April 2025

Market Structure Partners'

Response to Feedback

from Exchanges and the
Federation of European Stock Exchanges (FESE)
On Its Report "*There's No Market in Market Data*"

Including New Recommendations to EU and UK Regulators

Market Structure Partners

EXECUTIVE SUMMARY

Exchange commentary on our report, "*There's No Market in Market Data*", has been strong, as would be expected, given that there is a lot at stake when it comes to market data revenues. We find there is little basis for most of the commentary and explain the details in the following four annexes:

- **Annex 1** outlines recommendations for improved and immediate regulatory action on disclosures
- **Annex 2** makes observations on Oxera's public reports on market data costs.
- **Annex 3** provides detailed feedback from MSP to the published responses on our report.
- **Annex 4** explains updates to our report including clarifications on the definition of "reasonable commercial basis"

We note that many of the comments and allegations are surprising given they are based on, and sometimes contradict, the exchanges' own publicly available information which includes:

- Reasonable Commercial Basis Disclosures[1],
- Annual accounts,
- Fee schedules,
- Public reports commissioned by an Exchange Advocacy Group.

This points to the following issues:

> Exchanges have disclosed information inconsistently, using different approaches in their regulatory disclosures on market data:

- We therefore make some additional recommendations for regulators on how to improve the disclosure reporting (see Annex 1).

> The lack of transparency in the exchanges' annual accounts in relation to their equity and market data businesses prevents easy reconciliation with their disclosures or their statements:

- We, therefore, suggest that trading venues need to explain how the data in disclosures is linked to their annual accounts and/or vice versa. (See Annex 1).

> The highly subjective nature of the exchanges' complex pricing schedules:

- The fact that market participants must consume their data has allowed exchanges to develop a business where revenue is earned from fees that are tied to each individual customer's variable costs of production rather than related to the exchanges' fixed costs of running a trading platform. This would not be normal or possible in fully competitive markets.
- As a result, there is no single fee for consuming market data and each consumer must interpret the fee schedule according to 1) how it consumes data and 2) how, and to whom, it disseminates data, even though this does not impact the exchanges' costs of production.

  This is the primary reason for increases in direct and indirect costs for the industry despite declines in overall trading volumes. It is also a key inhibitor to innovation in equity markets.
- Arguments over the cost of data prevail because there are thousands of possible permutations of the costs, all of which are nuanced depending on the context of the business activities of each customer and conditions applied to use of the data. This variability is a deliberate feature of the exchanges' pricing models. Our report makes clear the conditions we used, and we acknowledged the complexities involved in analysing data.
- During our Study, we noted that research published on behalf of the Federation of European Stock Exchanges (FESE), by Oxera, an economics consultancy, contained possible errors and also only appeared to use selective, simple, one-dimensional examples to illustrate the evolution of costs in the best possible light (see Annex 2). These examples did not provide a holistic view of the impact on organisations, as they did not account for multiple, cumulative conditions. Equally, in the recent feedback from exchanges, we note in our responses (see Annex 3) that they

---

[1] Trading Venues and Data Service Providers in both the EU and the UK are required to make disclosures about market data revenues under Article 89(2)(d) of Delegated Regulation (EU) No 2017/565 and Article 11(2)(d) of Delegated Regulation (EU) No 2017/567.

are not using like for like comparisons in conditions when refuting our findings and, on one occasion, have disputed our findings even though an Oxera finding agrees with ours. The continuing debate should not, therefore, continue to be conducted by looking at endless interpretations of fee schedules. Instead, there should be more scrutiny of the exchanges' market data disclosures and greater challenge to the notion that exchanges should be able to set fees related to their customers' costs of production.

We do, however, accept:

1. Turquoise's attestations that its volumes, when considering both of its entities, have grown by 4.4% between 2019 and 2022. We only reported for one entity as we did not realise that there was a second nor find the disclosures for it.

2. The statement that LSE no longer must make regulatory disclosures is incorrect - we could not find any recent disclosures and it only publishes two years in arrears. Now we are in possession of them, we are replacing the Turquoise disclosures with those of the LSE.

3. That Euronext reported their 2020 market data revenue as a percentage of total group revenue, rather than as a percentage of total trading revenues only, as required by regulation. This means that the reported market data percentage (MDR%) of 11% would have been higher because the total trading revenues were a subset of the group revenues.

None of this changes the over-arching story or invalidates the conclusions of the MSP report, which are that:

> Market data fees are moving in the opposite direction to market activity and market share, which suggests that they are being used to offset declining trading revenue:

- In the case of Turquoise, even though volumes grew by 4.4%, market data revenues, still grew from 13% to 27% between 2019 and 2022, which we correctly reported.
- In the case of LSE, while turnover declined, market data revenues increased as a proportion of overall trading revenue from 13% to 16% between 2019 and 2022.
- In the case of Euronext, we suggest it should restate its 2020 disclosure to establish an accurate baseline. However, from 2021 to 2023, its disclosures more correctly reported MDR% as a proportion of trading revenue and this grew from 17% to 19%, despite a decline in trading activity.

> Market data fees are not linked to the exchanges' costs of production (as laid out in regulation):

- Instead, they are linked to their customer's costs of production. This is only possible when consumers have no discretion over the use of a product, allowing the business model and pricing to become divorced from economic norms.

> The current approach to charging for market data is restricting equity market growth.

We are, therefore, releasing a new version of the report today (details of amendments are contained in Annex 4) which:

- Includes recommendations on improvements to regulatory disclosures.
- Removes the Turquoise disclosure information and replaces it with LSE's 2019 – 2022 disclosures.
- Notes Euronext's use of group revenue instead of trading revenue in its MDR% disclosure in 2020.
- Reinforces the issue that market data fees are linked to customers' costs of production.
    - Our original conclusion was that legislators should mandate that data is a by-product of trading. We explain that this can be achieved by ensuring that exchanges only charge for their own fixed costs of production and not for the consumers' costs of production. This should be the definition of a "Reasonable Commercial Basis". When these charges are removed, the justification for a standalone market data business will fall away and it will become clear, as per our original conclusion, that releasing data is simply a by-product of the trading process.

Finally, we have been overwhelmed with positive industry feedback as well as interest from indirect industry participants, such as academics and innovators, who have reached out after the publication of our report and commended us for the clarity and thorough explanations of how the market data business is currently working. **Thank you!**

ANNEX 1: RECOMMENDED IMPROVEMENTS FOR REGULATORY DISCLOSURES

In researching its Study, "*There's No Data in Market Data*"[2], Market Structure Partners (MSP) identified a number of issues with the incumbent national exchanges' regulatory disclosures[3].

Subsequent feedback from these exchanges after the publication of the report only serves to highlight the issues with their disclosures. We make the following recommendations to the European Securities Markets Authority (ESMA), the individual European National Competent Authorities (NCAs), and the UK's Financial Conduct Authority (FCA) to resolve these issues and have included these recommendations in a new version of the Study.

Issues & Recommended Actions
Regulatory disclosures are not easy to find. • ESMA and the FCA should keep an up-to-date repository of all trading venue and data service provider market data disclosures for their respective regions.
Regulatory disclosures should not be changed without notifying the regulator • Trading venues and data service providers should log their disclosures in the repository of their respective regulators and should immediately advise of any retrospective changes. • Both versions of disclosures should be public with a note explaining why there was an amendment.
Exchanges publish data up to two years in arrears, which means information is not up to date. • Trading venues and data service providers should publish disclosures as soon as their annual accounts are published for the previous year.
Some exchanges have not reported data consistently: • Disclosures should be checked for consistency so that they can be accurately compared year on year. If there is not consistency in the reporting, then trading venues should be asked to restate their disclosures. For example: o The Market Data Revenue as a % of total revenue (MDR%) should not be expressed as a % of total group revenues but clearly broken down by product (preferably by each operating Market Identifier Code [MIC]) and then totalled for each asset class, so that market data revenue is expressed as a % of revenue of the MIC Code and asset class it relates to. o This would show how MDR% is different for different asset classes or geographic markets where trading venues may not have the advantages of incumbency.
Exchanges dispute that their customer base is shrinking. • The definition of customer should be agreed (and it should only constitute direct consumers of data from exchanges). • Declarations as to the number of customers directly connected to the exchanges should be made as part of the disclosures so that there is clear evidence as to whether the customer base is growing or shrinking.
Underlying annual accounts do not contain any information that could be easily mapped to disclosures. • Cross-referencing disclosures to annual accounts should be possible and links should be explained. For example: o Although, total equity market revenue can be inferred from the disclosures, there may be no explicit link between the figure that can be inferred and the annual accounts, which often do not provide a total figure for the equity market revenue, or costs, alone. Explanations should be provided as to where this figure might be found in the annual accounts. o There is no clear link between "country revenue" given in annual reports and Operating MIC revenue given in disclosures. Explanations as to how these are linked should be provided.

[2] "There's No Market in Market Data", Market Structure Partners, Jan 2025, https://marketstructure.co.uk/our-work/theres-no-market-in-market-data/

[3] Trading Venues and Data Service Providers in both the EU and the UK are required to make disclosures about market data revenues under Article 89(2)(d) of Delegated Regulation (EU) No 2017/565 and Article 11(2)(d) of Delegated Regulation (EU) No 2017/567.

ANNEX 2: OBSERVATIONS ON OXERA'S REPORTS ON MARKET DATA

MSP's report, "*There's No Data in Market Data*"[4], refers to four studies[5] or notes on market data costs by Oxera, an economics consultancy. These were commissioned by The Federation of European Stock Exchanges, FESE, an advocacy group, between 2014 and 2024.

We have explained in our Study that we believe that interpreting information on market data is complex. During our extensive research, we noted possible errors or lack of clarification on certain statements that Oxera provided. We also noted the use of very simple, selective examples that do not holistically demonstrate true fee changes experienced by organisations.

Given FESE's criticisms of our report, and the fact that there have been references to the Oxera reports in the feedback (see Annex 3), we provide some examples below of the issues we have found in Oxera's 2024 and 2019 reports/notes. We also highlight where our findings have concurred with Oxera, and yet Euronext and FESE have chosen to challenge our findings and not Oxera's.

