



EUROPEAN PRINCIPAL
TRADERS ASSOCIATION

Markets Without Market Makers

How a recent market anomaly illustrates
the fundamental role of liquidity providers
in European financial markets



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Executive Summary

In May 2023, a partial outage on a major pan-European stock exchange (a European Regulated Market referred to below as the 'Relevant RM') provided a unique opportunity to analyse how Liquidity Providers ('LPs') (sometimes also referred to as market makers) contribute to liquidity in today's financial markets. Simulating such a scenario would be impossible – the event proved to be a unique natural experiment showing the fundamental importance of LPs in European secondary markets.

FIA EPTA has used historic market data from that day to compare standard market quality metrics across both the impacted and unimpacted stocks on the market in question, as well as on Europe's largest Multilateral Trading Facility ('MTF').

Our analysis revealed that the absence of LPs during a significant period of the trading day materially decreased volumes, and increased the cost of trading on the Relevant RM – and even had an impact on trading on the relevant MTF.

Specifically, when LPs could no longer trade on the Relevant RM, the following impact on liquidity could be observed:

- The spread at the Best Bid and Offer of the Relevant RM's order book was on average 1.059 bps (or almost 14%) wider than the 30-day moving average, representing a material increase in the cost of trading on this RM.
- Volumes decreased significantly, with the available liquidity at the Best Bid and Offer shrinking to less than two-thirds of the historical norm¹ on the Relevant RM, making it more difficult for buyers and sellers to trade especially in larger sizes.

To put this in practical terms, an investor executing a €5,000 (typical average trade size) order paid a spread 1.68 bps wider than the 30-day average (a 20% increase). For a €10,000 order, the spread was over 3 bps wider (a 35% increase), representing a significantly higher cost of trading for investors.

The temporary absence of LPs on the relevant RM highlights the role these firms play in maintaining healthy, liquid, stable markets. It also underscores the need for European policymakers to appropriately tailor the regulatory framework to ensure a broad mix of investors and investment firm types, including LPs, are incentivised to participate in secondary markets. Recognition of specific features of the LP

¹ Calculated by reference to the same 30-day moving average as above.

business model in the European regulatory framework would enable LPs to play an even greater role in providing much needed liquidity in European markets.

Features of such an environment include:

- Appropriately tailored and proportionate capital requirements for firms providing liquidity to end-investors;
- Robust and ambitious transparency regimes across financial instruments to support competition and healthy price formation; and
- Ongoing focus on developing the Capital Markets Union to maintain Europe's status as an attractive location for capital allocation and trading, benefiting from a broad diversity of firms and investor types.

Background – Liquidity Provider Scheme

On the morning of 3 May 2023 (the “Outage Date”), a technical configuration issue at the Relevant RM prevented registered LPs from sending orders to the venue via the dedicated connectivity required to participate in the trading venue's Liquidity Provider scheme. The technical issue did not impact all segments of the venue² nor were other RMs or MTFs known to suffer any problems that morning. The technical issues began at market open (07:00 UTC) and were resolved at around 08:20 UTC (10:20am CEST). This incident window provides a useful real-world comparison of markets with and without registered LPs being active and therefore provides insight into the value that such firms provide.

² LPs could not trade Core Market Specialist Liquidity Provider (SLP) shares under the Liquidity Provider Scheme on the Relevant RM due to the technical issue. However, the issue did not impact shares in a liquidity provider scheme which are traded on a different market segment on the Relevant RM, so LPs were able to continue to trade as registered LPs in those shares.

Methodology and Findings

FIA EPTA analysed historical tick-by-tick market data across the STOXX 600³ instrument universe for the date of the outage and the preceding 30 calendar days. The data set was then divided into two groups:

1. Shares with a primary listing on the Relevant RM and directly impacted by the technical issue preventing LP orders from accessing the order book (Group 1).
2. Shares with a primary listing on the Relevant RM that were not impacted by the technical issue and so continued to benefit from LP participation (Group 2).

For each group, we compared intraday market data for the primary listing market against the largest pan-European MTF. Across each financial instrument and each day within the data set, snapshots of the historic market data were taken⁴ to reproduce the order book state throughout the day.

