

CMU & THE CONSOLIDATED TAPE: FRIEND OR FOE?

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EURONEXT

INTRODUCTION & OVERVIEW

1. The Commission argues in its consultation on the MiFID review¹ that a consolidated tape “*would help brokers to locate liquidity at the best price available in the European markets*”. The consultation further identifies “*ensuring best execution*” as one potential **use case for the tape** and suggests there should be a link between the consolidated tape and best execution obligations.
2. Ahead of providing its response to the consultation, Euronext wishes to make a detailed contribution to the ongoing discussions with an analysis of the ways these objectives can be delivered.

In our opinion, an end-of-day execution analysis file represents the appropriate way forward...

3. Such a file would cover 100% of data sources and carry **post-trade data together with information on liquidity available at execution**. It would enable market participants to assess fragmentation and available liquidity across venues, as well as to support execution analysis allowing investors to validate the execution provided by their brokers. It would constitute a distinct offering and would not burden market participants with duplicative costs. While such a tape would be appropriate for all asset classes, we believe **data consolidation for ETFs and fixed income should be addressed with higher priority**. For ETFs in particular, where 90% of volumes are executed off-exchange, such a tape would offer a complete view of liquidity, improve transparency, and encourage more investors to be active in the asset class.
4. In contrast, a real-time pre-trade tape, far from providing a consolidated view, would only advertise a **misleading sense of liquidity**. This is because visible liquidity does not necessarily mean that liquidity is accessible.
5. Enforcing best execution on the basis of a European Best Bid and Offer (EBBO) carried by a real-time pre-trade tape would create a **flawed, easily gameable benchmark** that would ultimately be harmful, especially to smaller investors.

Data quality and OTC / SI data remain core issues...

6. Two other important points need to be stressed. Firstly, there are unrealistic expectations regarding the impact of consolidation on **data quality**. No matter how impressive the technology, a tape will not be in a position to do any data cleansing, nor address any tardy or incomplete trade reporting.
7. Secondly, the real benefit of consolidation would reside in the pooling of OTC and SI data which is currently hard to access. A tape would **only improve current levels of transparency if it covered 100% of data sources**.

This memo provides a rationale for our recommendation by focusing on how **four key objectives** – (a) *delivering a consolidated view of liquidity*, (b) *best execution*, (c) *data quality*, and (d) *transparency* – can be met.

¹ Published on February 17 2020, available here: https://ec.europa.eu/info/law/better-regulation/initiatives/mifid-2-mifir-review-2020-0_en

A. What kind of 'tape' can help address fragmentation and offer a true picture of a consolidated liquidity in Europe?

8. There is an argument that a real-time pre-trade tape, by consolidating fragmented European markets into a single source, would increase the visibility of the overall liquidity available. While the theory is appealing, a real-time pre-trade tape could not deliver on this objective because **visible liquidity does not necessarily mean that liquidity is accessible**.
9. Liquidity streamed on the tape would not be addressable in the same way by all market participants: in practice, one would need to be connected to all trading venues and systematic internalisers (SIs) for which the tape is streaming data in order for the pre-trade tape to be a true representation of overall accessible liquidity. In practice, **a broker will only be able to access liquidity on venues and SIs to which it is connected**, keeping in mind that SIs are allowed to choose with which clients they want to interact.
10. This is further compounded by the fact that consolidation by the tape will inevitably create **latency**. As a result, by the time an order or quote is available on the tape and an investor decides to act upon it, it will likely have disappeared or already changed on the source market. This would, in many ways, be similar to situations where flight price comparison websites systematically advertise promotions or low fares, which prove to be "not available or sold out" each time a client tries to book the fare on the airline website.
11. While conceptually appealing, the concept of a universal truth of visible liquidity **does not take into account the geographical and technical realities of European markets**. In effect, each trader has a specific view of the visible liquidity depending on its physical location. The liquidity displayed by a real-time pre-trade tape would therefore be illusory liquidity for most, and only true for a specific set of traders close to the CT provider and leveraging the same technologies.
12. Even **for users less sensitive to latency**, such as display users, pre-trade information carried by a real-time tape is not necessarily a good solution to highlight the real available liquidity in the market. It may give a false sense of liquidity – displayed liquidity on quotes does not mean this liquidity is accessible or tradable as on some venues members can easily cancel displayed orders. In contrast, a post-trade tape can never be misleading as it carries executed price information without these drawbacks.
13. A real-time pre-trade tape would therefore - far from providing a consolidated view of European liquidity - **only advertise a misleading and illusory sense of liquidity**.