> **When commenting on the growth of market data revenues, Oxera uses aggregates and averages taken from all FESE member exchanges with little context provided.**

In its 2024 report, Oxera discusses MiFID/MiFIR market data revenues from FESE exchanges 2018 - 2023 (p2, Figure 2.1) and revenue shares from delivering equity trading and price formation, 2012–23 (p3 Figure 2.2). It presents these figures as an average across all FESE exchanges in and states that this data was obtained privately from all the exchanges.

Our analysis looks at the individually reported proportion of revenues of Europe's largest exchanges (taken directly from the public Article 11 disclosures) between this period and we can see that this has grown more considerably at each of these individual exchanges. We invite Oxera to comment on the differences between the reported averages and the individual disclosures. We would also be interested to hear Oxera's observations on why it is difficult to get revenue information directly from the exchanges' accounts.

Finally, we note little context is provided behind the conditions in which revenues are supposed to have remained stable i.e. against a backdrop of volume information or number of customers.

> **Statements that aggregate market data revenues remain stable are contradicted and have been revised in the without explanation. They also do not appear to be correct as revenues have clearly risen.**

In the 2019 report (The design of equity trading markets in Europe), page 6, Oxera stated:

- *"In relation to the market data supplied by stock exchanges, our analysis finds the following:*
    - *the share of revenues coming from market data services ranges between approximately 20% and 50% of joint (trade execution and data) revenues across exchanges and has been relatively stable over time—on average 31% in 2018, unchanged from 2017, and compared to 32% in 2016 and 30% in 2015.*

[4] "There's No Market in Market Data", Market Structure Partners, Jan 2025 https://marketstructure.co.uk/wp-content/uploads/Theres-No-Market-In-Market-Data-FULL-Report-Market-Structure-Partners.pdf

[5] "Pricing of market data services, an economic analysis", Oxera, February 2014: https://www.oxera.com/wp-content/uploads/2014/02/Pricing-of-market-data-services-3-1.pdf

"The design of equity trading markets in Europe", Oxera, March 2019: https://www.oxera.com/wp-content/uploads/2019/03/design-of-equity-trading-markets-1.pdf

"What's the data on market data?", Oxera, July 2022: https://www.oxera.com/wp-content/uploads/2022/07/Oxera-note-whats-the-data-on-market-data-updated-8-July-2022.pdf

"Market data fees and revenues", Oxera, September 2024: https://www.fese.eu/app/uploads/2024/08/oxera-note-on-market-data-fees-and-revenues.pdf

- *Aggregate market data revenues (of stock exchanges that are members of FESE) amounted to approximately €245m in 2018 and increased in recent years by around only 1% per year in real terms."*

In the 2024 report, page 2, Oxera stated:

- *"Our analysis shows that revenues from stock exchanges have remained fairly stable over recent years. Overall aggregate revenues (of FESE members) amounted to €342m in 2023, compared with €298m in 2018. This represents an average annual increase of 3% in nominal terms."*

As can be seen, Oxera have claimed in 2019 the MDR were 'stable' at €245m and then in the 2024 figures have been revised up to €298m without explanation. This is not a small revision. It is a 21.63% increase.

Products used to explain how data fees have evolved over time do not appear to be consistent.

The following are all findings from the 2024 report:

Figure 3.3 - Monthly non-display license fees (principal or brokerage), 2014–24

- For Deutsche Börse, it appears that Oxera used the Xetra Ultra product until 2021, and then switched to using Xetra Core data on a Plus tier (11-30 device ids) thereafter, but that is not what the report states.
- *For Euronext, is appears that Oxera used the Euronext Continental Cash (Consolidated Pack), which we have also done in our report. Figures for 2019 and 2020 do not seem to make sense when compared to the January fee schedule of those years. Figures for 2021 imply a product switch occurred similar to that in the Deutsche Börse analysis. Figures for 2022-2024 appear incorrect based on our analysis.*

Figure 3.4 - Monthly non-display license fees (trading platform), 2014–24

- For Deutsche Börse, Oxera state that the data used is Xetra Ultra but the figures from 2022 seem match the Xetra Order by Order fee schedule and not the Xetra Ultra schedule.

Figure 3.6 - Monthly redistribution fees for real-time level 2 data, 2014–24

- For Deutsche Börse, Oxera state that the data used is Xetra Ultra but the figures from 2022 seem match the Xetra Order by Order fee schedule and not the Xetra Ultra.

Examples given and data used appear to be selective to show the best outcomes and do not show the cumulative effect of data fees and conditions on an organisation as a whole.

The following are all findings from the 2024 report:

The charts showing annual average price changes fee changes focus on individual price comparisons as opposed to a holistic view that might show an overall organisation's experience:

- **Display Fees Professional and Non-Professional (page 6 Figure 3.2)-** This chart obviously is only display data. This is not where most fee changes have occurred. Our Study shows the greatest changes are in non-display data, which intermediaries (and particularly any firm competing with the exchanges) have to bear.
- **Monthly Non-Display Fees (page 7 Figure 3.3):** This chart only shows the cheapest tier i.e. for Principal **or** Brokerage. Our Study shows the greatest fee increases have been for firms that operate as principal **and** brokerage **and/or** as a trading platform.
- **Monthly Non-Display Fees Trading Platform (page 8 Figure 3.4):** This chart shows the **Trading Platform capacity only.** Again, it does not show that all these charts apply cumulatively for many participants.
- **Range in Non-Display fees (page 9, Figure 3.5):** the same again - the green, grey and blue boxes are all shown separately but for many intermediaries these apply cumulatively.

- **Redistribution fees at Figure 3.6: the** same applies - these are also fees that would be applied cumulatively to all the above fees for any firm undertaking redistribution,

- **No creative works clauses included:** None of the above examples show the impact of creative works licences which would also be cumulative on top of the above. Also, they do not show changes in bands - i.e. the aggregate number of people that data can be distributed to within certain categories. For example, it used to be that a consumer paid for a licence for distributing data up to 100 people - now that is changing and the consumer pays the same price but only for up to 10 people and then more for 10-50 etc. Our report shows these to be constantly reducing so that the costs are going up.

The examples Oxera provide do not address the full cost that might be incurred by an organisation when different, multiple conditions are applied**.** This what we aimed to illustrate by showing the cumulative effect on the product fees when many nuanced conditions are applied and by using an avatar to explain the holistic impact of fee changes for an organisation under these different scenarios.

FESE and Euronext appear willing to accept Oxera's conclusions but not MSP's, even when the findings are the same

- The following Annex (3) details our responses to the published commentary on our report from two trading venues, including Euronext, and from FESE. Both Euronext and FESE have challenged our conclusion that non-professional user display market data pricing at Euronext has increased by +75%. Yet Oxera's report in 2024 publicly shows that it arrived at exactly the same conclusion (p5). This does not appear to have been challenged despite publishing its report more than 6 months ago.

- The only way that Euronext's conclusions could be correct, is by applying a monthly fee cap, which was not applicable to our avatar and was also not used (or mentioned) by Oxera in its calculations.

ANNEX 3: DETAILED FEEDBACK TO EACH PUBLISHED RESPONSE

Exchange commentary on our report, "*There's No Market in Market Data*", has been strong, as would be expected, given that there is a lot at stake when it comes to market data revenues. An exchange, Euronext, a Multi-Lateral Trading Facility, MTF, Turquoise and one advocacy organization, the Federation of European Stock Exchanges, FESE have published their responses.

We address each publication in turn below and find there is little basis for most of the commentary.

EURONEXT'S Response 4/30/2025[6]

Statement 1: Euronext complains that it was not contacted.

MSP Response

- The report is based on publicly available information – published accounts, public regulatory disclosures and public fee schedules. There should be no reason to contact an exchange to have to verify their disclosures or fees – this highlights the inherent problem with the whole system. Data schedules are so complicated that businesses must contact an exchange to try and interpret them and cannot be certain about their data costs until an audit takes place a few years later. Participants we have talked to speak of long email chains and months of waiting to speak to the exchanges to try and understand fee schedules.
- Euronext wrote to the sponsors and was invited to contact MSP directly. It did not follow up.

Statement 2: The report's pivotal claim that exchanges have offset declining equity trading revenues by increasing market data prices is factually incorrect. The report claims that the share of market data revenues over the total revenues of Euronext has increased from 11% to 19%, when in reality (and based on data publicly available on Euronext website) this ratio remained stable over the period at 11%."

MSP Response

The statement contradicts Euronext's own disclosures, which are the figures used in our report.

Euronext (through a letter to the sponsors of the report) has drawn our attention to the fact that in its 2020 disclosure, it reported MDR% as a % of total group revenue, which is not what the regulation requests. In the following years, they, more correctly, reported MDR% as a % of total trading revenue (although total trading revenue is the total of all the markets which Euronext operates - each of these markets is identified by a Market Identifier Code, MIC – and it would be even better if broken down by asset class MIC code).

The 2020 disclosure had a small footnote to highlight the denominator that had been used was total group revenue, which we did not see. We will update the report to note this, but it does not change the fact that the disclosures in the following years used a more correct denominator which shows that market data revenue is increasing as a % of total trading revenue and that this has risen from 17% in 2021 to 19% of total trading revenue by 2023.

- In the absence of a restated disclosure using total trading revenue (and not group revenue) for 2020, we have run several estimations that suggest that the MDR% as a % of total trading revenue for was 13-14% (excluding derivatives). We would prefer that Euronext is asked to restate this figure for there to be accurate record and reduce further protracted challenges. Nonetheless, we know, based on Euronext's actual disclosures in the following years, that MDR% as a % of total trading revenue of all operating MICs is growing.

