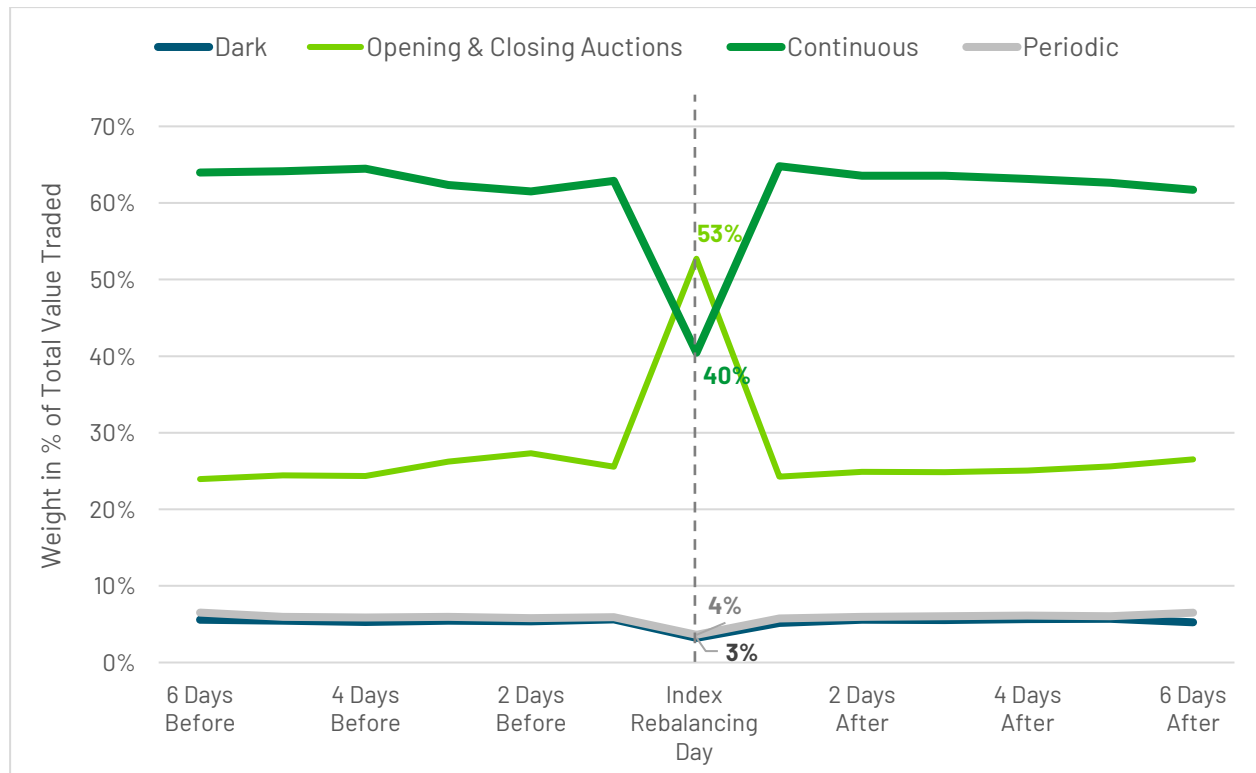
H1 2025:



2. How does Market Structure evolve on Rebalancing Days?

The **weight of Closing Auction doubles on Rebalancing Days** compared to Standard Days. This increase shows the auction's effectiveness in aggregating liquidity and large trades.

Chart 2.1: Weight of On-Book Trading Categories (%) around Rebalancing Days (± 6 Days)



Closing Auctions' weight doubles: on Rebalancing Days, the Closing Auction weight ranges between 38% and 63%, with an average weight of **54%**; this is significantly higher than the average weight of Closing Auction on the Standard Days (without any index rebalancing), equal to 25% of On-Book turnover.

Lit Continuous: the percentage weight of Lit continuous volumes decreases on Rebalancing Days (**39%**) compared to Standard Days (63%). Still, the Lit continuous notional turnover increases by over **+€1bn** on Rebalancing Days, as specified in *Chapter 1*.

Dark and Periodic Auctions' weight is almost halved: comparing Standard Days and Rebalancing Days, the weight of Dark pools decreases from 5.5% to 3.3% of total on-book volumes, and Periodic Auctions weight drops from 6.0% to 3.7%. This might reflect the reduced use of opportunistic and low-visibility venues, while price formation is prioritized. Note: charts show average figures over Q1 2023 to Q2 2025 as specified in the *Source*.