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In contrast, combining end-of-day post-trade data with other information such as the side (bid or ask) of trades executed on a venue, coupled with information on the liquidity available at that venue when a trade was executed would provide a much more reliable picture of real accessible liquidity.

This could be delivered by an **end-of-day execution analysis file** and would be much easier and less costly to build than a real-time pre-trade tape. It would enable market participants to compute the effective spread by comparing the trade at the Bid and trade at the Ask and sizes available, therefore allowing members to assess the **truly available liquidity** prevailing on a given day, stock and venue.

Such a tape would entail **concrete advantages for investors, especially retail ones**. This is because an end-of-day CT including OTC trades as well as SIs and RFQ platforms would offer investors an affordable and centralised way to compute price reversion analysis and help them assess the real market share of these venues on the set of instruments they are interested in. In the current environment this task is rendered very difficult by the fact SI, OTC and RFQ trades are made public in a fragmented way over multiple APAs. This is particularly detrimental for smaller investors who do not have enough data to reliably assess each venue.

Such a tape would also **significantly improve liquidity on ETF markets**. ETF markets are currently fragmented across jurisdictions, where a single instrument is generally cross-listed over several exchanges. Most importantly, ETF markets are fragmented across trading protocols with a large majority of trading – approximately 90% – taking place on alternative trading systems such as OTC or RFQ platforms. An EOD execution analysis file would consolidate volumes and display where trades were executed, thereby offering a complete view of ETF liquidity in Europe. We believe this would greatly contribute to dispelling the myth that EU ETF markets are a lot less liquid than their US counterparts and, therefore, encourage more investors to be active in the asset class as “liquidity begets liquidity”.

For all asset classes, trading venues and Approved Reporting Mechanisms (ARMs) today already send a version of this data with participant details to regulators after close of business each day: a cut-down anonymised version would be simple to provide and speed up the introduction of the EOD execution analysis file. This would save a huge amount of work across the industry in terms of contributors sending data and end users accessing data.

B. What kind of ‘tape’ would enable market participants to monitor best execution?

14. The argument that best execution will be a benefit of a real-time pre-trade consolidated tape does not take account of the fragmented nature of the European market structure and its wide geographical footprint, as opposed to the US.
15. Enforcing best execution on the basis of a European Best Bid and Offer (EBBO) carried by a real-time pre-trade tape would be **an oversimplification of the market and create a flawed, easily gameable benchmark that would ultimately be harmful to investors**. The US precedent shows that, when a tape is used as the reference price for best execution, it creates an environment ripe for gaming at the expense of less sophisticated investors. This is evidenced by the fact that, in the US, some market participants charge negative fees (payment for order flow) to gain access to retail flow and exploit arbitrage opportunities.
16. This is because best execution is only a local reality, true at one moment, for one specific location where the Smart Order Router (SOR) of the broker is located. Geographical spread and latency considerations will mean that two observers in two different locations can **simultaneously observe two different “best” prices**. This renders the use of a unique EBBO as an ex ante or ex-post benchmark to ensure best execution misleading at best.
17. In addition, research demonstrates that liquidity displayed by trading venues in the order book is not always accessible because of **“ghost” liquidity** provided by certain types of market participants². The emergence of a real-time pre-trade tape promoting a “visible” EBBO would give market participants the **illusion of achieving best execution**, while in fact creating an environment where ghost liquidity and latency arbitrage could easily be exploited by the most technology-savvy market participants.
18. As previously stated, each Smart Order Router has its own EBBO subject to its geographical location. The concept of a pan-European EBBO, carried by the tape and presented as “true” for every market participant, could in that case be used as a misleading execution benchmark at the expense of less sophisticated investors. **The tape would create a false sense of comfort amongst investors that best execution was achieved, reducing vigilance on execution quality, while in fact their orders would have been arbitrated**. This would be rendered even worse should the tape’s EBBO be used as a reference price for Systematic Internalisers (SIs) and dark pools as it would weaken the price formation process on lit markets while creating significant arbitrage opportunities.
19. This will impact investors who do not have the skills, capabilities, organization or technology to assess and challenge best execution based on a CT, firstly retail investors but also a wide range of buy-sides firms.
20. This underpins our view that a pre-trade tape would not allow market participants to ensure best execution neither ex ante nor ex-post.
21. Also, it is important to note that restricting a real-time pre-trade tape to non-trading use cases, for instance for display usage, would not solve these issues. In practice, even if the regulation does not