The suggestion that the MDR% has remained stable at 11% may only be true if Market Data Revenue, MDR, is assessed relative to total group revenues but, as group revenues have significantly increased

[6] https://www.euronext.com/en/news/euronext-responds-report-theres-no-market-market-data-market-structure-partners-published#:~:text=The%20Market%20Structure%20Partners%20report%20on%20market%20data%20is%20flawed,be%20viewed%20as%20insightful%20observations

in real terms, so did €-MDR. That aside, the transparency disclosures require the MDR% to be relative to Operating MICs' revenue and not any other revenue figure.

Statement 3: The report does not accurately represent market data pricing, notably omitting to account for Euronext's acquisition of three new markets.

Detailed Comment

"For example, the report claims that non-professional user display market data pricing increased by +75% on Euronext, whilst in reality, accounting for the new markets integrated within Euronext, it has decreased by 40%."

MSP Response

It should be stated at the outset that the Oxera report 2024, that was commissioned by FESE, an organisation of which Euronext is a member, independently arrived at the same conclusions as MSP i.e. that non-professional user display market data had increased by 75%. If Euronext has an issue, then why has it not previously challenged Oxera's findings? Oxera do not mention any cap or a price drop that should be taken into account.

The Oxera Report 2024, p5, states:

> *"In general, where exchange fee increases have been larger, they have increased from a lower base. For example:*
>
> - *the monthly fee charged for retail investors accessing level 1 data on Euronext has increased from €1 to €1.75 since 2014"* (* with a footnote see below).
>
> **Footnote:*
>
> *"Level 1 data packages include the best bid and offer (BBO). Level 2 packages include at least five levels of order book depth. Full order book packages include all levels of order book depth. For retail-specific data, we consider level 1 data packages (or higher if level 1 is not available).*
>
> *For further detail on the data packages used in the analysis, see Appendix A1.*
>
> *Before 2018, Euronext offered a combined L1 and L2 license for retail investors. From 2018 onwards, Euronext offered a separate L1 and L2 license. This change was linked to the addition of Euronext Dublin and Oslo Bors to the data package. Prior to their acquisition by Euronext, these exchanges had separate fees."*

Oxera is therefore stating that retail investors have experienced a 75% increase in fees (*from €1 to €1.75) between 2014 and 2024*. It also explains, as a means of justification of the price rises, which oluy started to increase in 2018 that there had been no price changes between 2014 and 2017.

2017 was the base year for our example and the year our avatar started its 'data relationship' with Euronext. At this point neither Dublin nor Oslo data were included and prices had not yet changes. By 2024, the price had risen by 75% and Dublin and Oslo data had been included. Our avatar retail broker got the additional markets whether it wanted them or not, but, as is explained in the accompanying footnote, it also got a reduction in the level of detail of the data.

The footnote explains that Euronext had provided both L1 and L2 data to retail investors up to 2017, but from 2018 they withdrew it so that retail customers received additional markets (Oslo and Dublin data even if perhaps they don't want it), but they now only receive a subset of the depth of data that they used to get because L2 data has been removed. This suggests that the value for money, when considering the increases and data adjustments, may be significantly worse than before if retail investors do not trade in Ireland or Norway and might prefer L2 information for their home market.

In the period between 2014 and 2017, EU inflation was around 1% so there seems little justification to have increased the price during this period. However, even if we accepted that, because there had been no price increases in the previous 3 years, it was reasonable to increase prices by 25% in 2017, a further increase of 40% between 2018 and 2024 still requires an explanation, as this is also well above EU inflation for the period. It is also not clear that the customers would place a 75% increase in value on the new data set, if they had any choice, or that the rise in fees reflected the cost of integrating the data set.

Statement 4: Incorrect representation of Euronext's customer base evolution

Detailed Comment

"The report states that exchanges have a declining customer base (pages 2, 3, 62, 72). This claim is inaccurate and solely based on assumptions. In reality, over the period. 2017-2024 used for the report and corrected for the acquisitions of Dublin, Oslo and Milan, Euronext has seen a substantial increase in its customer base. The loss of clients due to M&A activity in the market has been more than offset by new client entrants, including new execution venues, retail brokers, redistributors and other client segments."

MSP Response

The shrinking customer base for physical users is clearly seen in LSEG's public annual accounts, which includes Borsa Italiana (an increased use of machines does not constitute an increase in total customers). We have been clear in our other assumptions in the report.

Nonetheless, we recommend that a customer should be clearly defined and customer count should be disclosed on an annual basis. A customer should only be an organization that is connected directly to the trading venue – counting other indirect consumers is irrelevant as the exchanges bear no costs of production to disseminate data to them. This would allow the trend in number of consumers at an organizational level (not a sub level based on costs of production or individual customers) to be clearly seen and help to show whether revenue is spread evenly across customers or growing in specific segments.

Statement 5: Erroneous comparison of professional display market data and inaccurate representation of the Natural User concept.

Detailed Comment

"The report states that professional display market data fees for level 2 data have increased by 42.53% on Euronext between 2017 and 2024 (pages 7, 39, 41, 43 and 59). In reality, over this period, professional equity display data fees have increased by 23% on Euronext (less than the accrued inflation in the relevant EU countries). The reports calculation of 42.53% reflects a lack of understanding of the Natural User concept. The report states that the Natural User concept results in a fee increase, whereas in fact it is an opportunity for clients to reduce fees for display use by netting users who take data from multiple sources to a single user."

MSP Response

We decided it was important to compare products that were available at both the beginning and end period of our Study. In 2017 Euronext had a consolidated pack and it was slightly amended as it acquired more markets (Dublin in 2018, Oslo in 2019). The price level for display fees in 2017 was €91 euros per month by 2024 for it was €129.7 per month for a "natural user" a concept that did not exist in 2017).

In 2024, we took the natural user price because using the standard price would not have been consistent and would require a change of methodology. The example given by Euronext assumes that a customer is taking data from multiple sources and would benefit from a reduction because of netting as a 'natural user'. We made clear in our assumptions that the avatar took the data directly from the exchange as the sole source and would not, therefore, benefit from netting.

To achieve the fee reduction purported by Euronext (and FESE below), customers would need to meet the following qualifying criteria to achieve a monthly cap on fees. These are significant hurdles that our avatar did not meet (and that Oxera also chose not to use in its examples, which also did not show a price drop). We would welcome Euronext explaining what percentage of its customers actually meet this criteria.

QUALIFYING CRITERIA

The Non-Professional Fees are capped at a Local Non-Professional Fee Cap of €32,000.00 per month in case (i) the Contracting Party or one of its Affiliates is a Member of Euronext Best of Book, (ii) is a Euronext Best of Book Member with an annual retail turnover of more than €13bn on the Euronext Continental Cash Equity markets, the Euronext Dublin Cash Equity markets and/or the Oslo Børs Cash Equity markets, (iii) a minimum of 95% of the annual retail flow executed on Euronext by this Euronext Best of Book Member is executed on one single Euronext market (Amsterdam, Brussels, Paris, Lisbon, Dublin or Oslo) and (iv) all Non-Professional Subscribers' Use is reported in accordance with the EMDA Reporting Policy. This cap applies once to either the Contracting Party or its (one) Affiliate, as applicable. This cap does not apply to the Information Products of Euronext Milan or EuroTLX.*

* For the period 1 August 2023-31 March 2024 the Local Non-Professional Fee Cap will be €16,000.00 per month.

Statement 6: Unrealistic comparison of display and non-display market data.

Detailed Comment

"In Figure 14 on page 45, the report draws a conclusion by comparing the annual costs in 2017 of level 2 display data used by a single person, against the costs in 2024 of having machines using Level 2 data for non-display usage such as for principal trading, broker activity and to run a trading platform. Level 2 display data and non-display data are two fundamentally distinct types of products. Moreover, Euronext considers that it is not possible for a single human to perform the same activity as multiple machines."

MSP Response

We consider it irrelevant as to whether a human can perform the same activity as a machine. The data feed is the same and the exchanges' costs have not changed because a machine is now consuming data. This example is meant to show how the cost of a single data feed has increased with no rationale except that the customers' costs of production (not the exchanges') have changed by introducing computers to try to generate efficiencies. Exchanges appear to have sufficient pricing power to counter the potential downturn in fees that might be caused when physical users are replaced by machines even though it has no impact on their (the exchanges') costs of production. The example is intended to show that exchanges still sustain or grow revenues while the consumers cannot benefit from introducing efficiencies.

Statement 7: Unrepresentative examples.

Detailed Comment

"The avatar example for a retail broker as provided in the report in paragraph 6.3 (pages 58-62) makes use of an unusual combination of parameters that only applies to 1% of Euronext client population. In its avatar section, the report exclusively focuses on the most expensive pricing options and omits to present more cost-effective pricing options which significantly decreased fees for small and mid-size clients between 2017-2024."

MSP Response

The avatar was based on discussions with several of Europe's largest retail brokers. As stated in the report, there is no single fee for market data and the fact that the fees are linked to the customers' costs of production and not the exchanges' own means that there are multiple, nuanced permutations of pricing. Given that exchanges switch products and data fees frequently, it was hard to find a consistent set of examples to use. We tried to be as fair as possible in selecting examples.

We did not design the avatar to reverse engineer findings and have shown price reductions and increases where applicable.

Statement 8: The report incorrectly represents market data costs and the investments made by Euronext in its markets, claiming that Euronext underinvests in its equity markets when data and facts demonstrate the opposite.

Detailed Comment

"The report states that there is no cost to exchanges for producing data and that there was no significant expenditure by exchanges on equity markets in recent years, including Euronext (except for the acquisition of Borsa Italiana). It thereby concludes that exchanges' market data fees bear no relation to the costs of production of market data (pages 2, 8, 9, 10, 21, 22, 34, 41, 76, 77, 81, 82, 83). This claim is factually inaccurate and unfounded. Market data is a core product of exchanges' operations, IT infrastructure and investments. Market data is not a marginal product derived from trading services. The costs incurred in producing market data are therefore shared with trading services.

