

Prepared for FESE
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1 Introduction

There continues to be a debate regarding the costs of data in EU equity trading markets. This short note aims to set out some of the key facts about market data, with a particular focus on how exchange data revenues and fees have evolved since MiFID II and where market data fees sit within the broader financial data value chain.¹

The figures presented in this note are based on analysis of publicly available pricing schedules for market data provided by FESE members; as well as confidential information on revenues from market data and trade execution services provided by FESE members.²

Where possible, we have aimed to ensure that any fees and revenues are presented on a consistent basis over time. Where there have been changes to data packages over time, we set these out in the notes to the relevant figures. Appendix A1 provides some additional detail on the underlying methodology used.

¹ For an additional discussion on the role of market data in equity markets see Oxera (2019), '[The design of equity trading markets in Europe](#)', prepared for FESE.

² The FESE members who provided data are Bolsas y Mercados Españoles (BME), Budapest SE, Deutsche Börse, Euronext, Luxembourg SE, Nasdaq, SIX Swiss Exchange, and Wiener Börse.

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2 How have overall market data revenues evolved over time?

To understand the overall changes in the expenditure on stock exchanges' market data, it is first useful to look at the revenues that the exchanges generate from MiFID II / MiFIR market data.³ Revenues present a complete picture, capturing 1) the effect of changes in prices, 2) changes in the volume of data consumed, and 3) changes in usage patterns across users.

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.⁴

Figure 2.1 MiFID II / MiFIR market data revenues from FESE exchanges, 2018–23 (€m)



Note: See Appendix A1 for further detail on the scope of revenues included.
Source: Oxera analysis of data provided by FESE members.

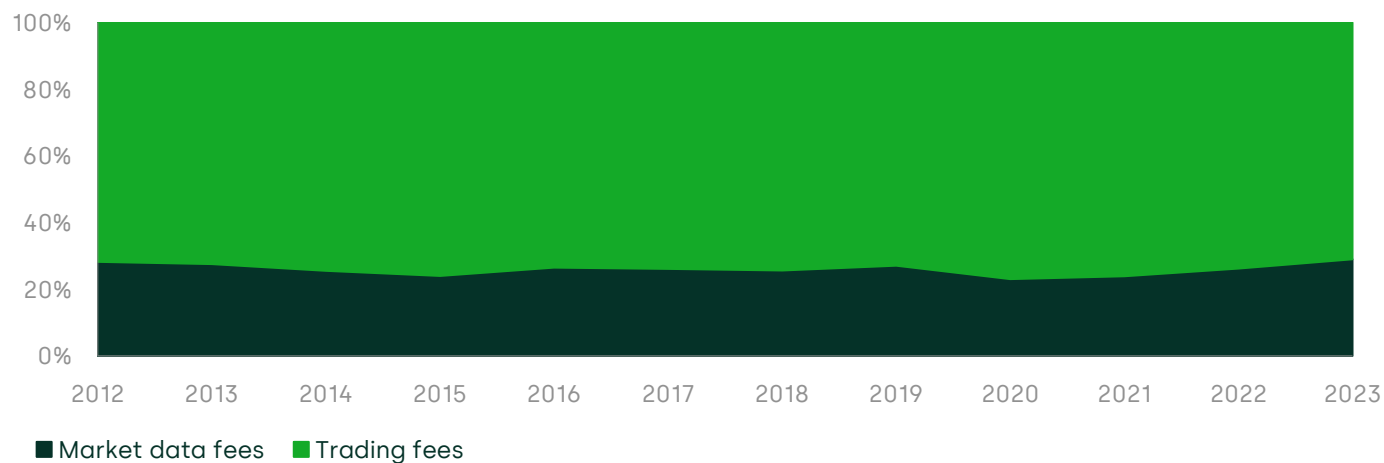
Figure 2.2 below shows that the share of joint (market data and trade execution) revenues attributable to market data has also remained

³ The focus of the analysis is on cash market data. Table A1.1 sets out the scope of revenues considered.

⁴ This is broadly consistent with average inflation in the EU over the same period, as measured by the Harmonised Index of Consumer Prices (HICP). Inflation has varied across Member States.

broadly stable over time. Across FESE member exchanges the weighted average proportion was 26% in 2018 (the year MiFID II was introduced) and 29% in 2023. In other words, the majority of exchange revenues come from trade execution.

Figure 2.2 Revenue shares from delivering equity trading and price formation, 2012–23 (weighted average of FESE exchanges)



Note: Percentage is calculated as market data revenue / (market data revenue + trade execution revenue).