3. What happens to volumes of stocks entering an Index?

Table 3.1: Daily value traded of “Index Joiners” before and after entering the Index

Lit Continuous volumes:

Index	Index Joiner (stock entering the Index)	Effective Date	ADV (€m) 6 months before Effective Date	ADV (€m) 6 months after Effective Date	% Variation After vs Before
CAC 40	ACCOR	18-Mar-2024	€11.7m	€12.6m	+7.7%
	BUREAU VERITAS	23-Dec-2024	€8.4m	€20.2m	+140.5%
	EDENRED	19-Jun-2023	€10.5m	€12.0m	+14.3%
	VIVENDI SE *	18-Dec-2023	€6.4m	€9.9m	+54.7%
AEX	AEGON	02-Oct-2023	€24.9m	€24.2m	-2.8%
	ABN AMRO BANK N.V.	20-Mar-2023	€26.4m	€30.2m	+14.4%
	ASR NEDERLAND	20-Mar-2023	€9.8m	€11.0m	+12.2%
FTSE MIB	BCA POP SONDRIO	18-Mar-2024	€6.9m	€10.0m	+44.9%
	BRUNELLO CUCINELLI	18-Dec-2023	€5.0m	€10.8m	+116.0%
	BANCA MPS	20-Mar-2023	€19.4m	€24.1m	+24.2%
	TENARIS	31-Oct-2023	€34.1m	€33.7m	-1.2%

* VIVENDI SE left the CAC 40 on 16th June 2023 but re-entered the CAC40 on 18th December 2023.

Lit Continuous + Lit Auctions volumes:

Index	Index Joiner (stock entering the Index)	Effective Date	ADV (€m) 6 months before Effective Date	ADV (€m) 6 months after Effective Date	% Variation After vs Before
CAC 40	ACCOR	18-Mar-2024	€25.1m	€28.7m	+14.3%
	BUREAU VERITAS	23-Dec-2024	€19.8m	€36.6m	+84.8%
	EDENRED	19-Jun-2023	€25.7m	€25.3m	-1.6%
	VIVENDI SE	18-Dec-2023	€15.5m	€19.9m	+28.4%
AEX	AEGON	02-Oct-2023	€33.4m	€33.7m	+0.9%
	ABN AMRO BANK N.V.	20-Mar-2023	€35.3m	€42.1m	+19.3%
	ASR NEDERLAND	20-Mar-2023	€20.1m	€22.9m	+13.9%
FTSE MIB	BCA POP SONDRIO	18-Mar-2024	€74.2m	€81.7m	+10.1%
	BRUNELLO CUCINELLI	18-Dec-2023	€6.6m	€14.9m	+125.8%
	BANCA MPS	20-Mar-2023	€20.5m	€25.8m	+26%
	TENARIS	31-Oct-2023	€43.2m	€43.3m	+0.2%

Almost all stocks which entered CAC40, AEX or FTSE MIB indices have benefited from **volumes uptick in the 6 months after the index inclusion**, with peaks of over **+100%** in turnover.

4. Auction Imbalance: is it a large proportion of Auction volumes?

Chart 4.1: Distribution of Auction Imbalance by stock (in % of Opening Auction turnover)

On average, **Auction Imbalance represents 10.1% of Opening** Auction turnover on Euronext.