In addition, as demonstrated by the data presented in the report and yet ignored in the report's narrative, Euronext continuously invests in its equity markets. Page 87 shows a 300% increase in Euronext's spend on infrastructure between 2017 and 2023. This is illustrated by the numerous well-documented investments made by Euronext in recent years to upgrade its equity markets, including the upgrade of its Optiq trading platform, the migration of its data centre to a new green facility, and its clearing migration in 2024. This is also reflected by the absence of severity 1 outages on Euronext markets in the last four years; the list of outages presented on page 82 of the report as "some examples" of exchanges' outages is in fact an exhaustive list as far as Euronext is concerned. Euronext's parallel diversification into new asset classes and services has had no impact on its continued investments in equity markets. A full list of the main upgrades and innovations delivered by Euronext over the last ten+ years can be found here: Our Journey | euronext.com."

MSP Response

The report clearly acknowledges that Euronext has increased expenditure by 300% but, taking guidance from the information given in the annual accounts, notes that this is in relation to its absorption of new acquisitions.

We agree that market data is a core part of an exchange's operations. It is a by-product of the trading process, and a trading venue could not be in business without releasing data to the market.

However, any investment made in upgrading trading platform infrastructure is a cost of doing business and, in a normal competitive environment, would not result in additional fees for customers, who would already bear their own costs for having to adapt to the new technology and generally have little say in how and when an exchange decides to upgrade its infrastructure. Without rectifying the issue behind severity 1 outages, trading venues would not have a business and, if outages occur frequently, then, in a normal market, if customers could, they would go elsewhere.

Only providers of a service that has a pricing advantage believes that customers must bear the costs of improving or expanding its service or helping to make it more efficient. Not all customers might need the service but may have to pay for it if it is included in market data fees. In normal competitive markets, customers pay for value when they experience it.

Statement 9: Further, Euronext is required by MiFIR to charge market data based on costs. In contrast to the report's claim, Euronext complies extensively with this requirement and provides extensive disclosures on the topic.

MSP Response

Exchanges, which have fixed costs, have fee schedules that clearly show that they are not charging based on their own fixed costs of production but are instead charging based on their clients' variable costs of production. Such behaviour is only possible when a provider of a service has a significant advantage. In this case, customers must consume the data regardless of the value they place on it and exchanges are able to earn surplus revenues that have nothing to do with their own costs.

In line with our response to statement 2 (above), Euronext appears to contradict its own disclosures, and we recommend that regulators make the disclosures more extensive and detailed and clearly linked to annual accounts.

FESE'S STATEMENT, 4 March 2025[7]

Statement 1: The report includes multiple factual errors.

Detailed Comment

"These include, but are not limited to, the arbitrary selection of reference points, inconsistent approaches across scrutinised exchanges and confusion between their different business lines, errors in data selection, false information on incurred costs, and misleading conclusions relating to unfair treatment of competitors. Moreover, the report demonstrates a limited understanding of the market data landscape and the broader exchange business, rendering it unsuitable as a source of fact-based information. The report also contains numerous incorrect statements seemingly aimed to support its claim that exchange data is merely a by-product of exchange trading and therefore incurs no costs in its production – a standpoint with which we strongly disagree in line with academic views. Despite its length of over 150 pages, the report does not present any new robust analysis or evidence. Exchanges have always been, and continue to be, committed to operating on a reasonable commercial basis."

MSP Response

This statement contains a lot of unsubstantiated noise which appears designed to discredit the report. The Study took place over the course of a year by experienced market professionals with many years of industry experience and it required significant quantitative skills as well as qualitative knowledge of the market. Many academics have reached out to us after publication to discuss the findings further. This is the first study to explain the evolution of pricing under different conditions.

The main issues raised by FESE and individual exchanges are all related to the exchanges own publicly available information.

Exchange fee schedules appear deliberately nuanced pricing mechanisms that mean every consumer experiences different costs. This is because the fees schedules are completely unrelated to their own fixed costs of production and are instead attached to their customers' variable costs of production. This is a critical component of understanding the line between what constitutes a "reasonable commercial basis" and what does not. It is not reasonable to charge your customers based on their costs of production.

We do, however, acknowledge that this makes exchange schedules are extremely complicated to interpret, something that market participants must deal with every day. This results in onerous audits and fines for participants because they find it difficult to interpret the schedules correctly. As noted above, we also see that consultants used by FESE may have produced reports that contain errors or use arbitrary selection points because the fee schedules are so complicated to analyse. In Annex 2, we our analysis of some issues arising from Oxera's reports conducted on behalf of FESE.

Stated List of Errors and Inconsistencies

1. Arbitrary selection of reference points in equity trading and market data revenue

1a: Detailed Comment

"Many contentious statements made by the report rely on adjusted figures derived from proprietary methodologies and arbitrarily selected reference points, which also vary across exchanges. For example, the reference points used to support the narrative of compensating declining equity trading activity with market data revenues through rising market data prices are questionable."

MSP Response

This information is taken directly from the exchanges' own disclosures and publicly available accounts. There are no "proprietary methodologies". If we had to make assumptions (due to lack of transparency in exchange accounts, inconsistencies in exchange disclosures or in interpreting exchange fee schedules), then we have clearly explained those assumptions.

[7] https://www.fese.eu/publications/fese-reaction-to-theres-no-market-in-market-data-report-from-market-structure-partners/

The reference points used to support the narrative of compensating declining equity trading activity with market data revenues is clear from the exchanges own disclosures.

1b: Detailed Comment

"When discussing the relationship between equity trading and market data revenues, the report acknowledges the findings in the Oxera report (here) that exchange equity trading data revenues have remained broadly stable over time (around €350 million in 2023)."

MSP Response

Yes, we acknowledged the Oxera analysis. We also noted that this analysis was based on aggregating the revenues across all FESE member exchanges (including those that are not in our report) and also uses a weighted average to show market data as a proportion of overall revenue (again across all FESE members and not on an individual basis). The individual public disclosures of the exchanges' we studied, however, show a different story.

Either the exchanges' disclosures are wrong or market data is a smaller percentage of other FESE members revenue, while the largest exchanges have increasingly been growing their revenues.

We also note that Oxera revised their own figures from the 2019 report without any explanation.

In the 2019 report (The design of equity trading markets in Europe), page 6, Oxera stated:

> *"In relation to the market data supplied by stock exchanges, our analysis finds the following:*
>
> - *the share of revenues coming from market data services ranges between approximately 20% and 50% of joint (trade execution and data) revenues across exchanges and has been relatively stable over time—on average 31% in 2018, unchanged from 2017, and compared to 32% in 2016 and 30% in 2015.*
> - *Aggregate market data revenues (of stock exchanges that are members of FESE) amounted to approximately €245m in 2018 and increased in recent years by around only 1% per year in real terms."*

In the 2024 report, page 2, Oxera stated:

> *"Our analysis shows that revenues from stock exchanges have remained fairly stable over recent years. Overall aggregate revenues (of FESE members) amounted to €342m in 2023, compared with €298m in 2018. This represents an average annual increase of 3% in nominal terms."*

It can therefore be seen that although Oxera claimed in 2019 the MDRs were 'stable' at €245m, in the 2024 it revised the MDRs up to €298m. This is not a small tweak. It is a 21.63% increase: (298-245)/245 = 21.63%, which does not suggest revenues are stable, but there was no explanation of recognition of this change.

1c: Detailed Comment

"However, the report deliberately uses starting years of exceptionally high trading volumes due to COVID-19 (2020/2021) and compares them with a period of cyclically lower equity trading volumes (2022/2023). For example, the report claims that the transacted value on Nasdaq Nordics' equity markets declined by 26.9% between 2021 and 2023, while market data revenues increased from €56.78 million to €60.71 million (page 70). However, Nasdaq's own statistics present a different picture when considering other periods. For instance, transacted value would have increased by 42% and 22% in the 2019–2021 and 2014–2024 periods, respectively, while market data revenues would have decreased from €64.7 million to €60.1 million if the 2020–2023 period had been applied, as it was for other exchanges."

MSP Response

Our report set out to cover a specific set of years, starting from where the Copenhagen Economics study (which found a that prices were increasing well above inflation) left off in 2018. We did not deliberately set out to use the Covid years. Our intention was to use a consistent set of comparable data and we aimed to use as much publicly available information as possible, which was often not easy to find. This was particularly true of the disclosures. For Nasdaq, we could only find 2 years' worth of disclosures. This is why we have recommended that regulators keep a repository of disclosures.

We note that FESE has only highlighted Nasdaq and any other exchanges. Did any other exchange have similar experiences to Nasdaq? We would welcome a clear and consistent set of disclosures from all FESE members.

1d: Detailed Comment

"Additionally, the report misrepresents market data revenue evolution by overlooking that customer bases have increased. For example, Nasdaq Nordics recorded a 9% increase in its customer base between 2021 and 2023, while Euronext saw a 35% rise from 2017 to 2024, after adjusting for the acquisitions of Oslo, Dublin and Milan exchanges."

MSP Response

There is no definition of what constitutes a customer and no way to substantiate these statements. See our comment above (in the Euronext responses) that we recommend that customer should be defined (and should only be related to direct consumers of data) and that this customer base should be declared in the disclosures. The count of customers should equal organizations or individuals that consume data not, for example, how many machines consume data.

1e: Detailed Comment

"Exchanges are also concerned about factual inaccuracies in the report. For example, while the report claims an increase from 11% to 19% of Euronext's ratio of market data revenues to total revenues (MDR) between 2020 and 2023 (page 69). In reality, and based on public data, Euronext MDR remained stable at 11% in this period. This is significant, as the report uses MDR as a key metric to suggest that rising market data revenues are offsetting a decline in equity trading."

MSP Response

We have already addressed this claim by Euronext in the above responses. We note that it does not explain what the 11% is calculated as a percentage of in its statement and the claim that MDR remained stable at 11% contradicts its own disclosures. This may only be true if it uses group revenue and not trading revenue as the denominator, as the regulation intended. We recommend that Euronext should be requested to amend its 2020 disclosure with the correct denominator, but the trajectory of MDR as a % of total trading revenue (not group revenue) is clear in the following years.

