

FESE Paper on the Market Structure Partners Study on the Creation of an EU Consolidated Tape

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1. Introduction

By Q4 2021, the European Commission is expected to propose to the European Parliament and the European Council legislative changes that will support the establishment of a post-trade consolidated tape (CT) for equity and equity-like instruments.¹ In support of this, DG FISMA awarded a tender for a study on the creation of an EU CT to Market Structure Partners. The study² recommends a real-time pre-trade and post-trade CT with the following structure:

- An equity real-time (milliseconds) order book feed (3-5 levels of depth) across each market with the potential to create a volume-weighted best bid and offer (BBO) of each tradable instrument, as well as action imbalance data;
- A real-time post-trade feed in equities and fixed income;
- Session statistics; and
- Session admin messages and events feed.

FESE believes that such a recommendation, and in general a pre-trade CT for equities, would be detrimental for capital markets due to the difficulties in identifying a clear use case that would justify its significant costs. A CT as defined in the study would become a flawed and easily gameable best execution benchmark. A post-trade real-time CT would also be concerning because EU markets are significantly fragmented and heterogenous in terms of data quality. Given this fragmentation and its resulting technological hurdles, real-time post-trade consolidation would imply large costs³ and inefficiencies.

Against this background, FESE acknowledges the need for consolidation, especially when it comes to systematic internaliser (SI) and over-the-counter (OTC) data. Investors should be able to get a full overview of the trading landscape. Policymakers should also ensure that the market structure is fit for purpose and that a CT would not incentivise dark trading. The inconsistent reporting of SI and OTC trades must be fully examined as a matter of priority. High-quality, reliable, and consistent flagging and enforcement by NCAs is key to delivering a CT. A CT will never be in a position to deliver data consistency and quality: the quality of

¹ European Commission, “A Capital Markets Union for People and Businesses-New Action Plan” (Brussels, 2020).

² Market Structure Partners, “Market Structure Partners The Study on the Creation of an EU Consolidated Tape,” 2020.

³ See for example Thomas C. Redman, “Bad Data Costs the U.S. \$3 Trillion Per Year,” *Harvard Business Review* (Cambridge, MA, 2016).

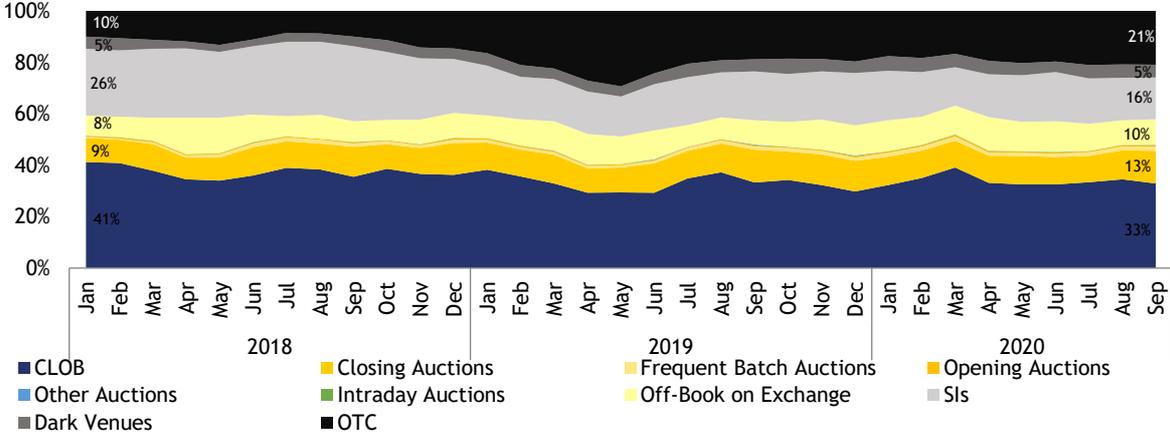
output data generated by a CT can only be as good as the quality of its input data. Good data can only be generated at the source.

The role that lit markets play in delivering the Capital Markets Union (CMU), as well as the importance of the price formation process, needs to be considered in the CT debate. Trading venues are not mere data aggregators, they fulfil two core functions:

1. The provision of trading with large pools of liquidity under non-discriminatory and non-discretionary rules; and
2. The price formation process.