Source: Oxera analysis of data provided by FESE members.

3 How have market data fees evolved over time?

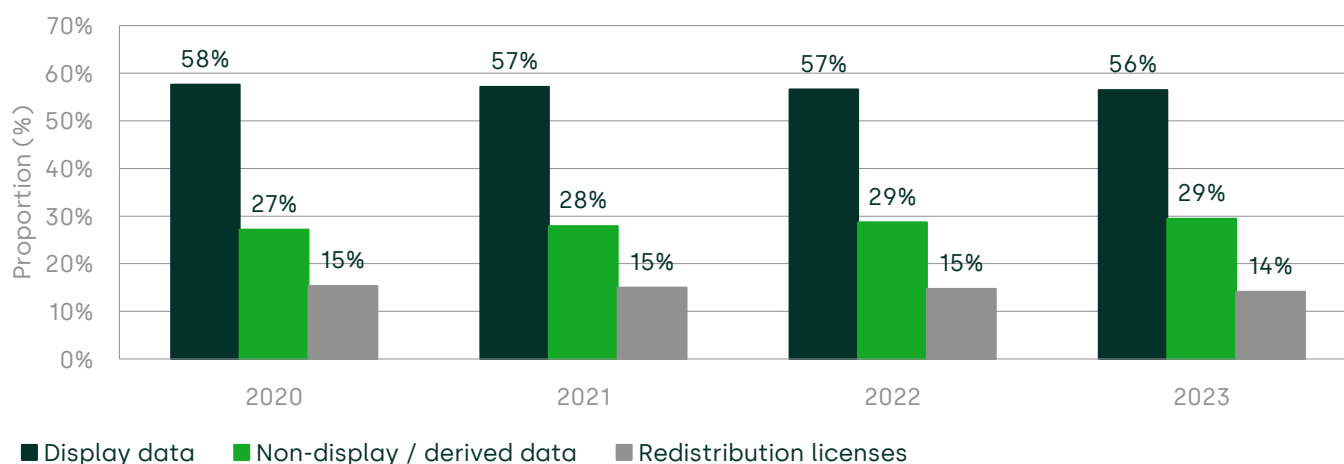
The figures above suggest that the overall price of market data (i.e. stock exchanges' MiFID II / MiFIR market data revenues) has not increased much overall.⁵ However, the overall composition of exchange market data fees may have changed over time, and there might be some specific areas where fees have increased more or less

⁵ The European Securities and Markets Authority (ESMA) drew broadly similar conclusions in its 2019 analysis, which it summarised as follows: 'while it appears that the price of market data may not have increased overall, there are some indications that in areas and for use cases where there is high demand for market data, fees have increased.' See: ESMA (2019), '[Consultation Paper: MiFID II/MiFIR review report on the development in prices for pre- and post-trade data and on the consolidated tape for equity instruments](#)', July.

significantly.⁶ In this section, we first consider the high-level composition of exchange data fees, then look specifically at trends in some of the main fees.⁷

Figure 3.1 below shows that, although there has been a slight increase in the share of revenues attributable to non-display license fees in the last few years, just under 60% of exchange market data revenues come from display licenses.

Figure 3.1 Breakdown of FESE exchange market data revenues, 2020–23



Note: Revenue breakdown provided by FESE members. Percentages are rounded to the nearest whole number.

Source: Oxera analysis of data provided by FESE members.

So, how have individual fees evolved over time? We first examine the trends in display fees for professional and retail traders over the ten years between 2014 and 2024, before turning to trends in non-display licenses and redistribution licenses.⁸ In the following analysis, we focus on the trends over time for individual exchanges. Fee levels are less comparable across exchanges due to the potential differences in the

⁶ This is particularly the case where there have been changes in usage patterns over time. For example, partly as a result of the growth of high-frequency and algorithmic trading as well as smart order routing, there has been an increase in the consumption of market data via direct and low-latency (non-display) data products for automated applications.

⁷ We have not analysed every individual fee but focus on some of the main display, non-display, and redistribution fees.

⁸ In the following analysis we have, where possible, used the last valid price list for each year. The prices for 2024 are valid as at August 2024.

scope of data sold by each exchange (e.g. size of venue, number of instruments covered, depth, and latency of data).

Figure 3.2 below shows the average annual change in per-user fees for different depths of display data.⁹ For most exchanges, display fees have increased by less than 5% per year over the last ten years (in nominal terms). Given that display licenses comprise the majority of overall exchange revenue, this is consistent with the data illustrated in Figure 2.1 above.