2. Tweaked proprietary methodology on market data revenues' share

2a: Detailed Comment

"The report relies on its own proprietary methodology and assumptions, which may also vary across exchanges, to determine the proportion of different business segments within overall revenues (see pie charts on pages 17–19). For example, SIX Group identified inconsistencies that could have led to an overstatement of market data revenues in their corresponding figures (page 18 in the report and pages 18-19 in appendices), including: (i) using traded turnover by segment to infer a granular reallocation of revenues despite non-linear pricing models across asset classes; (ii) failing to account for banking services revenues in 2023; and (iii) incorrectly bundling regulated and commercial data businesses (e.g., SIX Financial Information, Refinitiv) and conflating SIX Exchanges with SIX Financial Information businesses."

MSP Response

We stated at the outset of the report, and we restate the point again, that all the exchanges' accounts lack transparency with respect to equity market businesses. The charts referred to here were to make all exchanges look similar in terms of business lines so that comparisons could be made about certain businesses. Each step of how this was done is fully explained in the report. Component of the pie chart. If exchanges are concerned by this then they could put more helpful information in their annual reports.

Per our recommendations, there should be a clear mapping between exchanges disclosures and the information provided in their accounts. Unfortunately, SIX is not subject to the same disclosure rules as other exchanges as it is outside of the EU.

However, none of this materially changes the conclusions of the report.

3. Issues in the calculation of data fee increases

3a: Detailed Comment

"The report aims to provide an evolution of changes in the price of display and non-display fees (see pages 58-61) but includes flawed comparisons. For example, it states that Euronext's professional display data increased by 42.53% between 2017-2024, while the actual increase was 23% (below accrued inflation). This is due to a lack of a robust methodology: the report compared two completely different products with two different price points and fails to account for the central pricing and regulatory 'Natural User' concept which enables clients to reduce fees for display use by netting users consuming data from multiple sources."

MSP Response

We have responded to this in the response to Euronext above. Our avatar did not meet the conditions suggested to achieve the lower increase, which we explained in our report. Additionally, the Oxera report 2024 explains how the introduction of these new markets was offset by a reduction in the data set that means any increase might not have been justified.

3b: Detailed Comment

"Similarly, for non-professional users, the report claims a 75% increase for Euronext, while in reality fees decreased by 40%. This is because the report includes the fees charged by Euronext across the markets it operates, including Dublin and Oslo in 2024 but omits the fees charged in these two markets in 2017, before their integration into Euronext, thereby comparing incomparable metrics."

MSP Response

In our response to the Euronext comments (see above) we have already explained that the Oxera report 2024, that was commissioned by FESE, arrived at the same findings as MSP i.e. that non-professional user display market data had increased by 75%. If FESE has an issue, then why has it not challenged Oxera's findings?

We also explained that anyone qualifying for these price reductions would have to meet certain qualifying and very complex criteria that our avatar did not meet.

3b: Detailed Comment

"More broadly, the report claims that data fees have significantly increased over time, while publicly available data also show either decreases for certain users or fee increases below inflation for some exchanges. Additionally, the report contradicts itself on several occasions, i.e. by asserting that data fees have only risen (page 3) yet later acknowledges cases of price reductions (page 62)."

MSP Response

The key phrase here is 'certain users' as it is only selective, certain users for whom prices have gone down or remained stable. We have shown this in our report, while also showing that certain users have experienced significant increases in costs.

Reports commissioned by exchanges to date have been very one dimensional, only showing, for example the impact on the price of single product or use case, as opposed to showing the impact on an entire organisation when multiple conditions and use cases are applied. We created an avatar to illustrate an organisation's total experience as a result of fee changes. We never said it was a true representation of every possible market data consumer out there.

Finally, on page 3 of our report we said:

> *"Since 2017, the cost of market data has surged far beyond inflation, particularly for certain participants and* activities. *This rise lacks a clear rationale: there are no separate costs for producing equity market data, the exchanges bear no cost for data distribution and the costs of running a trading platform are stable or decreasing."*

The statement reflects a general trend which can be observed in our findings, and also in the Oxera reports, if one accepts their statement that market data revenues are a benchmark of fee growth.

On page 62 of our report, we did show a decline in Deutsche Börse. This demonstrates that we did not set out to tell a story with a bias. These costs declines were driven by two factors: first, DB significantly reduced its display fees for non-professional. Second, our avatar had enough non-professionals to offset the 400%+ rise in non-display fees.

4. Unfounded Assumptions on IT Infrastructure Expenditure

4a: Detailed Comment

"The report presents a misleading portrayal of exchanges' infrastructure spending when suggesting that exchanges are not investing, costs are declining, data production does not entail costs and data distribution costs are negligible or even non-existent. It applies inconsistent methodologies when analysing IT infrastructure expenditure across exchange groups *(page 48 appendix), using different base years for comparison, while not considering that exchanges incur fixed-step costs. Additionally, the infrastructure expenditure figures on page 87 appear to cover only IT infrastructure costs, excluding operating and software development costs, which are also relevant to IT infrastructure."*

MSP Response

- We summarised the data we had from the exchanges' public accounts. We also clearly stated the periods we used. We reported infrastructure costs as we found them in the annual reports. We focused on the infrastructure needed to run the venue and did not try to make assumptions as to how many FTEs an exchange requires. This allowed us to make a side-by-side comparisons of infrastructure costs, which is reasonable as these incumbent exchanges are similar in their operations.
- We also explained that we did not account for software costs as most exchanges have simply been maintaining the same software for more than a decade. Software costs may also vary at each exchange as some may be more efficient than others and some run software businesses whereby they sell their technology to other trading venues.
- Additionally to include salaries for software development these figures would need to be published in a consistent manner to make any comparisons and the costs related to the running of the equity market would need to be clear.
- Set-up costs are a cost of doing business, not something that customers should be expected to pay for. Similarly, improvements to a product or infrastructure are also a cost of doing business that, contrary to what exchanges believe, should not be simply passed on to customers whether they asked for them or not. In businesses where there is competitive tension, the provider of a service must carefully consider investment in products and improvements and the customer will have discretion about whether they are willing to pay for something that they perceive is added value. For example, new trading venues cannot simply pass on their fixed set up costs, customers have to see the value of the product before they start paying for it.

4b: Detailed Comment

"SIX and Deutsche Börse also indicate that the report appears to speculate on their cybersecurity costs (page 84), since both have never published such figures—only total operating costs. Similarly, Euronext's alleged lack of investment is contradicted by the report itself, which shows a +301.67% of infrastructure expenditures between 2017 and 2023, while overlooking developments that notably resulted in 2024 in the upgrade of Euronext's Optiq trading platform, the relocation of its data center and its clearing migration. The same applied to Deutsche Börse, where reported and audited IT expenditures concerning infrastructure costs grew from €108 million in 2017 to €197 million in 2023, an 81.81% increase, despite ongoing cost reduction programs."

MSP Response

- On Cybersecurity – we provided a source that uses an average for financial services. Given there is no further transparency in these exchange accounts, this seems reasonable.
- On Euronext –see the comments in the Euronext feedback and the comments above. If a trading venue is simply making itself more efficient or fixing issues of possible under investment or changing data centres for its own benefit, then it should not be expecting its customers to pay for it. Passing on these costs is only possible when customers cannot exercise discretion as to whether they use a product.
- On Deutsche Börse, we took the figures from the annual report and acknowledged the fact that infrastructure costs had grown. However, the accounts point to the increases being mainly attributed to expansion into other non-equity products including Commodities and FX, as well as expanding products on Eurex. There is no mention of significant investment in equities.

5. Insufficient reasoning for price list expansion

"The report criticises the expansion of price lists without acknowledging that regulatory requirements for data disaggregation have led to a doubling or even tripling of the space needed to outline all data types and associated fees. It also fails to mention that some exchanges consolidate data from multiple trading venues—e.g., 18 data sources in the case of Deutsche Börse— into a single price list and contract, enhancing efficiency for data users in terms of technical access and administrators. Additionally, it overlooks the fact that others, such as Euronext, have undergone significant restructuring due to various acquisitions."

MSP Response

We never disputed, challenged or questioned that there may be more products due to expansion or the regulatory environment but what we see are fees that are linked mainly to the customers' costs of production not to new products. For example, Deutsche Börse's non-display section evolved from less than 1 page in 2015 to 15 pages in 2024 (page 42 of our report).

Similarly, at Euronext: In 2017, the redistribution fees section (all costs borne by the customer and not the exchange) had two sub-sections: real-time and delayed. By 2024 it added a third sub-section: after midnight. In 2017 Euronext had no white label section, but by 2024 it did. In 2017, the non-display fees section had a half-page summary before jumping into categories and prices. By 2024 the half-page doubled to cover the per-device level decomposition. In 2017, Category 3 of non-display (trading platform) had 9-10 lines of text. By 2024, to accommodate for the new 4 subcategories the non-price information has taken more than half the page.

In 2017 categories 5 (index creation for redistribution) and 6 (creation of original created works for redistribution) of the non-display section have been replaced new sections with a very different price structure. For example, Category 5 had:

	CATEGORY 5 FOR INDEX CREATION FOR REDISTRIBUTION	CATEGORY 5 SUPPLEMENTAL FEE FOR INDEX PROVIDER SERVICES
REAL TIME INFORMATION	€4,000.00	€1,000.00*
DELAYED INFORMATION	€1,000.00	€500.00*

*The Contracting Party will receive a 50% discount on the Category 5 Supplemental Fee for Index Provider Services if it can demonstrate that it provides Index Provider Services to 5 (five) third parties or less by providing Euronext a list of all third parties it provides with Index Provider Services

Source: Euronext Fee Schedule 2017

And by 2024, a completely different price structure was introduced (we exclude Milan related products for obvious reasons):

EURONEXT INDICES AND CASH INFORMATION PRODUCTS

TIER	REAL TIME
Public display only / 1-10 Users	€2,756.25
11-50 Users	€4,189.50
51-100 Users	€5,512.50
101-250 Users	€7,056.00
251-400 Users	€8,820.00
401-700 Users	€9,481.50
> 700 Users	€10,804.50
Supplemental Fee for Index Provider Services[1]	€4,193.50

Source: Euronext Fee Schedule 2024

Also, a Single Stock Index Creation and Additional Index Creation fee sections appeared. It is not clear whether the introduction meant that in 2017 consumers were not charged for these activities or whether they were disallowed.