1. Spread at the Top of the Book

The following three charts show:

- The Best Bid and Offer (BBO) spread⁵ for the sample instruments in Groups 1 and 2
- A comparison of spreads for both Groups on the Outage Date as compared to the previous 30 calendar days on the Relevant RM
- Spreads for the instruments in Group 1 that were also trading on a pan-European MTF (all timestamps are in UTC)

³ The STOXX 600 is an equities index comprising 600 fixed components made up of small, medium and large cap European issuers, representing approximately 90% of the free float market capitalisation of the European stock market.

⁴ This was done by replaying the market data with median observations captured within 1-second sampling windows.

⁵ The difference between bid and offer prices which is typically narrower in more liquid instruments and when greater volumes are traded. A tight spread is typically viewed as indicating a more efficient market as it indicates buyers and sellers have a closer opinion on what the price of an asset should be and therefore represents lower transaction costs.

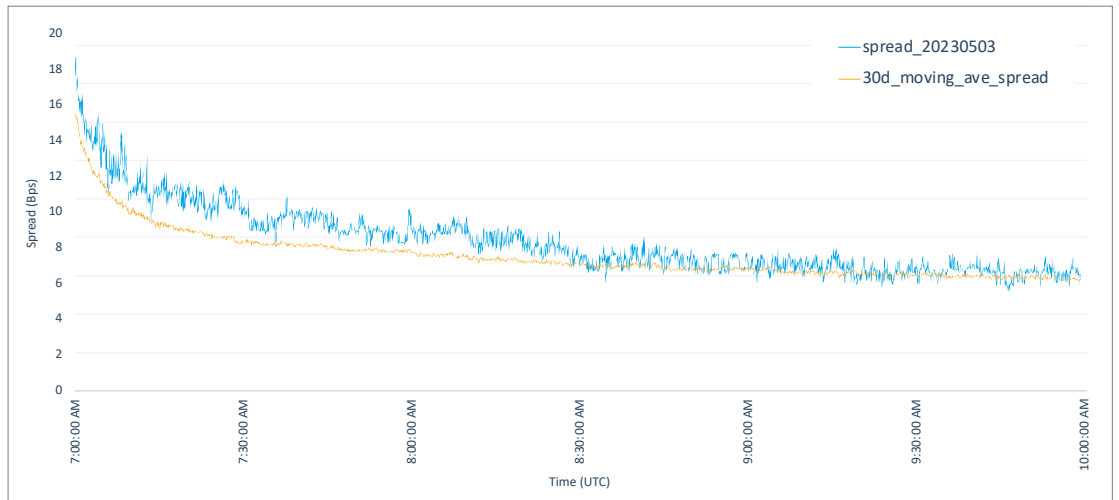


Figure 1 – Impacted Instruments on Outage Date: Comparison of the spread on the Outage Date vs the historical average for instrument Group 1 on the Relevant RM

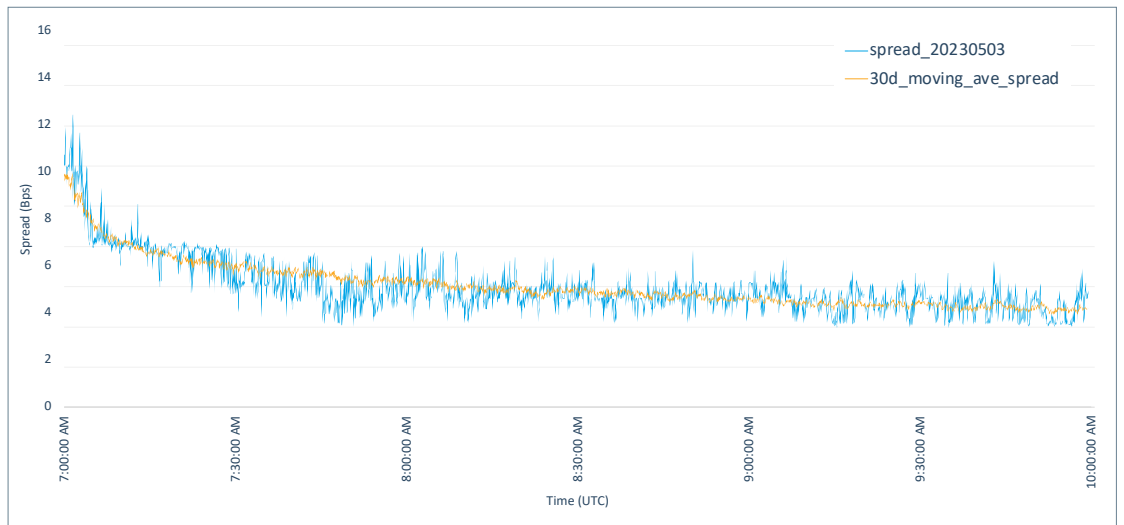


Figure 2 – Non-impacted instruments on Outage Date: Comparison of the spread on 3 May vs the historical average (30 day moving average) for instrument Group 2 on the Relevant RM