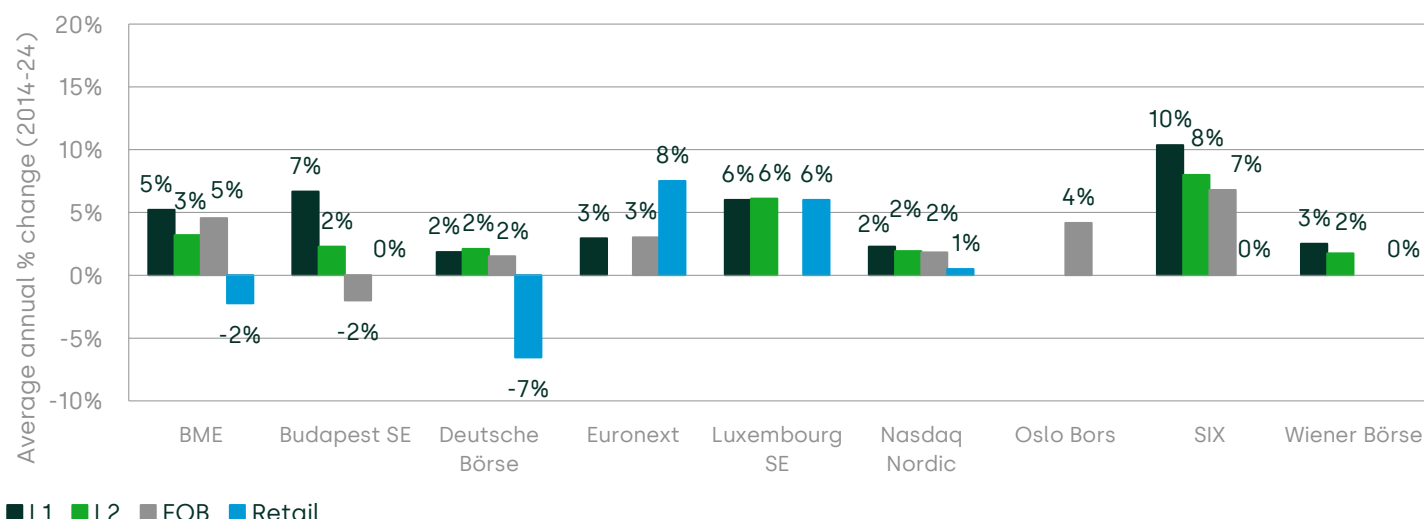
In general, where exchange fee increases have been larger, they have increased from a lower base. For example:

- the monthly fee charged for retail investors accessing level 1 data on Euronext has increased from €1 to €1.75 since 2014;¹⁰
- the monthly fee for professional investors accessing level 1 data on Budapest SE has increased from €12 (€6 for exchange members) to €20 (€10 for exchange members) since 2014.

⁹ 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.

¹⁰ 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.

Figure 3.2 Average annual price change monthly professional and retail display fees, 2014–24



Note: Euronext and Nasdaq Nordic data covers markets in multiple countries. Although our analysis focuses on the ten-year period between 2014 and 2024, the fees charged by some exchanges in 2014 may have applied for an extended period before 2014. For example, SIX adjusted its fees for display data in 2010 and these fees were unchanged until 2016. Average price changes for Deutsche Börse FOB are calculated over the period 2017–24, as the exchange did not offer the relevant license before 2017. Where exchanges do not offer a package, they are not included in the figure (e.g. Euronext do not offer a L2 package). Any non-Euro fees are converted using the exchange rate on 31 May 2024 to remove the effect of exchange rate fluctuations. For further detail on the packages used, see Appendix A1. Percentages are rounded to the nearest whole number. Source: Oxera analysis of FESE member fee schedules.

The next set of figures shows the trends in fees for non-display licenses. We first consider non-display licenses for users acting as either a principal or a broker. The data provided by FESE members shows that this license is typically the most commonly purchased category of non-display license. We then consider non-display licenses for users operating a trading platform (which are typically more expensive than the former).