6. Misleading claims of unfair behaviours against direct competitors

"The report contends that exchanges are engaging in unfair behaviour against direct competitors by deliberatively charging higher prices (e.g. pages 5 and 6). Deutsche Börse, Nasdaq Nordics, Euronext, and SIX strongly dismiss these claims, asserting that they provide fair and transparent pricing policies for all clients alike including their own companies, with publicly available fees and intragroup companies treated at arm's length."

MSP Response

Exchange fee schedules may be publicly available, but it is impossible to assess a conclusive cost of data from any of them due to the application of so many cumulative conditions that are based on each customers' costs of production and not for their (the exchanges') own costs. Pointing out that there is segmentation of customers by their business activity is not misleading and it does not appear fair pricing, particularly when the business activities of a customer are unrelated to the exchanges' costs of production.

The fact is that exchanges are charging direct competitors some of the highest prices for use of the same data that other market participants pay less for. If regulators and policy makers believe, that by introducing competition there should be some sort of penalty or transfer of costs between one set of trading venues and another then it should be written in the regulation, and the regulators should be the arbiters of how this is applied. It also does not appear fair or logical to charge customers for redistribution of data, because:.

1. Customers pay for the costs of distribution not the exchanges
2. The number of users who receive redistributed data has no impact on the exchanges' costs of production.
3. Exchanges are beneficiaries of the redistribution process as it should attract business for them and these end customers would never connect directly to the exchanges.

7. Other general remarks

"In our opinion, various remarks and observations made throughout the report demonstrate a fundamental misunderstanding of the economics of equity trading markets. The report overlooks the fact that market data and trading are "joint products" —i.e. one cannot exist without the other— which inherently affects the allocation of costs and the ultimate pricing of both. Instead, the report argues that exchange data is a "by-product" of exchange trading, which is fundamentally flawed as widely understood by academics and practitioners.

Providing comprehensive, high-quality data involves substantial production and distribution costs for exchanges, including investment and operating costs, such as tailored protocols *and data formats, regulatory adaptations, customer support services, etc. The report itself acknowledges that market data is 'the lifeblood of financial markets' and has a broad range of use cases for various market participants. The report also makes a number of claims that exchanges' market data fees are creating distortionary effects on downstream markets and on innovation, while ignoring the empirical evidence showing that the costs of exchange data represent a very small part of the overall value chain. In reality, EU equity trading markets have been characterised by significant and successful new entry, and the growth of new trading mechanisms has provided participants with greater choice. Many of these trading mechanisms have benefitted from the price formation provided by exchanges. There is no evidence to suggest that market data fees charged by stock exchanges have adversely affected the level of entry and competition among trading venues."*

MSP Response

The authors of the report are highly experienced practitioners with many years of financial markets knowledge. They also understand when economics in any market are not working and through this dedicated Study have developed extensive (and we believe unprecedented) models of European market data costs. When a service provider is able to clearly reach into a customer's business and charge them for their (the customer's) costs of production, the model is clearly broken and not incentivising growth. In equity markets, this is possible because customers have no choice but to consume the data from the largest exchanges.

A trading venue would not exist if it did not release data to the market because it would attract no business. Investments made to release data to the market should be allocated to the trading business alone and, if customers did not have to consume the data, there would be little standalone market data business to allocate these costs to.

It is irrelevant whether market data costs make up a small or large amount of the value chain and market participants also present evidence that it is greater than the exchanges suggest. Whatever the amount, it is not justification for exchanges to reach into their customers' business to prevent them from capitalising on their own efficiencies.

The evidence that equity markets are not growing is plain for all to see and frictional costs need to be removed.

TURQUOISE'S Blog, 4 February 2025[8]

> Statement 1: The report fundamentally mispresents Turquoise volumes, suggesting they decreased when they in fact increased.

Detailed Comment

"The report claims Turquoise transacted value reduced by 61% between 2020 and 2022, which is then used to compare against an increase in "MDR%" (market data revenue as a % of the entity revenue) to construct a calculation of reduced trading turnover, compensated by increased data costs. This is inaccurate. Turquoise's turnover increased by 4.47% over this period. The MDR% comparison presented in the report is inaccurate and misleading. Like other MTFs with customers across the UK and the European Union, post-Brexit, Turquoise now operates two trading venues – one in the UK and one in the EU. With the migration of many customers, the volume previously attributed to the UK venue is now split across both venues."

MSP Response

As stated, most of the public disclosures of exchanges were hard to find. Turquoise has two entities Turquoise Global Holdings Limited (TGHL) and Turquoise Global Holdings Europe B.V. (TGHE). Our report only quoted the disclosures from one of the entities, as we only found one set of disclosures and did not realise that there were two entities disclosing information.

Turquoise's comments have focused on the volumes reported. We agree, that when the two sets of disclosures are combined (see the figures below), turnover has increased by 4.47% but this does not change the main point which is that MDR growth has far outstripped the changes in turnover. We correctly reported, that market the MDR% for both entities had grown from 13% to 27% (see figures below).

[8] https://www.londonstockexchange.com/discover/news-and-insights/theres-no-market-market-data-report-market-structure-partners-published-4-february-2025

MIC CODE		2019	2020	2021	2022
		(declared in 2021) Millions	(declared in 2022) Millions	(declared in 2023) Millions	(declared in 2024) Millions
TGHE	Traded Value		€ 56.10	€ 425,750.40	€ 364,846.60
	ETCs	0	0	€ 2.60	€ 4.90
TGHL	Traded Value (Equity Instruments)	€ 530,520.10	€ 527,835.90	€ 191,096.00	€ 189,373.50
	ETCs/ECNs	0	€ 77.80	€ 30.10	€ 13.90
TGHL + TGHE	**TOTAL VOLUMES**	**€ 530,520.10**	**€ 527,969.80**	**€ 616,879.10**	**€ 554,238.90**
TGHL + TGHE	Total Market data Revenue combined for both TGHL and TGHE	£2.8m (gross revenue)	£2.5 million	£ 2.8 million / € 3.2 million	£ 3.2 million / € 3.6 million
TGHL + TGHE	Total MDR% for both TGHL and TGHE combined	13% (of total gross revenue)	10.5% (as a proportion of total revenues)	10.40%	27%

Statement 2: The report misrepresents pricing and uses unrealistic comparisons to fit the narrative about market data costs.

2a: Detailed Comment

"The report states that 'LSEG' increased its data charge for private investors by 151.2% between 2017-20243. Firstly, and as previously stated, it is mixing up different trading venues and inconsistencies to reach an 'LSEG' number. The 151.2% is based solely on LSE fees for private investor level 1 data UK market.

Secondly, the report fails to indicate that:

- *Turquoise waived private investor data charges throughout this period.*
- *In 2023, LSE simplified its price list for private investor fees by removing unused bandings. This had no impact on the data charges actually charged to customers*

Assuming the report is referring to London Stock Exchange, looking at the number itself, it is grossly inaccurate. For instance, the 151.2% increase stated in figure 2 was derived by MSP's use of a theoretical "avatar" firm being subject to £123k monthly fees for London Stock Exchange data. In fact, the avatar firm would have been charged £25k monthly for LSE's Unlimited Private Investor licence from 2018, a 79.7% reduction in monthly fees from the quoted 2017 fees. This fee is publicly available in the LSE Market Data price list.

Finally, the report does not acknowledge the benefits of London Stock Exchange's announcement that we are waiving data charges for private investors from January 2025, supporting industry objectives to democratise access to capital markets."

MSP Response

The report is quite clear that it is referring to an LSE product for UK data, which has nothing to do with Turquoise. Therefore, it is not mixing up trading venues. No Turquoise fee schedule has been reviewed or warrants a mention on this point. LSE is therefore correct to state that the 151.2% increase is related to the LSE fee schedule alone.

In 2017, LSE banded customers so that anyone redistributing Level 1 data to up to 10,000 customers was charged at £4.10 per customer. Thereafter, for the next 5,000 customers the charge was reduced to an additional £1 per customer and for any customers above 15,000 there was an incremental charge of £0.20 per customer. By 2024, the LSE had removed the discounts for customers above 10,000 customers and charged £4.10 regardless.

We did not set out to create an avatar that distorts prices. Our avatar is based on discussions with various international retail brokers. Even if we had not had discussions with these brokers, it is not hard to imagine that a retail broker might have more than 10,000 customers. Therefore, the removal of these more generous bands would have had a significant impact on retail brokers.

Even if these bands were "unused" it does not make sense to remove them. The removal of these bands, therefore, appears designed solely to maximise data revenue rather than encourage growth.

The report acknowledges that the LSE is waiving charges for private investors and it points to the fact that exchanges can charge zero for market data when they want to build market share. It also points to the fact that this does not reduce costs for the intermediaries or for private investors who fall under the arbitrary definition of professional investors.

2b: Detailed Comment

"Figure 14 purports to show the magnitude of change in cost for a single level 2 user, by comparing London Stock Exchange fees for a single display user in 2017 to an enterprise-style licence which conducts non-display principal trading, agency trading and operation of trading platforms in 2024. We have no use cases of a single display data user who serves all three of these functions. This is an unrealistic and misleading comparison.

Indeed, running similar analysis (based on public price lists) of market data fees levied by another pan-European MTF that is a competitor to Turquoise shows the same result, despite the report commending that same pan-European MTF for its approach to market data fees (as mentioned elsewhere in this blog, this MTF is excluded from the core analysis of the report). If we apply the figure 14 analysis to this pan-European MTF, for example, the cost of display data is £624 (2017 fees for L2 display user, annualised). The cost for the same data as non-display in 2024 would be £43,200, representing a change of 6823%. Nonetheless, we believe this comparison demonstrates that this measure is unrealistic and unhelpful.