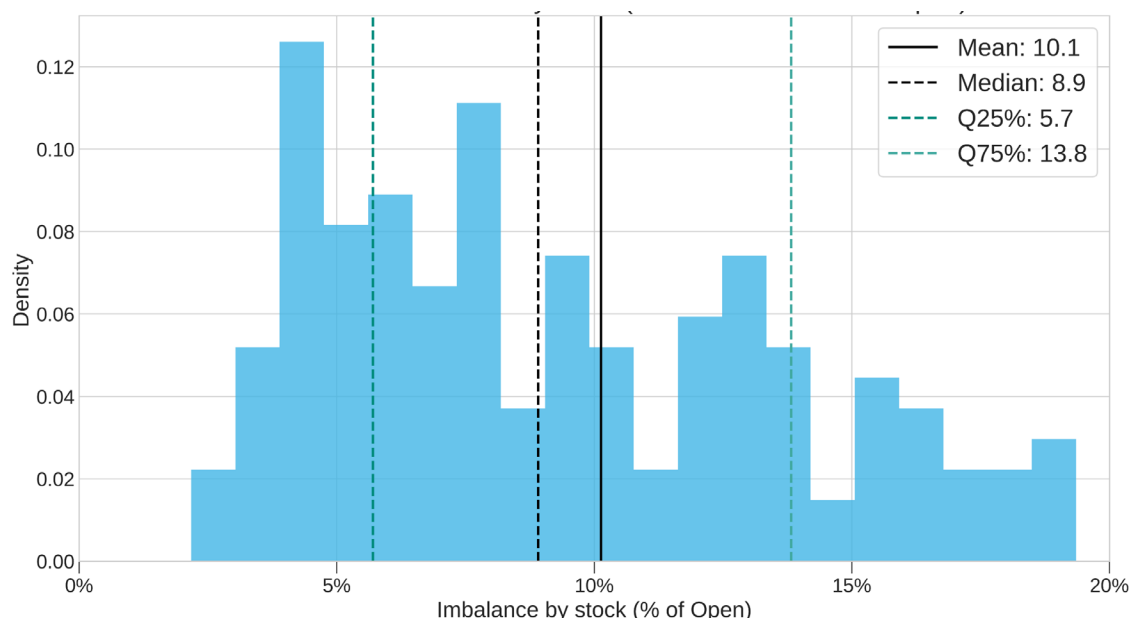
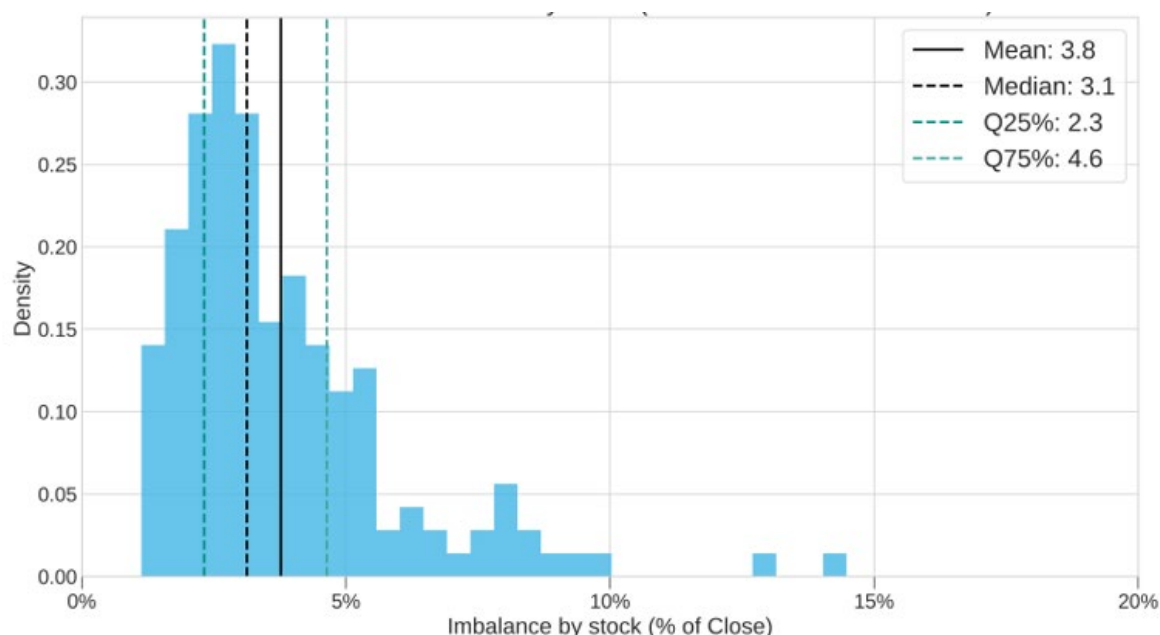


Chart 4.2: Distribution of Auction Imbalance by stock (in % of Closing Auction turnover)

On average, **Auction Imbalance represents 3.8% of Closing** Auction turnover on Euronext.



Source: Euronext Quant Research, 2024 full year data.

Stock universe: CAC40, AEX, BEL20, AMX, CAC NEXT20, FTSEMIB (165 stocks).

5. Closing Auction Imbalance: is it larger on Rebalancing Days?

Chart 5.1: Auction Imbalance average daily notional (€) at the Close in 2024

2024 (€M)	Standard Days		Index Rebalancing Days	
	Imbalance Buy	Imbalance Sell	Imbalance Buy	Imbalance Sell
Paris	€56.6 m	€22.1 m	€ 74.6 m	€ 47.5 m
Milan	€14.2 m	€10.5 m	€ 24.7 m	€ 21 m
Amsterdam	€14.9 m	€ 9.1 m	€ 33.9 m	€ 19.3 m
Oslo	€5.2 m	€ 5.7 m	€ 9.2 m	€ 10.7 m
Brussels	€4.1 m	€ 3.4 m	€ 11.3 m	€ 7 m
Lisbon	€1.6 m	€ 1 m	€2.3 m	€ 1.4 m
Dublin	€ 1.4 m	€ 1.5 m	€ 2.3 m	€ 5.5 m
Grand Total	€ 151.3 m		€ 270.7 m	