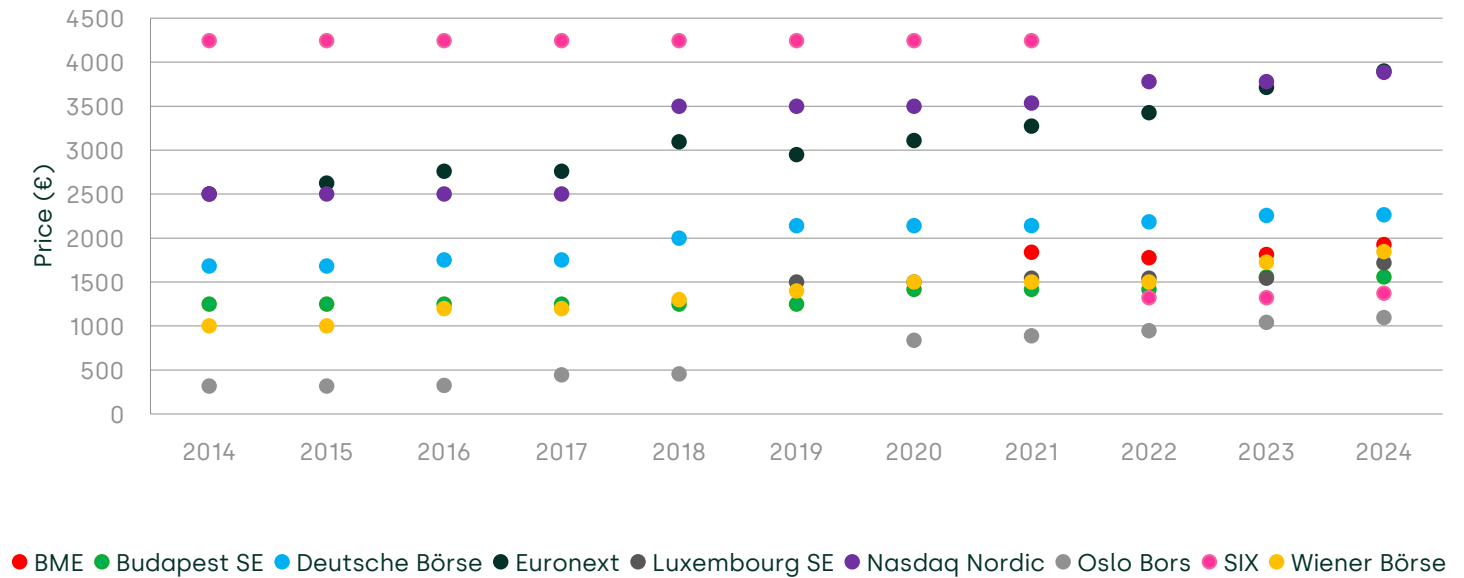
Figure 3.3 below shows the trend in non-display license fees for use in principal trading or brokerage applications.¹¹

- Some exchanges introduced fees specific to principal or broker trading over the relevant period (e.g. Wiener Börse in 2020).

¹¹ Our analysis of data provided by FESE members shows that this license is typically the most commonly purchased category of non-display license.

- For most exchanges, average annual fee increases have been between 1% and 8% across exchanges over the last ten years.¹²

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



Note: Euronext and Nasdaq Nordic data covers markets in multiple countries. Fees for BME (2021-), Euronext (2018-), Deutsche Börse (2022-), and SIX (2022-) are weighted averages based on the number of non-display licenses at each usage tier. Since 2018, Euronext has offered separate licenses for non-display trading as a principal and broker/agent trading. Data for Oslo Bors was not available for 2019. Any non-Euro fees are converted using the exchange rate on 31 May 2024 to remove the effect of exchange rate fluctuations. For further detail on the packages used, see Appendix A1. Source: Oxera analysis of FESE member fee schedules.