The report also talks in percentage terms without clearly demonstrating the actual fee levels being discussed. For example, a Turquoise display user in 2017 would have paid a maximum of £10.50 per month for consumption of that data. The same user will be paying a maximum of £15.91 per month in 2025 (average annual change of £0.68 per user per month). Turquoise remains extremely good value for market data, which the report overlooks."

MSP Response

The point of this example is to show how exchanges have introduced non-display fees to counter revenue decline that would arise when customers introduce efficiencies into their organisations by replacing physical users with machines. It does not matter whether a machine can do more than a human. It is the same data feed whether used by a physical user or a machine and there is no change in costs incurred by the exchanges.

Our recommendation is that all fees related to the customer's costs of production should be removed. This would include a display versus non-display fee (which is related only to the customer cost of production, not the trading venue or exchanges'). This would impact any trading venue, exchange or MTF, that currently charges for non-display data.

The entire point of this report is that the "value" of data can only be determined in a market with competitive tension. Turquoise is a good example of this. Customers do not have to consume its data or use its trading platform, and it does not have a dominant market share. Hence, its data is much cheaper than the LSE's UK market data and has sometimes even given its data away for free.

Statement 3: The report is flawed with respect to documentation published by LSEG venues.

3a: Detailed Comment

"The report states London Stock Exchange's price list has reduced to 6 pages due to removal of Borsa Italiana and formatting. However, it omits that we have consolidated the Turquoise agreement into the London Stock Exchange agreement during this period, simplifying the process for customers to sign up to data from both venues. A simple zoom-in on figure 12 shows this very clearly: the summary of fees shows that several of the additional lines are linked to Turquoise."

MSP Response

The report acknowledges that Borsa Italiana was sold during this period. In 2017, there were 21 pages of fees and 7 of these were Borsa Italiana and 13 were LSE. By 2024, the LSE had reduced this to 6 pages mainly by reducing font size. Given that customers do not have to buy Turquoise data, they may not want to purchase it.

3b: Detailed Comment

"The report also claims that of LSEG's venues, only Turquoise Europe makes reasonable commercial basis disclosures. Such disclosures are required to be published under both UK and EU regulation. All of LSEG's equity trading venues publish these on the London Stock Exchange website4, in line with FCA and ESMA requirements. This claim is therefore inaccurate."

MSP Response

As stated, exchange disclosures are hard to find and, in the case of LSE, are published two years in arrears. We have since been provided with LSE disclosures and, therefore, retract the statement that only Turquoise Europe makes reasonable commercial basis disclosures.

We propose to replace the Turquoise disclosures with those of LSE, so that all exchanges are compared on a like for like basis. Nonetheless the LSE disclosures tell the same story that MDR growth is outstripping volume growth and the MDR% is growing as a result. Between 2020 and 2022, turnover at the LSE decreased by 6.45% while MDR% increased from 14 – 16%.

Statement 4: The report is flawed with respect to documentation published by LSEG venues.

4a: Detailed Comment

"The report includes Turquoise in its core analysis alongside primary exchanges, instead of grouping it with the other pan-European MTFs."

MSP Response

The only place that the report uses Turquoise data is when showing MDR disclosure information. Turquoise disclosures were used because LSE ones could not be found. We have stated that we propose to replace the Turquoise disclosures with those of LSE now that we have them.

4b: Detailed Comment

"The report claims that incumbent exchanges simply 'contribute' to price formation, and MTFs play a 'similarly proportional role in price formation to the incumbent exchanges.' Yet it also refers to MTFs and systematic internalisers as 'price takers', and primary exchanges as 'price makers', which would rightly indicate that the roles are in fact different.

In reality it is the primary exchanges that provide the price formation used throughout the rest of the value chain, including by other trading venues that reference the price formation from the primary exchanges, without incurring any of the substantial costs of running a price forming venue. Other trading venues pay market data licences to reference the product of the price formation, but the costs of these pale in comparison to the costs incurred to run a primary venue."

MSP Response

The report does not state that MTFs are price takers in terms of price formation so the LSE's comment is not in context. The report states that they are price takers when it comes to the value of their market data. It does not mention systematic internalisers in this context because they do not sell their data.

The fact that customers must consume the exchanges' data is perpetuating a market without real competitive tension. The role of the incumbent exchanges in price formation has, therefore, never been tested in a truly competitive markets and we argue that when exchanges move into defence mode to protect their declining market share, it is in their interest to prevent that from happening. Other venues can and often do carry similar or better prices than the main exchanges, so it is hard to say that the exchanges alone contribute to price formation. The report also points out that the creation of prices is circular and the prices on incumbent exchanges are derived from all other trading venue activity.

4c: Detailed Comment.

"We wish to correct the assertion throughout the report that the cost of producing market data is directly correlated to transaction volumes. Transaction volumes correlate closely to the amount of post-trade data published. However, as set out in the LSE RCB disclosure documents (which are used as a source for the report), the market data ratio between pre-trade and post-trade data is 98.36% to 1.64% respectively. By mapping trends in transaction volumes relating to post-trade data,

the report provides fragmented analysis, only tracking trends of 1.64% of the market data published but presenting it as representative of 100%."

MSP Response

We invite exchanges to be more transparent about their costs so that such statements about the difference in costs between running an exchange and an MTF can be substantiated. The fact that the incumbent exchanges can supplement loss of trading revenue with market data revenue, suggests they may not be motivated to strive for the same efficiencies as competing platforms.

We say again that trading venues would have no business if they did not release real time data to the market. The release of this data is, therefore, a by-product of running the trading business and the costs should be recouped in the trading fee and not in a separate "market data business" that is based solely on charging customers for their (the customers' costs of production).

4d: Detailed Comment

"Finally, the report questions our pricing model, which again is publicly available information, and we refute the inference that we might not apply the same pricing to intragroup companies as we do to third party customers. London Stock Exchange and Turquoise apply the same fees to all customers, whether they are intragroup or external."

MSP Response

Again, we point out that publicly available fee schedules do not provide any real clarity on the price of market data because they depend on subjective interpretations of multiple conditions that are related to the customers' costs of production and not the exchange's own costs. Also different customers do pay different prices because prices are based on their business activities even though they consume the same data feed.

We welcome the statement that arms-length agreements are in place between the intragroup companies but how intragroup costs are managed is not publicly available information.

Statement 5: The report is flawed with respect to documentation published by LSEG venues.

5a: Detailed Comment

"In line with prevailing regulations, exchanges are required to publish their market data policies and fee schedules on their websites, and to disclose their costs to regulators upon request. Relevant information about LSEG's equities trading venues is therefore either available to the public, or to those regulators with oversight of the venues.

The report claims that there is a "lack of transparency in exchanges" public accounts with respect to the revenues and costs associated with equity markets and equity market data". Despite this, the report relies on such public disclosures to present firm conclusions about such costs and revenues which we find contradictory."

MSP Response

- We have made it clear that exchange fee schedules are based on users' costs of production rather than on the exchanges' fixed costs of production. This means that every customer's costs are unique and based on subjective interpretations of multiple permutations of conditions. Public fee schedules are therefore a meaningless measure of the actual cost. Arguments over cost, therefore, prevail because there are thousands of possible permutations of the costs, all of which may be correct depending on the conditions being used to interpret the data. We made clear in our report the conditions we were using to interpret the data. Exchanges are not using like for like comparisons in conditions when refuting the findings.
- Exchanges have been forced to make public disclosures because policymakers believed there was not sufficient transparency over their market data revenues and costs. These disclosures are doing their job in helping the market have greater transparency but as explained in the report, and again in this document, these disclosures could be improved and linked to annual accounts.
- For example, LSE's disclosures make the statement that they are "per audited accounts" but it is impossible to reconcile the disclosure information to the revenues reported in the annual accounts. LSE's 2022 disclosure suggests that revenues from equity trading combined is

GBP507 million but there is no corresponding figure for equity trading revenue in the public accounts against which to verify this.

- We don't know why cost information cannot be even more transparent but, if exchanges only disclose cost information privately to regulators, then we would expect the regulators to be given sufficient information to be able to reconcile the information to the company's accounts.
- Nonetheless, the disclosures tell a very clear story. Market data revenues continue to grow, faster than trading volumes, which are in most cases declining or only growing marginally.
- In our research, we noted, that some LSE products do not appear to have rational fee calculations if the fees are intended to reflect costs. This can be deduced from reviewing the public fee schedules. For example, redistribution licence charges for professional users of AIM L2 is exactly double the AIM L1 fee in 2024. This makes no sense because L1 is simply a cut down version of the L2 data. Similarly, there are other instances of fees for the same product across categories or levels or consumer bands where the fee appears to be a multiple of the next level of product/consumer band even though the cost of production is unlikely to change. Or the cost of production is not simply a multiple of another market.

5b: Detailed Comment

"The same available data sets were used in a similar report by Oxera in 2024 (which came to very different conclusions), however Oxera also utilised confidential information provided by FESE member organisations)."

MSP Response

- LSE is not a member of FESE and did not contribute to the FESE data, so it has no greater insight into the data used in the report than MSP. However, the Oxera report presents an average based on aggregated private information made available by all FESE members (which includes more than just the exchanges in this Study). As previously noted, Oxera has already amended this number (upwardly) with no explanation as to why.
- The exchanges we reviewed, form a subset of the FESE group. The individual disclosures of these exchanges tell a different story to the average. Unless the exchanges are disclosing incorrect information, then it is their own individual data that is contradicting the Oxera report and presumably the other FESE members are lowering the average. We invite Oxera to comment on its use of average data for all FESE members versus the public disclosures of each individual exchange.
- We have also noted some possible errors in the Oxera report in 2024 (see Annex 2) and noted that one FESE Exchange, Euronext, has chosen to challenge our conclusions even when they are the same as Oxera's.