A well-functioning price formation process enables trading to take place, delivers more efficient markets benefiting investors, and lowers the costs of capital for businesses. Yet, there is a risk that the creation of a real-time CT will impose high costs for the industry without tangible benefits, to the detriment of the CMU and the global competitiveness of EU financial markets. This would take place in the context of an increasingly fragmented trading landscape, with increasing amounts of trading taking place off-venue and a decreasing market share of lit venues.

Figure 1: STOXX 600 Market Share by Execution Mechanism



Source: Big xyt

The current lack of transparency is not due to issues with the consolidation of data but to a deficient market structure that encourages the execution of orders away from transparent markets to the detriment of investors and issuers. A CT is no substitute for adequate market structure and rigorous enforcement of rules.⁵ On the contrary, far from being in the interest of retail investors, large investment firms stand to benefit from a real-time CT that takes an appropriate market structure for granted.

In this context, a tape of record (ToR) would represent a more cost-effective solution, have fewer latency, risks, and complexity issues, and deliver clearer value to the market than the study recommendation. Such a ToR would consolidate and disseminate, after the market close, the European best bid and offer (EBBO) and last price, time, price, volume, and trade flags of each transaction. Thus, it would provide a comprehensive view of the EU trading landscape on an instrument level. Moreover, a ToR would allow for execution quality,

⁵ On the links between market data, trading and price formation, and the design of the equity trading market more generally, see Oxera, “The Design of Equity Trading Markets in Europe: An Economic Analysis of Price Formation and Market Data Services” (Oxford, 2019); Oxera, “What’s the Data on Market Data? The Role of Market Data in Equity Trading” (Oxford, 2019).

transaction costs, liquidity risk, and compliance analysis, or the valuation of positions, while also facilitating double volume cap and tick size calculations or the harmonisation of regulatory requirements, etc. Hence, the proposal of a ToR would deliver clear value to the market, taking into account costs of the set-up and the use case, as stated in the CMU Action Plan.

2. Which risks does the study recommendation for a real-time CT pose?

A real-time CT would be a flawed benchmark

Use cases for a real-time CT (like best execution and risk and investment management) would draw on a flawed benchmark. Measuring best execution on the basis of an EBBO carried by a real-time CT would create an easily gameable benchmark that would ultimately be harmful, especially to smaller investors.

Under the MiFID II/MiFIR best execution regime, investment firms have to take into account a range of criteria in addition to price (e.g., costs, speed, and the likelihood of execution). Best execution is not limited to the best price and therefore it is incorrect to expect that a real-time CT could provide a benchmark for best execution.

Furthermore, 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. Hence, geographical spread and latency considerations will imply that two observers in two different locations can simultaneously observe two different best prices. This means that the use of a unique EBBO as a benchmark to ensure best execution would not work.

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 participants.⁶ The emergence of a real-time pre-trade CT promoting a visible EBBO would give market participants the illusion of achieving best execution, while creating an environment where ghost liquidity and latency arbitrage could easily be exploited by the most technology-savvy market participants.

As previously stated, each SOR has its own EBBO subject to its geographical location. The concept of a pan-European EBBO, carried by a real-time CT would not deliver the same outcomes to all market participants. The CT 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. Using the CT's EBBO as a reference price for SIs and dark venues would weaken the price formation process on lit markets while creating significant arbitrage opportunities.

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-side and firms.

A real-time CT would impose high costs without clear benefits

The difficulties in identifying a clear use case that warrants a real-time CT is one of the main reasons why a CT has not yet emerged. Moreover, the potential benefits of a real-time CT would be outbalanced by the costs the market would incur.

For example, as discussed above, the analysis of execution quality can be facilitated by a CT but it will not provide a robust benchmark for best execution. The very fragmented

⁶ See Hans Degryse et al., "High Frequency Trading and Ghost Liquidity," 2018.

trading landscape and technological limitations discussed below further undermine the viability of potential use cases. A CT would not be of value to supervisors for the purposes of monitoring cross-market activity. By nature, a CT will only publish anonymous public data and is consequently not suitable for regulatory audit trail purposes. Data needed for supervisors to monitor cross-market activity is much more granular, based on transaction reporting (which is not publicly available as it includes private data) and order record keeping data.