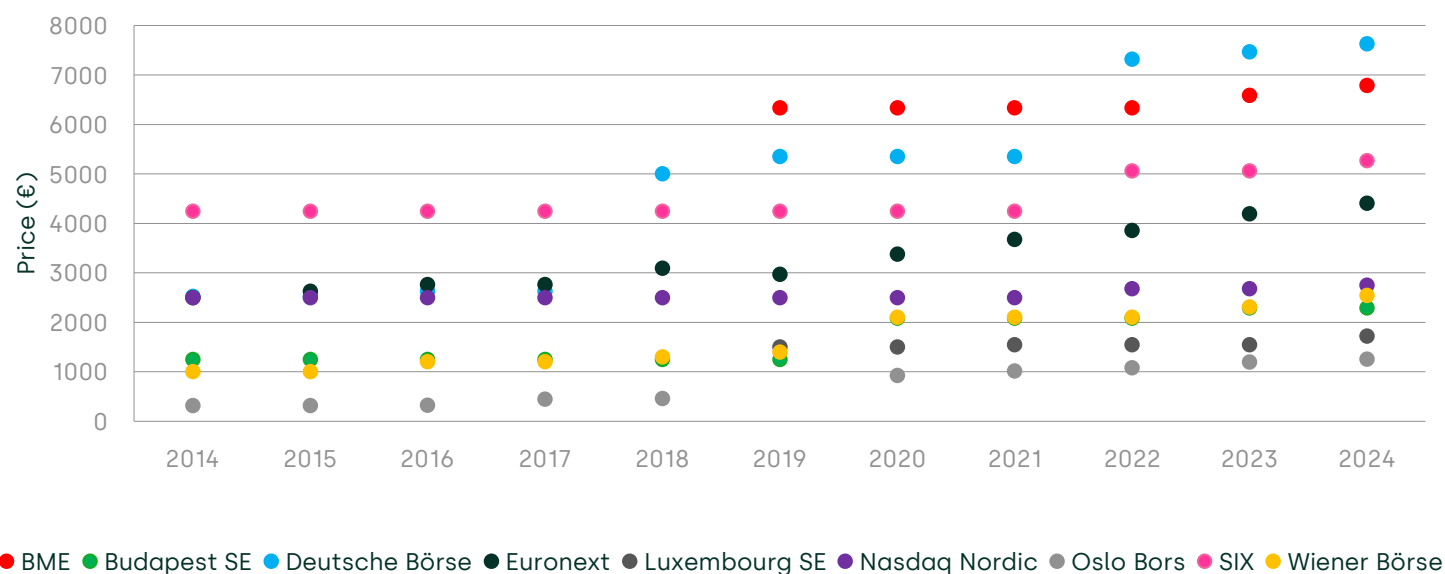
Figure 3.4 below shows the trend in non-display fees for use in a trading platform application.

- Fees for this specific use case have increased more substantially over the previous ten years in comparison to the fees described above (average annual increases range from 1–30% across exchanges). In some cases, this is because exchanges have introduced specific licenses applicable to trading platforms, that may have previously been subject to an

¹² For exchanges that have introduced fees after 2014, we calculate the average annual increase from the point when the fee was introduced.

overall non-display license fee covering different types of usage.

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



Note: Euronext and Nasdaq Nordic data covers markets in multiple countries. Fees for Euronext (2018-), Deutsche Börse (2022-), and SIX (2022-) are weighted averages based on the number of non-display licenses at each usage tier. For BME, prior to 2019, trading platform fees were on an instrument category basis so are not directly comparable. Data for Oslo Bors was not available for 2019. The trading platform fee for Deutsche Börse also provides a license to use non-display data for trading as a principal and broker. The fee for SIX covers all information products (cash markets, derivatives, and indices). In 2024, Euronext restructured its non-display fee in 2024 to apply separately for the purpose of operating a Systematic Internaliser, operating a lit order book, and operating a dark order book. Any non-Euro fees are converted using the exchange rate on 31 May 2024 to remove the effect of exchange rate fluctuations. For further detail on the packages used, see Appendix A1.

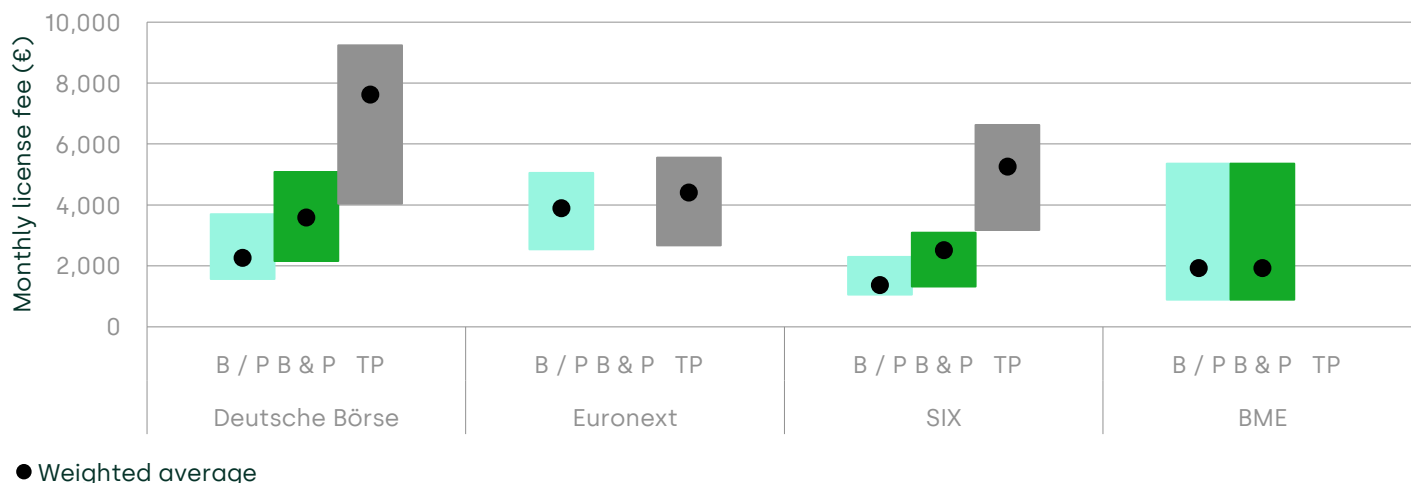
Source: Oxera analysis of FESE member fee schedules.