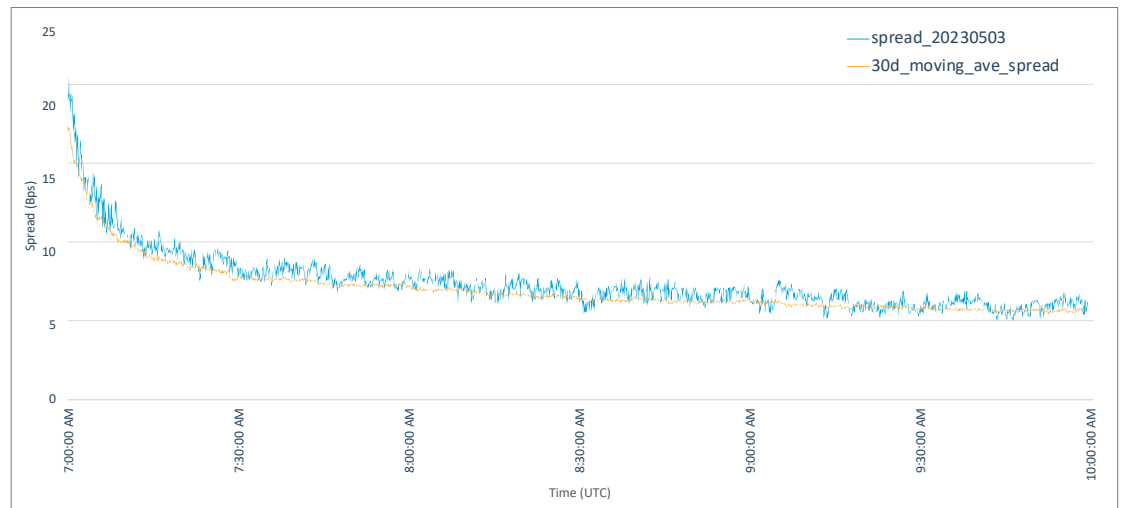


Figure 3 – Non-impacted market on Outage Date: Comparison of the spread on the Outage Date vs the historical average (30 day moving average) for instrument Group 1 traded on the largest pan-European MTF

Even when only considering the top of the book (BBO) i.e., without any constraints on a minimum order size, Figure 2 shows the observed spread (blue line) well above the historical average (orange line), illustrating the clear impact on the spread on the Outage Date. The spread on the order books in these instruments was on average 1.059 bps (or 13.54%) wider than usual (as measured against the 30 day moving average). This change can clearly be attributed to the absence of LP liquidity .

This finding is supported by Figure 3 which shows the instruments not impacted by the technical issues but traded on the same RM (instrument Group 2). The average spread for Group 2 instruments on the Outage Date is consistent with historical norms, where LPs are continually present

The Outage primarily impacted the Relevant RM, which is the listing market for Group 1 instruments (see Figure 1 compared to Figure 3). However, while other trading venues continued to trade without incident, there is an observable impact on price formation across the whole market from the absence of LPs on the listing market.

While in general, we see a more normal liquidity picture on other trading venues, this is evidence that the absence of LPs from listing markets also affects trading on

MTFs. This highlights the fundamental importance of ongoing liquidity provision by LPs on primary listing markets to overall healthy market outcomes, including lower costs of trading (in the form of narrower spreads).

2. Volume at the Top of the Book

The absence of LPs in the relevant market also had an impact on the available liquidity at BBO.

