



NORGES BANK
INVESTMENT MANAGEMENT

European Securities and Markets Authority
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RE: Call for evidence - Periodic auctions for equity instruments

Norges Bank Investment Management ("NBIM") appreciates the opportunity to comment on the European Securities and Markets Authority's ("ESMA") call for evidence on periodic auctions.

NBIM is the investment management division of the Norwegian Central Bank ("Norges Bank") and is responsible for investing the Norwegian Government Pension Fund Global. NBIM is a globally diversified investment manager with assets valued at NOK 8 478 billion as of 30 September 2018, of which NOK 1 968 billion are European equities. We have a vested interest in having a regulatory environment that provides for well-functioning markets in financial instruments and encourages a vibrant and heterogeneous investor community. This requires balancing the interests and incentives of the various types of market participants while ensuring that the market structure is flexible enough to support the development of new solutions to maintain a balanced, level playing field in financial markets.

A promising new market design, positive early evidence

As a large and global investor, NBIM utilises a wide range of trading venues, which operate under different trading protocols and transparency regimes (Question 20).¹ Periodic auctions are a relatively new market structure. Academic research by Budish, Crampton, and Shim (2015) argues that the discrete time trading feature of this market design enhances liquidity and market stability by reducing the speed advantage of certain market participants. As a result, competition on speed is replaced by competition on price.² This feature makes periodic auctions a promising direction for market development, which has the potential to improve execution quality for long-term investors.

Due to the novelty of this market structure, there is limited data to determine the efficacy of these new venues for end investors. Our own experience from trading on these venues has been positive and suggests that we can source natural liquidity. As ESMA's analysis points

¹ See "Sourcing Liquidity in Fragmented Markets", Norges Bank Investment Management, [Asset Manager Perspective](#), 01, (2015) for our perspective on sourcing liquidity from different market structures.

² See Budish E., Crampton P., and Shim J., "The high-frequency trading arms race: Frequent batch auctions as a market design response." *The Quarterly Journal of Economics* 130, no. 4 (2015): 1547-1621.

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out, the market share of periodic auctions is small hovering around 2% in the period from May to September 2018. Early broker studies suggest that price reversion around executions on periodic auctions tend to be smaller than those following executions on other venues, suggesting good execution quality. However, reversion is measured at extremely short timeframes. Other aspects of execution quality would need to be examined too, before forming a more definite view on periodic auctions. Given their early stage, we would therefore support efforts by trading venues and researchers to conduct and publish robust analysis on the execution quality of periodic auctions, particularly for large institutional investors.

'Well-Functioning Markets' framework

NBIM's well-functioning markets framework favours market designs that maximise the probability of long-term, natural buyers and sellers finding each other (i.e., natural liquidity), while minimising execution costs. We evaluate venues in terms of their contribution to the overall market design, noting that a well-functioning market may require venues with heterogeneous transparency, size and latency characteristics.

Periodic auctions can exhibit varying degrees of pre-trade transparency. The degree of pre-trade transparency should be carefully calibrated to maximise participation and facilitate price discovery while reducing the potential for information leakage. Having this trade-off in mind, we support limited pre-trade transparency for periodic auctions during the order submission phase. As periodic auctions take place in parallel with continuous trading, the provision of market/order imbalance information could lead to unfair information leakages, and as such should be avoided (Question 8).³ More generally, it is difficult to assess ex-ante the impact of the timing of the initiation of an auction's pre-trade transparency (upon the receipt of a first order versus when there is a potential match) on market quality (Question 6). There might be different use cases for alternative transparency models, and research using long-term data will show which mechanism performs the best for end investors. Finally, we expect the venues and regulators to monitor trading during the auction call phase and provide sufficient information to market participants in case of predatory behaviour, such as the excessive use of order cancellations.

We consider the durations employed by existing periodic auction venues as probably sufficiently long to stimulate participation from sophisticated investors, given today's largely electronic markets (Question 9). While longer durations might increase participation, they could also lead to more opportunities for information leakages attracting predatory trading strategies. Nonetheless, we encourage the venues and ESMA to provide more data on the impact of the auction length on the execution performance for end investors (Question 10).

In terms of price discovery, the appropriate focus needs to be on how much liquidity is available at a given price level. To the extent that the displayed price information during the

³ See also Budish E., Crampton P., and Shim J., "Implementation details for frequent batch auctions: Slowing down markets to the blink of an eye." *The American Economic Review* 104, no. 5 (2014): 418-24.



call phase is the result of real buy and sell interest, then the periodic auctions should be considered as price forming. Functionalities that match transactions at mid-point (or better) could be suitable for market participants who demand execution price certainty (Questions 12 and 13).

Another consideration is the existence of self-matching functionalities. NBIM supports trading models that strengthen competition in liquidity provision and execution and encourage multilateral trading. It is expected that some venues use a variety of trading features to attract more order flow making them commercially viable without degrading market quality. At low levels, self-matching should not be a concern for fair and orderly trading. However, we encourage trading venues to monitor and report the fraction of self-matching trades to the regulator to ensure well-functioning markets (Question 17).

Conclusion

NBIM supports regulation that advances well-functioning markets in financial instruments and ensures that end investors are the true beneficiaries of any market structure changes. We welcome innovation in market design that provides new solutions for better execution and a balanced, level playing field for all market participants. By design, auctions can provide natural liquidity events that complement other trading mechanisms, a trend which we support. Our early experience with these venues is positive; we have not identified any issues with their operation. Calibration and more data availability will allow ESMA and other stakeholders to monitor potential information leakages and excessive self-matching, while optimising the contribution of those venues to price discovery and liquidity matching.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Emil R. Framnes'.

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A handwritten signature in black ink, appearing to read 'Yazid M. Sharaiha'.

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