We also observe that, over the period considered, some exchanges have re-structured their non-display fees to replace a single non-display license per use case with a tiered fee structure that varies based on the number of non-display applications.¹³ For these exchanges, Figure 3.3 and Figure 3.4 above present a weighted average across each usage tier, while Figure 3.5 below shows the range in fees potentially paid by participants. This data also suggests that the fee structure change led

¹³ BME introduced a non-display fee for trading applications in July 2021.

to some non-display users paying more, while others ended up paying less.

Figure 3.5 Range in non-display usage fees for Deutsche Börse, Euronext, SIX, and BME in 2024



Note: 'B/P' refers to licenses covering non-display usage for brokerage or principal trading activities. 'B&P' refers to licenses covering non-display usage for both brokerage and principal trading activities. 'Trading platform' refers to licenses covering non-display usage for the purposes of operating a trading platform. Euronext data covers markets in multiple countries. Euronext does not offer license covering both brokerage and principal trading activities. Each coloured bar represents the difference between the fee based for the lowest usage tier and the highest usage tier. Weighted average fees are calculated based on the number of active licenses for each tier. Deutsche Börse splits non-display licenses into 'Entry', 'Medium', 'Plus', and 'Unlimited' usage tiers. Euronext splits non-display licenses into 'Restricted – Basic', 'Restricted – Premium', and 'Enterprise' usage tiers. SIX splits non-display licenses into 'Basic', 'Intermediate', 'Advanced', and 'Unlimited' usage tiers. BME splits non-display licenses into '1 device', '2 devices', '3 devices', '4 devices', and '≥ 5 devices'.

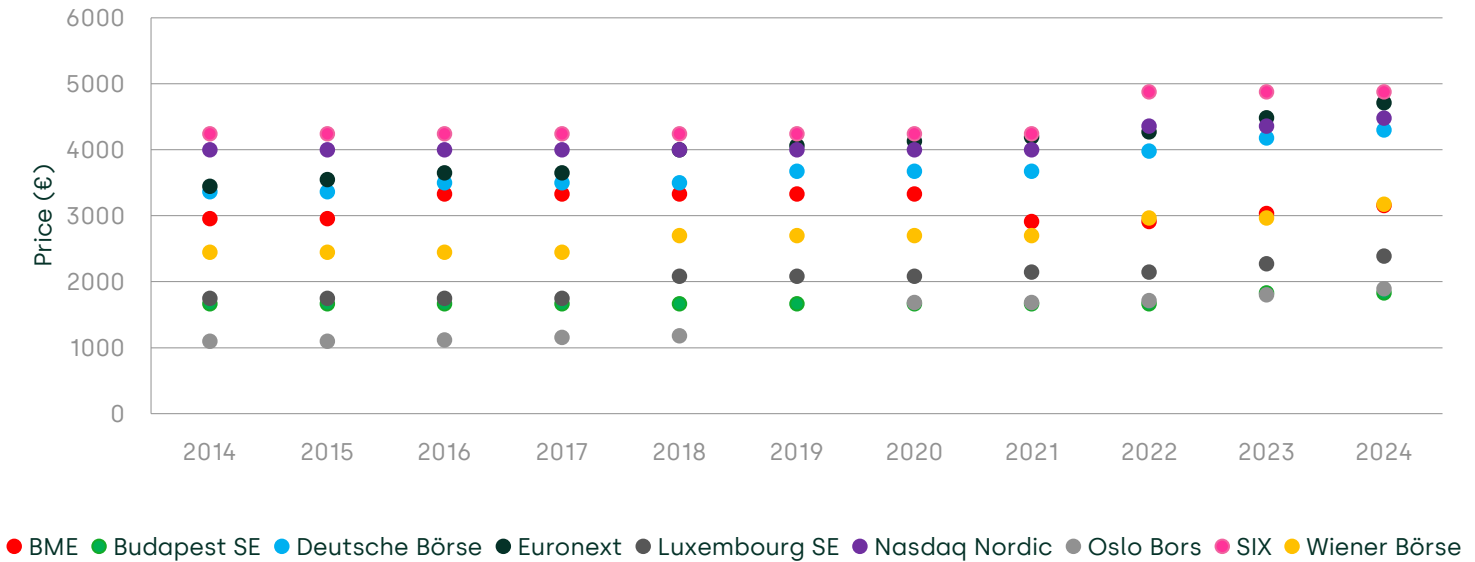
Source: Oxera analysis of FESE member fee schedules; usage data provided by FESE members.