² DEGRYSE, Hans, DE WINNE, Rudy, GRESSE, Carole, et al. *High frequency trading and ghost liquidity*, 2018

mandate the use of the CT as the basis for best execution, the EBBO carried by a real-time pre-trade tape would become the *de facto* reference price for best execution, with the adverse effects on investors mentioned above.

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In contrast, an **end-of-day execution analysis** with post-trade data and information on the corresponding trade side (Bid or Ask) and the liquidity available at execution would enable the analysis of executed trades (including SIs, RFQ platforms and OTC trades) and thereby provide market participants with a **tool to monitor best execution** and help them validate the execution provided by their agency broker.

An end-of-day tape **would allow all types of investors** to check, for example, whether the choice of venues made by their agency broker matches empirical fragmentation. End investors could also very easily check transaction cost analysis metrics such as VWAP slippage, arrival price slippage, price reversion analysis and challenge their brokers' trade reporting on the basis of affordable and centralised data. In addition, an end-of-day tape would make the computation of VWAP benchmarks much more practical and economical than it is today, particularly for smaller investors.

While a **real-time post-trade tape** would not raise the same arbitrage issues as a real-time pre-trade tape and not be detrimental to investors, we still favour an end-of-day option for the following reasons:

- Most of the use cases we identified do not require real-time data and could all be provided to investors by the tape we propose (e.g. transaction cost analysis, best execution analysis, market dynamics and fragmentation analysis, liquidity risk management);
- The **use of end-of-day data would make the tape much more affordable for investors**, particularly retail ones, and would therefore not risk creating significant duplicative costs;
- An end-of-day solution will be easier to build and maintain than a latency-sensitive real-time option and could therefore emerge quite quickly;
- An end-of-day solution would not risk spilling over into a real-time pre-trade tape, with the significant issues we describe above.

C. Would a tape improve data quality?

22. We have heard it suggested in multiple forums that a consolidated tape would improve the quality of data available to market participants. We feel there are **unrealistic expectations** regarding the impact of a tape, be it pre-trade or post-trade, real-time or otherwise, regarding data quality. We would like to stress that, no matter how impressive the technology, a tape will not be in a position to do any data cleansing.
23. This means the data carried on the tape will only be as accurate and reliable as the data coming from the worst performer contributing to it. **Data quality issues generated by suboptimal OTC trade reporting will not be solved by the tape.** If a market participant does not report its trades in a timely or accurate fashion in the current environment, the same will hold true under a consolidated tape as the tape operator will not hold the data necessary to check whether the information submitted is correct.
24. In addition, a further data quality issue stems from **diverging time-stamping practices**. Each order and each transaction are time-stamped by trading and execution venues with high levels of granularity in order to provide an accurate representation of the sequence in which trading events occurred. This is especially important to support, amongst other things, transaction cost analysis (TCA).
25. However, trading venues and execution venues are subject to different requirements in terms of time stamp granularity depending on how fast their systems are (microsecond vs millisecond granularity). In other terms, a thousand market events could have occurred between transactions stamped with millisecond granularity vs transactions stamped microsecond granularity. This will not be solved by existing clock synchronisation requirements. **Consolidation with diverging time stamps would therefore not allow market participants to determine which event occurred first, resulting in a confusing picture of liquidity and market dynamics.**
26. As a pre-requisite to any form of consolidation, it is essential to bring all market participants up to the same standards in terms of data quality. This means radically improving practices in terms of completeness, accuracy and timeliness of reporting, as well as establishing standardised practices in the flagging of trades (supported by MMT) and granularity of time stamps across all data sources. Only **enhanced data standards** enforced by ESMA and NCAs on all types of execution venues – not just exchanges – have the potential to address these issues.
27. **Failing that, any consolidation exercise will only result in low quality and inconsistent data of little to no use to the industry.**