Guesstimates of users, revenues, benefits, or costs ignore the high setup and indirect costs of the infrastructure for a CT that would need to consolidate in real-time data from more than 200 venues and APAs. As some brokers and sell-side firms have pointed out, imposing a real-time pre- or post-trade CT will make firms incur additional costs, as they would continue subscribing to their current market data solutions for their trading strategies.⁷ The fact that most market participants do not want a mandated CT clearly highlights the uncertainties of both a use case and a business case for a real-time CT.

A real-time CT would not be fit for the EU market structure

The specificities and uniqueness of the EU financial markets landscape should be a primary consideration when discussing the creation of a CT. Unfortunately, some market participants and studies are too quick to draw on the existence of a CT in the US to attempt to justify taking a similar approach in the EU, and in doing so neglect to take into account the fragmented nature of the European market structure and its wide geographical footprint. It is important to recognise that market data and market structure are intrinsically linked. The fact that there is a CT for shares in the US that consolidates both pre- and post-trade data does not in itself validate taking the same approach in the EU.

The specificities of the EU market structure give rise to an inherent complexity in the CT: With about 200 venues and APAs dealing with equity instruments in 27 different jurisdictions, EU markets are significantly more fragmented than their US counterparts with only 17 venues.⁸ The US or Canadian CT models should not simply be replicated as their specificities do not apply to EU financial markets and are being revised,⁹ since they have shown adverse consequences. For example, there exist significant dislocations between BBOs of the US SIP and venue feeds.¹⁰ EU geographical and market fragmentation characteristics, as well as proposed inclusions of depth-of-book data not included in the US SIP, would only increase these dislocations: All three data centres of the US National Market System are located in

⁷ Similarly, for the US, institutional brokers and proprietary trading desks subscribe to depth-of-book data feeds, see Charles M Jones, “Understanding the Market for U.S. Equity Market Data,” 2018.

⁸ See Oxera, “The Design of Equity Trading Markets in Europe” (London, 2019). Even in a highly integrated market like the US, fragmentation creates inefficiency issues as regards to market data, see Brian F Tivnan et al., “Fragmentation and Inefficiencies in US Equity Markets: Evidence from the Dow 30,” *PLoS ONE* 15, no. 1 (2020), <https://doi.org/10.1371/journal.pone.0226968>.

⁹ SEC, “SEC Directs Equity Exchanges and Financial Industry Regulatory Authority to Improve Governance of Market Data Plans” (Washington, DC, 2020).

¹⁰ See for example Shengwei Ding, John Hanna, and Terrence Hendershott, “How Slow Is the NBBO? A Comparison with Direct Exchange Feeds,” *The Financial Review*, vol. 49, 2014, <https://doi.org/10.1111/fire.12037>; Tivnan et al., “Fragmentation and Inefficiencies in US Equity Markets: Evidence from the Dow 30”; Brian Tivnan et al., “Price Discovery and the Accuracy of Consolidated Data Feeds in the U.S. Equity Markets,” *Journal of Risk and Financial Management* 11, no. 4 (2018): 73, <https://doi.org/10.3390/jrfm11040073>.

northern New Jersey¹¹ and the current median latency of the SIP is in the microseconds,¹² a thousand times lower than the study recommendation. Additionally, due to mandatory use and payment by market participants in the US, the SIP is funded. However, various EU market participants from the sell-side and buy-side have already pointed out that they would not favour any additional cost burden introduced by a CT.

Another specific factor of EU financial markets is the inconsistent reporting of SI and OTC trades: For instance, some investment firms trade reports can contain errors such as reporting off-exchange trades as on-exchange and fail to state the nominal value of a trade, or are simply duplicates.¹³ Likewise, differences in pre-trade transparency obligations make a complete view of liquidity difficult to attain, as the majority of SI trading, in addition to iceberg, trade-at-last, block orders or dark trading, will not appear in a pre-trade CT. Furthermore, post-trade real-time consolidation would not include amendments and cancellations.