Finally, Figure 3.6 below shows the trend in monthly license fees for the right to redistribute real-time level 2 data to professional end users. This is typically more expensive than the equivalent redistribution license fees covering delayed data, level 1 only, or post-trade only data.

- For all exchanges (with the exception of Oslo Bors) the average annual fee increases have been between 1% and 4% over the last ten years. This is broadly consistent with the overall trend in revenues we describe above.

- The slightly higher average fee increase for Oslo Bors was primarily due to a re-balancing following the acquisition by Euronext in 2019.

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



Note: Euronext and Nasdaq Nordic data covers markets in multiple countries. Any non-Euro fees are converted using the exchange rate on 31 May 2024 to remove the effect of exchange rate fluctuations. The SIX fee covers real time cash market, indices, and derivatives data. For further detail on the packages used, see Appendix A1.
Source: Oxera analysis of FESE member fee schedules.

4 Where do market data fees sit within the wider value chain?

To understand fully the impact of the price of the market data provided by stock exchanges on the functioning of the market for equity trading, it is useful to look at how these costs might affect end-investors.

From a 'top-down' perspective, we can compare the total revenues earned by stock exchanges from market data to the total market

capitalisation on those exchanges.¹⁴ Figure 4.1 below shows that market data fees as a proportion of market capitalisation have fallen slightly since 2018.

Figure 4.1 Total MiFID II / MiFIR market data revenue against total equity market capitalisation from FESE exchanges (bps)



Source: Oxera analysis of data provided by FESE members; World Federation of Exchanges; and stock exchange factbooks.

From a 'bottom-up' perspective, we can consider the significance of market data costs to end-investors by estimating the expenditure by intermediaries on market data, and comparing it to the total costs of services charged to investors.

In this context, it is important to note that intermediaries' spending on data varies considerably by firm, depending on their role in the value chain and their underlying business model. For example, analysis using 2023 data provided by a FESE member shows that the median spend for a sample of trading members of the exchange (i.e. sell-side firms) was c.€200k, compared to c.€40k for a sample of asset managers.¹⁵

¹⁴ The basis for this approach is that the end-consumers of a particular stock exchange's market data are likely to include those investors holding the market capitalisation of stocks traded on the stock exchange.

¹⁵ We received data from one FESE member on exchange data expenditure for a sample of ten large and ten small/mid-sized asset management firms. Four firms in the sample did not purchase data from the FESE member. For one of the sample firms, data for the asset management segment of the wider business was not available, so we exclude.

More broadly, when considering the overall value chain, the costs of exchange data for end-investors is relatively small.

- Empirical analysis undertaken by Oxera (based on 2019 data) found that exchange market data fees account for less than 10% and 0.5% of total sell- and buy-side data spend respectively.¹⁶
- The same analysis also found that exchange market data fees account for around 1% of the fees typically charged by a large broker, and less than 0.015% for a typical fund management firm.
- Similar analysis using 2023 data provided by a FESE member presents a broadly consistent picture, with exchange data costs accounting for around 0.02% of estimated fees for the median fund management firm sampled.¹⁷

A1 Methodological notes

Table A1.1 below sets out the scope of revenues used in the analysis. The focus of our analysis was cash market data, although some exchanges could not provide this.

¹⁶ See: Oxera (2022), ['What's the data on market data?'](#), July.

¹⁷ We received data from one FESE member on exchange data expenditure for a sample of ten large and ten small/mid-sized asset management firms. Four firms in the sample did not purchase data from the FESE member. For one of the sample firms, data for the asset management segment of the wider business was not available, so we exclude. We proxy for total spend on FESE member exchange data by scaling up each firms' expenditure. The scaling factor equals the share of total 2023 FESE member revenue attributable to the relevant exchange. We estimate fund manager revenues based on assumed fees of 0.3–1.5% AUM. A recent report by ESMA using data for the period 2017–21 estimated an average fee for equity investment funds of 1.7% and an average fee of 0.43% for equity ETFs. See: ESMA (2023), ['ESMA Market Report: Costs and Performance of EU Retail Investment Products 2023'](#), January.