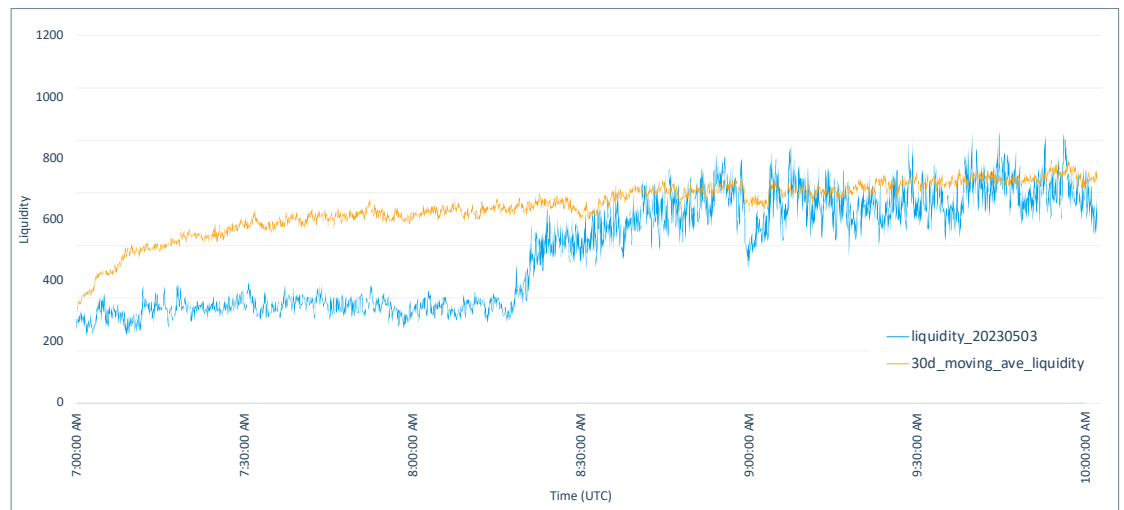


Figure 4 – Comparison of the volume at the top of the book on the Outage Date vs the historical average (30 day moving average) for instrument Group 1 on the Relevant RM

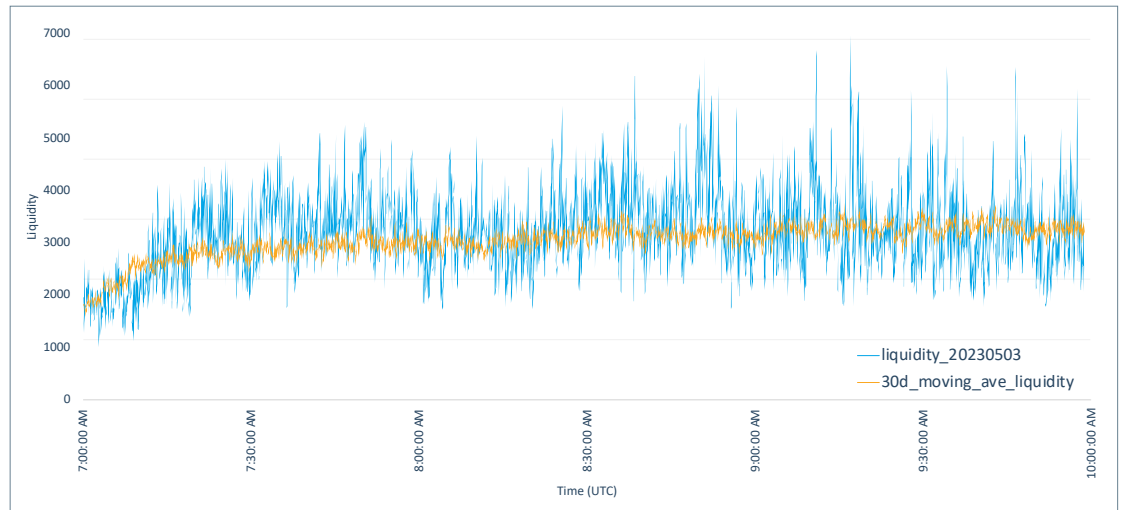


Figure 5 - Comparison of the volume at the top of the book on the Outage Date vs the historical average for instrument Group 2 on the Relevant RM