Chart 5.2: Auction Imbalance average daily notional (€) at the Close in 2025

2025 YTD (€)	Standard Days		Index Rebalancing Days	
	Imbalance Buy	Imbalance Sell	Imbalance Buy	Imbalance Sell
Paris	€ 221.7 m	€ 25.9 m	€ 483.9 m	€ 58.8 m
Milan	€ 11.5 m	€ 13.1 m	€ 26.3 m	€ 28.2 m
Amsterdam	€ 9.2 m	€ 9.2 m	€ 32.2 m	€ 22.1 m
Oslo	€ 6 m	€ 5.8 m	€ 10.6 m	€ 11.6 m
Brussels	€ 3.6 m	€ 3.5 m	€ 8.4 m	€ 11.7 m
Lisbon	€ 1.0 m	€ 1.1 m	€ 2.4 m	€ 1.4 m
Dublin	€ 1.5 m	€ 2 m	€ 4 m	€ 11.6 m
Grand Total	€ 315.1 m		€ 713.2 m	

Note: high Auction Imbalance in 2025 is partially driven by elevated volumes and volatility observed in Paris markets during Q1 2025.

The tables show that Closing Auction Imbalance notional in 2025 YTD, combining Buy and Sell orders, is **more than double** on Index Rebalancing Days compared to Standard Days.

This pattern is consistent across all Euronext venues, highlighting again the significant role of Index Rebalancing on market dynamics and liquidity at the Closing Auction.

6. Snapshot of the Index Rebalancing in September 2025

The following Euronext stocks were added to major indices after the September Rebalancing Day on 19th September 2025:

Index	"Index Joiner" (stock entering the Index)	ISIN
CAC 40	EURONEXT	NL0006294274
AEX 30	JDE PEET'S	NL0014332678
	CVC CAPITAL	JE00BRX98089
	WDP	BE0974349814
	INPOST	LU2290522684
FTSE MIB	LOTTOMATICA GROUP	IT0005541336

Note: The number of constituents in the AEX Index increased from 25 to 30 in September 2025. Just Eat Takeaway not included in the table, as it joined the AEX Index but then it was removed due to Corporate Action.

While it is still early to draw long-term analysis volumes for each of these stocks, Friday 19th September 2025 has marked the **4th most active trading day** for Euronext in 2025 (**€26.0bn** daily value traded) with 55% of daily turnover represented by the Closing Auction, proving again the growing importance of price formation during the Close of Primary Exchanges.

Conclusion

"Rebalancing" and **"Imbalance"**: similar words which ultimately find a common *fil rouge* in the crucial role of Closing Auction price formation within Regulated Markets:

- When Index Rebalancing occurs, equity volumes double and exceed €27bn of average daily on-book turnover on Euronext stocks, with 54% of such volumes being captured by the Closing Auction.
- When Closing Auctions occur, significant orders remain unexecuted and contribute to the Auction Imbalance, with untapped notional in the range of €5-10bn monthly.

Keen to find the **"Balance"**?

Following the explicit requests by market participants, **Euronext has announced the launch of Auction Volume Discovery (AVD)**, with confirmed go-live on 8th December 2025. This new order type will allow trading firms to send hidden orders anytime during the day for execution at the Opening or Closing price, hence (1) capturing the untapped liquidity of the Auction Imbalance, and (2) sourcing large blocks at the Auction price without any market impact nor information leakage.

Source of this Equity Study

- Scope of volume calculations refer to all Euronext stocks, and combine trading volumes across Euronext Regulated Markets and the main MTFs (Multilateral Trading Facilities).
- Scope of main MTFs in this study: Cboe Europe, Aquis Europe, Turquoise Europe.
- Data source: Euronext internal data. Quanthouse and BMLL for MTFs' volumes data.
- The study focuses on trading activity around Index Rebalancing Days, and specifically: MSCI Quarterly Comprehensive Index Review, STOXX Quarterly Review, BEL 20 Annual Review, CAC 40 Quarterly Review, FTSE MIB Quarterly Review, AEX Quarterly Review.
- Auction Imbalance metrics have been computed by Euronext Quant Research Team, based on 2024 data. Stock universe: CAC40, AEX, BEL20, AMX, CAC NEXT20, FTSEMIB.

Ready for the go-live of Euronext Auction Volume Discovery (AVD) on 8 December 2025?

- Send a **non-displayed** order during the day.
- Trade at the opening auction or closing **auction price**.
- Capture the **auction imbalance** after the regular auction process occurred.
- By trading against other AVD orders, participants benefit from greater opportunities for **block trading** without price impact.
- Price determination process at auction remains unchanged.

Contact Equities@euronext.com for any question on this study, and find technical specifications of Euronext Auction Volume Discovery on [our webpage](#).

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We envisage to share thought leadership topics enriched with data analytics, as a way to stimulate discussions among the equity trading industry. We might also link these studies to product innovation and client consultations. We look forward to your feedback on this first edition of Euronext Equities Espresso, and we would appreciate suggestions on content for the upcoming publications.



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