5c: Detailed Comment

"The report claims in figure 42 that there has been a "notable reduction in costs for the exchange business" without having any visibility on this. The assertion is wholly incorrect (actual costs have increased over this period) and actual calculated by misallocating costs attributed to other group businesses within the group annual reports. For instance, figure 5 omits LSEG's acquisition of Refinitiv as the main driver of LSEG revenue and the proportion of Equity revenues at Group Level."

MSP Response

This statement mixes costs and revenues but addressing each in turn:

- It is correct that there is not granular enough information in the public company accounts on the costs for the exchange business alone, but overall LSEG costs are clearly going down. It remains unclear as to why costs in the exchange business are increasing when software is in maintenance mode, cost of hardware is declining and other costs such as power are either marginally increasing or have overall remained stable. We would welcome the exchanges making their costs of running trading platforms more transparent.
- Figure 5 is meant to show that equity revenues are diminishing in contribution to the total revenue. The acquisition of Refinitiv is precisely the driver behind the changes in this chart and demonstrates the exchanges' desire to diversify away from equity markets.

5d: Detailed Comment

"Operating resilient venues results in significant costs, which the report fails to reflect. Operation of primary trading revenues also incurs significant costs which are not required to operate MTFs or systematic internalisers. As LSE plc operates a primary venue, and Turquoise operates MTFs, we can attest to the magnitude of costs being very different between the two, which is ultimately reflected in MTFs charging less for data generally."

MSP Response

- All trading venues whether exchanges and MTFs offer broadly the same trading functionality on similar matching engines and must subscribe to the same rules on operating in a resilient manner. As pointed out in our report, some competing MTFs that do not belong to the incumbents have higher trading volumes than the incumbent exchanges, meaning that their overheads could be greater. Yet these MTFs are not able to derive the same proportion of revenue from market data to cover costs. They, therefore, must strive to be more efficient than the exchanges who have little incentive to become efficient when they can simply raise market data fees.
- The main reason the incumbent exchanges' MTFs charge less for data is because they are competing for flows outside of their home market and customers do not have to buy their data. This reinforces the point that when trading venues wish to grow a market or when they must compete for market share, they charge very little or nothing for market data. Indeed, we note Turquoise has much lower fees than the LSE and has even waived fees in places and volumes have grown in the last few years.

5e: Detailed Comment

"The report states that there are no "specific costs" for creating market data, without providing supporting evidence. However, market data is a defined Important Business Service under PS21/3 requirements, meaning providers are required to maintain levels of operational resilience for all users, not just the low latency users referred to in the report. Additionally, our core market data feed provides subscribers with not only the incremental order book feed that is used by our lowest latency trading customers but also aggregated "market by price" top of book and last trade only feeds. Our investment in building and operating high-quality feeds with choice of data formats benefits all our customers, not just customers that are trading participants."

MSP Response

- Ultimately, trading venues would have no business if they did not constantly aggregate and release data to the market. This is simply part of the cost of running a trading business. Real time market data is constructed by aggregating orders, handling cancels-corrects or amendments, which is a by-product of running order books and matching engines. It requires databases or middleware to handle messages, but this is also part of a wider system architecture and would also not need to exist without the trading business. In a market with true competitive tension, there would be little ability to charge extra fees for releasing market data which is a necessary part of the trading process.
- Any investment made by an exchange to improve its market data is therefore a cost of running a trading business. It is not a cost that should be passed on to the market and, if it does not lead to growth of the market, (and there has not been growth) then it is also questionable as to whether it is perceived to be delivering value. In which case, why should customers be expected to pay for such investments?
- We focused on the infrastructure needed to run the venue and did not try to make assumptions as to how many FTEs an exchange requires. It is therefore true we have not accounted for software development costs but that allowed us to make a side-by-side comparisons of infrastructure costs, which is reasonable as these incumbent exchanges are similar in their operations.

5f: Detailed Comment

"The report makes numerous unsubstantiated assertions about investment in equity trading platforms, including a false statement that LSEG has not changed data centres throughout the period. LSEG undertook a high-profile and well-publicised migration to a new data centre in February 2023 which reduced the LSE order book equities average round-trip latency by 50%, providing better outcomes for investors."

MSP Response

- P81 of our report explains why we excluded software from our report (because most exchanges have not changed the underlying platform in more than a decade). It also explains how, using external data, it can be seen that the cost of computing power has decreased. Finally, it points to LSEG's public strategic partnership with Microsoft.
- Given there is no transparency within the exchange's accounts on the costs of running the equity trading platform, we attempted to strip Refinitiv related expenditure as described in Appendix 9 of our report, to get to an equity exchange-related figure. From this we showed that the equity exchange expenditure increased from just over £100m in 2022 to nearly £109m in 2023 but, relative to previous years, expenditure declined. LSE has not challenged this calculation. LSEG's 2023 Annual Report[9] also states:

  *"**total capex** (including Refinitiv integration) will remain around current levels of 11-12% of income in 2024, then decline over time to high single-digit % of income as integration related spend ceases. **We have been investing heavily in our business to address historical underinvestment in the Refinitiv business**, to integrate the LSEG and Refinitiv businesses, and to build new capabilities to drive future growth."*

- Based on these statements, along with the fact that LSEG's accounts do not make any specific link between its capex costs and the data centre migration, it seems fair to assume the majority of any invested funds would be linked to Refinitiv business and not the core equity exchange business. The 2023 annual report also states that:

  *"By the end of 2023, we had delivered £442 million of run rate cost synergies, surpassing our £400 million target two years ahead of schedule. To date, we have incurred total costs to achieve these synergies of £564 million, though there are a few more synergies to deliver in 2025 to close out the programme. We primarily delivered these savings by **consolidating our property footprint, closing data centres,** renegotiating supplier agreements and deduplicating roles where appropriate. Even though the Refinitiv cost synergy programme is now largely complete, we will continue to deliver cost efficiencies as we improve profitability further." (page 21).*

- This statement suggests that at least part of the investment rationale was cost savings and not 100% linked to improved performance. If the round-trip latency improved, then this should help the exchange attract more liquidity providers, but, once again, this is a cost of doing business rather than a cost that should be borne by market participants. However, we will amend the report to state that two exchanges changed data centres during this period.

[9] https://www.lseg.com/en/investor-relations/annual-reports/2023

ANNEX 4: CHANGES TO THE UPDATED VERSION OF THE REPORT

We have updated the report with a small number of additions and amendments, none of which change the conclusions. The main changes have been to:

Include new recommendations on improvements to regulatory disclosures • There is a new reference to this on pages 10 (The Executive Summary), 67 and 102 of the report. The full set of recommendations have been added in a new section on page 106.
Remove the Turquoise disclosure information and replaces it with LSE's 2019 – 2022 disclosures • Reference to Turquoise disclosures on pages 4 (the Executive Summary), 67 and 71 have been removed and replaced with new LSE data. • References in the Appendices to Turquoise on pages 45, 46, 47 have also been removed and replaced with LSE references including on a new page 48.
Insert a reference to LSEG's change of data centre in 2023 • This is referenced on page 83 and explains that the change does not appear attributed to the equity business, as the accounts state is was a result of investments in its Refinitiv business to consolidate its footprint to deliver efficiencies for customers.
Note Euronext's use of group revenue instead of trading revenue in its disclosure regarding MDR% in 2020 • This has been included in a footnote on pages 4 and 69.
Point out that legislation appears to wrongly assume that trading venues bear the costs of data dissemination and that there appears to be little understanding that exchanges bear fixed costs for running a trading platform. • There is a new reference to this on pages 2, 30 and 31.
Amendments to *Figure 44:* "Schematic of Price and Volume Effect on a Market" **(page 90).** • Updated labels to emphasise the importance of volume information to the pre-trade formation process.
Reinforce the point that market data fees are linked to customers' costs of production. • In re-issuing the report, we have taken the opportunity to highlight this issue with added wording on pages: 2, 3, 5, 6, 41 and 99.
Explain the how conclusion, which was that legislators should mandate that data is a by-product of trading can be achieved and how this is a definition of "Reasonable Commercial Basis". • We have taken the opportunity to explain more fully on page 100 and that this can be achieved by ensuring that exchanges only charge for their own fixed costs of production and not for the consumers' costs of production. When these charges are removed, the justification for a standalone market data business will fall away and it will become clear, as per our original conclusion, that releasing data is simply a by-product of the trading process. • We highlight on p10 and p100 that removing these charges will reduce both direct and indirect costs to the industry.

CONTACT: **Niki Beattie**

Market Structure Partners

niki.beattie@marketstructure.co.uk
www.marketstructure.co.uk

IMPORTANT DISCLAIMER: The information herein has been prepared based on information which is either publicly available or from a source which Market Structure Partners believes to be reliable at the time of publication. It may be a summary or a translation and require significant subjective interpretation, particularly in relation to exchange fee schedules and data provision clauses. MSP takes no responsibility for errors particularly those that may result from any misinterpretations of each exchange's complex and subjective fee schedules.
MSP does not, whether expressly, tacitly or implicitly, represent, warrant or in any way guarantee the accuracy or reliability of any advice, opinion, statement, or other data and information contained in, displayed on, linked to or distributed through this document.

All information, as set out in this document, is provided for information purposes only and no responsibility or liability of any kind or nature, howsoever arising (including in negligence), will be accepted by MSP, its officers, employees and agents for any errors contained in, or for any loss arising from use of, or reliance on this document. The material in this communication is intended for information purposes only. This communication should not be treated as investment, tax or legal advice by Market Structure Partners or any of its directors, officers, employees or agents.

DISCLOSURES: The original report was commissioned by multiple industry associations (Plato Partnership, EFAMA, the European Fund and Asset Management Association, BVI – German Investment Funds Association, AFME, Association for Financial Markets in Europe, FIA EPTA, European Principal Traders Association), that represent pan-European asset managers and pan-European wholesale banks, brokers and market markers. However, the views and analysis in that report and the responses to published feedback in this report are those of MSP acting independently and cannot be attributed to, and may not represent, the views or opinions of the commissioning associations, either individually or collectively.