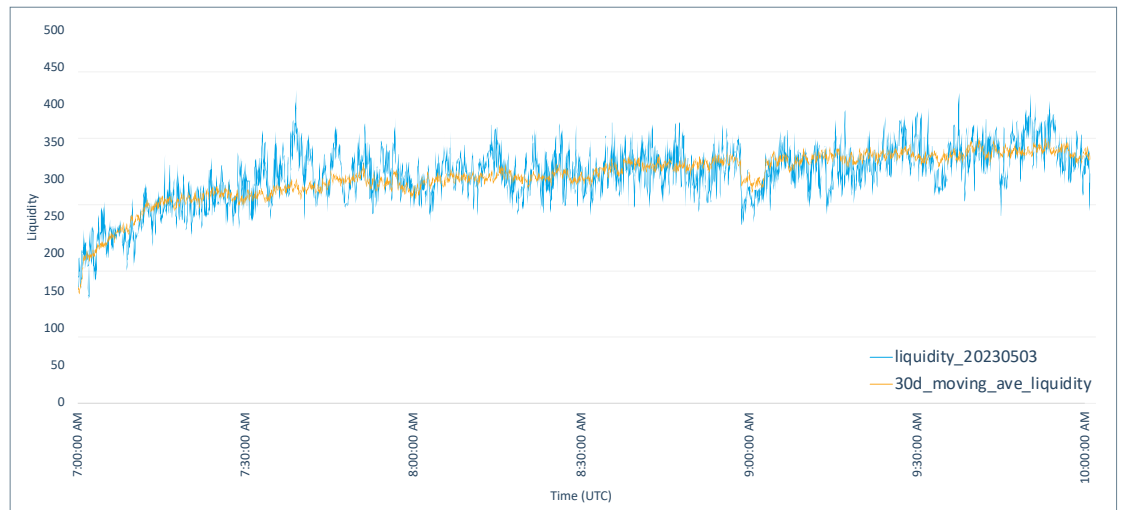


Figure 6 - Comparison of the volume at the top of the book on the Outage Date vs the historical average for instrument Group 1 on the largest pan-European MTF.

Here the impact of the outage is more pronounced. Notwithstanding the wider market spreads, the available liquidity at the BBO on the outage date is less than two-thirds the historical norm. The endpoint of the technical issue is more

clearly observed in Figure 4 than when looking at the spread data in Figure 1, with the volume at the top of the book quickly increasing once LPs could fully access the venue. As before, we see that instrument Group 2 is unaffected while available liquidity on the MTF is also in line with the historical average (although we note that, as with the spread, the available liquidity at the BBO on the MTF is historically smaller than the Relevant RM).

3. Spread for 5,000 and 10,000 EUR trade sizes

As we can see above, both the spread and available liquidity on the Relevant RM were clearly negatively impacted when LPs were unable to provide passive (resting) liquidity against which other market participants could execute. We can combine these two data points to get a picture of the impact of this event on an investor looking to execute an average-sized order.

Typical trade sizes during continuous trading hours in European markets have been decreasing over time but are generally considered to be around €5,000. In the charts below, we repeat the analysis for instrument Group 1 but look for the minimum median spread required to be able to complete a €5,000 sized order and a €10,000 sized order.

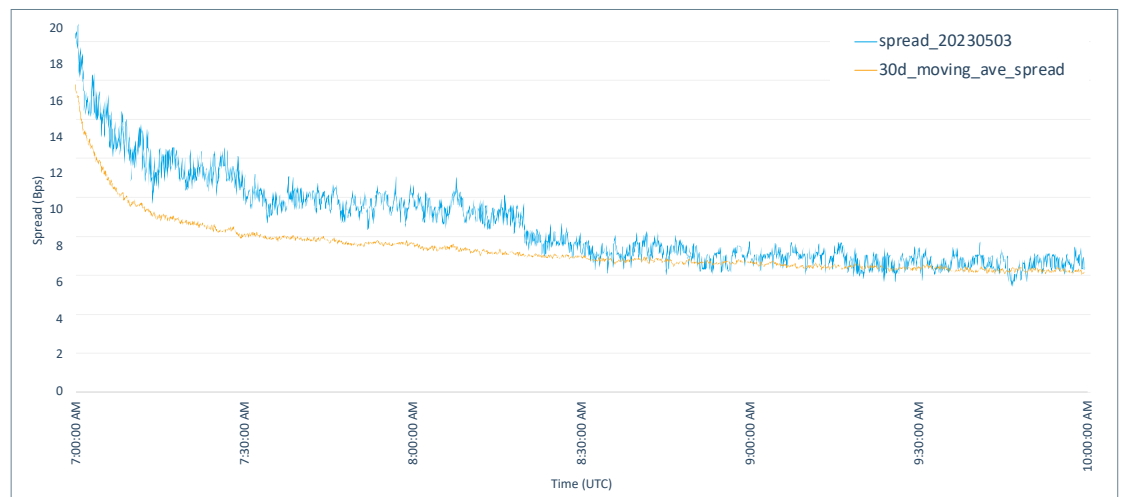


Figure 7 – Comparison of the spread for an order size of €5k on the Outage Date vs the historical average for instrument Group 1 on the relevant RM