Guaranteeing complete, accurate, and consistent reporting of SI and OTC trades is key to delivering a meaningful CT. Irrespective of its design, a CT will not be able to perform comprehensive data cleansing, monitoring data quality and reconciling data quickly, as it will not have an insight over the order-transaction lifecycle. A CT will not be able to assess the quality of incoming data. Consequently, as a necessary condition for any successful CT, all trading, execution, and reporting venues should be required to adopt a harmonised set of reporting standards, such as the Market Model Typology (MMT) model. High data quality is the pre-requisite for any consolidation. If data quality across all different trading mechanisms reaches the same level, data vendors will be in a position to consolidate a broader range of data thus increasing transparency overall.

The impact of the UK's departure from the EU must also be factored into the assessment. In our view, the relevance of a CT without UK data is questionable. It is difficult to conceive mechanisms to include UK data, notably of a voluntary nature, post-Brexit. As such, the value of an EU CT, particularly real-time, would be weakened.

A real-time CT would raise significant concerns for end-investors driven by technological limitations

A real-time CT faces significant technological hurdles that would especially impact retail investors, not only due to the aggregation of data but as well as regards its distribution and consumption. It is argued that a CT would bring a broader awareness of available liquidity and as such help retail brokers access an increased range of execution options. These expectations are unrealistic. Firstly, they do not take into account the fact that pre-trade transparency is only available for trading venues and a very limited portion of SIs and will therefore not offer a comprehensive view of liquidity in the market. Second, these expectations fail to take into account the technical limitations faced by many in the

¹¹ SEC, “Notice of Proposed Order Directing the Exchanges and the Financial Industry Regulatory Authority to Submit a New National Market System Plan Regarding Consolidated Equity Market Data” (Washington, D.C., 2020).

¹² “CTA Plan | Latency Charts,” accessed March 19, 2020, <https://www.ctaplan.com/latency-charts>.

¹³ See also ESMA, “MiFID II/ MiFIR Review Report on the Transparency Regime for Equity and Equity-like Instruments, the Double Volume Cap Mechanism and the Trading Obligation for Shares” (Paris, 2020).

industry. This has the potential to harm the market by creating a two-tier market structure between retail and professional users.

The majority of trading is latency-sensitive and this situation would be detrimental to less informed or technologically sophisticated investors. Moreover, orders and prices on a real-time CT would not be accessible to all market participants since execution at displayed prices is only possible between technically and commercially connected entities. Data from a real-time CT, pre-trade or post-trade, would also be very difficult to reconcile with the correct record sequencing and current clock synchronisation requirements, which prescribe different levels of timestamping granularity and accuracy for different types of execution. In short, a real-time pre-trade CT could create systemic price slippage issues and a false sense of liquidity, possibly increasing latency arbitrage and front-running practices. Such a CT would show a picture of the market delayed in comparison to private feeds, as it would be slower than the various feeds that would consolidate and would create differences in latency.

3. Conclusion

FESE believes that a real-time CT would raise considerable issues due to the lack of viable use cases that would outbalance very substantial costs, the complexity of its technological set-up, and potential best execution arbitrage. Furthermore, a real-time CT would be powerless to address underlying EU market structure issues.

While FESE acknowledges the need for consolidation, we believe a post-trade ToR would represent the most appropriate solution to address this need and cover use cases associated with a CT. FESE's ToR proposal would consolidate and disseminate, after the market close, the EBBO and last price, and the time (both of execution and publication), price, volume, and harmonised MMT trade flags. This would be done in a four-stage process starting with 100% market coverage, and collecting, curating, and analysing the data that would be made accessible. Such a CT would be easier and less costly to build than a real-time CT, while also avoiding latency and arbitrage issues as well as best meet the needs of market participants by supporting portfolio valuation, transaction cost analysis, and the building of some 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 with fewer resources to allocate to data acquisition and processing.

The Federation of European Securities Exchanges (FESE) represents 36 exchanges in equities, bonds, derivatives and commodities through 19 Full Members from 30 countries, as well as 1 Affiliate Member and 1 Observer Member.

At the end of November 2020, FESE members had 8,660 companies listed on their markets, of which 13% are foreign companies contributing towards the European integration and providing broad and liquid access to Europe's capital markets. Many of our members also organise specialised markets that allow small and medium sized companies across Europe to access the capital markets; 1,071 companies were listed in these specialised markets/segments in equity, increasing choice for investors and issuers. Through their RM and MTF operations, FESE members are keen to support the European Commission's objective of creating a Capital Markets Union.