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While these elements need to be addressed for any type of tape to emerge – real-time, delayed, or end-of-day – it is worth noting that an end-of-day execution analysis file would be less technically challenging in terms of achieving high levels of data quality.

D. Would a tape encourage trading on transparent markets?

28. Market data on lit venues is currently widely available to large market participants through direct feeds, vendor terminals, and exchanges' websites. In addition, transparent exchange and MTF data is already consolidated by data vendors. Smaller participants do not necessarily have the resources to consume such data feeds from all lit venues, let alone SI, RFQ and OTC data which is much more fragmented. This reinforces inequalities of information across investors, which in turn make markets less efficient and reinforce the dominant situation of larger asset managers and intermediaries. Smaller market participants probably stand to benefit the most from a CT.
29. **The real benefit of a tape would reside in the consolidation of OTC and SI data which is currently hard to access** – while data vendors allow market participants to consume data from all lit venues through a single access point, SI and OTC data remains scattered and fragmented. A tape would therefore only improve on current levels of transparency – and have a shot at offering a complete consolidated view of the market – if it covered 100% of data sources.
30. For less liquid assets, e.g. small cap stocks, the CT could have some benefits in increasing trading by giving an idea of available liquidity. Arbitrage opportunities would not arise in that case because of the reduced trading intensity. Nevertheless, an end-of-day execution analysis file would be sufficient to enable participants to obtain more reliable information.
31. In addition, we are **concerned that a real-time pre-trade tape, far from promoting lit markets, would make it easier to trade on dark pools**. Some supporters of the tape argue that the consolidated tape should provide a single source of reference prices for trading under the reference price waiver.
32. As this waiver is the basis for the operation of most dark pools in Europe, a real-time pre-trade tape would make it easier to operate a dark pool, facilitate opaque trading and allow dark execution venues to flourish at the expense of the price formation process on lit markets. Is that really the direction we want to take for the Capital Markets Union?

CONCLUSIONS

33. In conclusion, we feel **these four objectives** – *delivering a consolidated view of liquidity, best execution, data quality, and transparency* – **would not be met by a real-time pre-trade consolidated tape**. Perhaps worse than not achieving the desired goal, the remarks above show that a pre-trade consolidated tape, should it be real-time, would have adverse effects on market structure by making it easier to trade in the dark and creating a flawed and easily gameable best execution benchmark.
34. While we acknowledge there is a **need for consolidation, especially in ETF and fixed income markets** where OTC trading is prevalent, we believe an **end-of-day execution analysis file** containing post-trade data enhanced with trade sides and available volume at execution time would represent the most appropriate solution to address these needs. Such a tape would be particularly beneficial to ETF markets in offering a complete view of liquidity, improving transparency, and encouraging more investors to be active in the asset class.
35. Such a file would be easier and less costly to build than a real-time tape, while also avoiding latency and arbitrage issues as well as delivering clear value to market participants by supporting portfolio valuation, transaction cost analysis, and the building of algo and long-term trading strategies. It would also enable a better understanding of market liquidity, thereby improving execution quality. While these advantages would flow to all investors, they stand to benefit the most Tier 2 and Tier 3 market participants as well as retail investors who have fewer resources to allocate to data acquisition and processing.
36. Ultimately, **we believe an end-of-day execution analysis file is the better option** compared to a real-time pre-trade tape that would not only fall short of its objectives but also hinder Capital Markets Union by diverting precious time and resources from key initiatives that would truly strengthen the EU's capital markets.



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