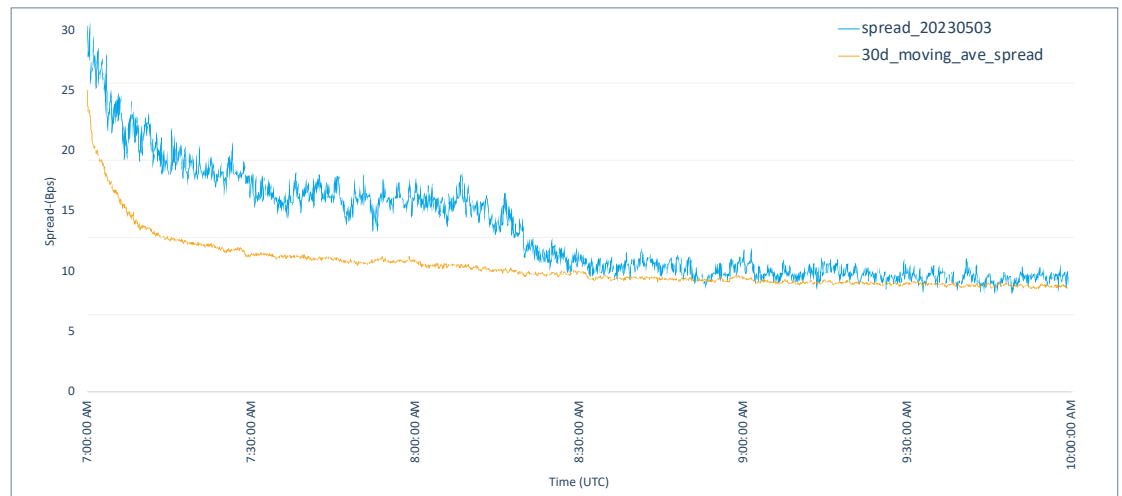


Figure 8 - Comparison of the spread for an order size of €10k on 3 May vs the historical average for instrument Group 1 on the relevant RM

In line with the previous observations, the spread for an average sized or larger order is materially wider than the spread at the top of the book (BBO), resulting in a significant increase in the cost of concluding an order that is slightly above the average trade size. On average, the spread on the outage date was 1.684 bps wider than the 30 day average for a €5,000 order (a 20.58% increase) and 3.197 bps wider for a €10,000 order (a 35.27% increase). This amounts to a significant increase in the cost of trading to the average investor.

Conclusions

The technical outage on a major European stock exchange discussed in this paper offers a unique opportunity to evaluate LP liquidity on European markets. From our analysis of the outage date, we observe that LPs contribute to tighter spreads, and therefore lower costs of trading, and provide a significant proportion of the resting liquidity with which an incoming order can interact during continuous trading hours on public lit markets.

Without the anchor liquidity provided by LPs, spreads are wider and liquidity decreases by a substantial amount, especially for investors looking to execute

above-average-sized orders. The absence of LP liquidity also resulted in a drop in the market share for the Relevant RM during the period as market participants sought to trade on other venues where LP liquidity was still available.

These observations also highlight how normally robust liquidity in European equity markets is materially diminished when liquidity providers are not present, highlighting the need for Europe to ensure its regulatory framework is appropriately tailored to support liquidity, encourage competition and retain the interest and participation of a broad spectrum of different investor and firms types, including the LPs who provide this liquidity.

If you would like to find out more, here is some suggested further reading:

- Ding, M., Suardi, S., Xu, C., Zhang, D. "Large-Caps Liquidity Provision, Market Quality and High Frequency Market Makers' Trading Behavior" (2018)
https://www.researchgate.net/publication/325194272_Large-Caps_Liquidity_Provision_Market_Quality_and_High_Frequency_Market_Makers'_Trading_Behavior
- Optiver: A new playbook for Europe's capital markets:
<https://optiver.com/insights/a-new-playbook-for-europes-capital-markets/>

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More information about FIA EPTA and independent market makers is available on: www.fia.org/epta and www.wearemarketmakers.com.

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