Table A1.1 Scope of revenues provided to Oxera

Exchange	Scope of revenues provided to Oxera
Euronext	Cash market data for all Euronext markets (Borsa Italiana includes derivatives data).
Oslo Bors	Cash market
Deutsche Börse	Xetra and Börse Frankfurt (equity, ETF, and fixed income)
Nasdaq Nordic	Nordic equity
SIX	Cash market
BME	Cash market (equity, ETF, and fixed income)
Wiener Börse	Cash market (excludes derivatives)
Budapest SE	All market data
Luxembourg SE	All market data

Source: Oxera.

Tables A1.2-A1.4 below set out the fees from each exchange's pricing schedule that we have used in our analysis.

Our fee analysis does not include fees for Borsa Italiana due to lack of availability of historic fee schedules for the years 2014–21. This is because, prior to its acquisition by Euronext in 2021, Borsa Italiana was part of the London Stock Exchange Group, which is not a member of FESE.

Table A1.2 Display fees selected from fee schedules

Exchange	L1 display	L2 display	Full order book display	Retail
Euronext	Display Use Fees – Level 1 Professional Cash	-	Display Use Fees – Level 2 Professional Cash	Display Use Fees – Level 2 Non-Professional Cash
Oslo Bors	-	-	Display Use Fees – Level 2 - Cash	
Deutsche Börse	Professional Monthly Data Fees – Xetra Ultra Level 1 per access id	Professional Monthly Data Fees – Xetra Ultra Level 2 per access id	Professional Monthly Data Fees – Xetra Order by Order per access id	Private Monthly Data Fee – Xetra Ultra Level 1 per access id
Nasdaq Nordic	Nordic Equity monthly (business) – Level 1	Nordic Equity monthly (business) – Level 2	Nordic Equity monthly (business) – Total View	Nordic Equity monthly (non-professional) – Level 1
SIX	Exchange fees for SIX – Level 1 Data for Professionals	Exchange fees for SIX – Level 2 Data for Professionals	Exchange fees for SIX – Level 2plus/DOB Data for Professionals	Internet for non-professionals (1-500 users)
BME	Variable Fees – SIB N1+ Professional	Variable Fees – SIB N2 Professional	Variable Fees – SIB TF/FOB Professional	Variable Fees – SIB N1+ Non-professional
Wiener Börse	End User Fees – Level 1 Professional	End User Fees – Level 2 Professional	-	End User fees – Level 1 Private
Budapest SE	Monthly Variable Fees (per user/device per month) – Level 1 Professional	Monthly Variable Fees (per user/device per month) – Level 5 Professional	-	Monthly Variable Fees (per user/device per month) – Level 1 private
Luxembourg SE	Display Use Fees – Level 1	Display Use Fees – Level 2	-	Display Use Fees – Level 2

Note: All fees analysed in this note are for real time data. As far as possible, the fee names in this table reflect the terminology used in the original fee schedules. In some cases, the fee schedules do not explicitly refer to 'real time' data when presenting the fees for real time data.

Source: Oxera.

Table A1.3 Non-display fees selected from fee schedules

Exchange	Principal or brokerage	Trading platform
Euronext	2014–17: Category 1 (Trading as Principal), Euronext Cash Level 2	2014–17: Category 3 (Trading Platform), Euronext Cash Level 2
	2018–24: Category 1 (Trading as Principal), Euronext Continental Cash (Consolidated Pack) Level 2	2018–24: Category 3 (Trading Platform), Euronext Continental Cash (Consolidated Pack) Level 2
Oslo Bors	2014–18: Automated trading applications	2014–18: Automated trading applications
	2020–24: Category 1 (Trading as Principal), Oslo Bors Cash	2020–24: Category 3 (Trading Platform), Oslo Bors Cash
Deutsche Börse	2014–17: Non-display license fee (internal use), spot market Germany, Level 1/Level 2, Xetra Ultra	2014–17: Non-display license fee (external use), spot market Germany, Level 1/Level 2, Xetra Ultra
	2018–24: Non-display license fee, Tier 3 – trading as a principal or broker, Xetra Ultra	2018–24: Non-display license fee, Tier 1 – trading platform, Xetra Ultra
Nasdaq Nordic	2014–17: Nordic Equity Non-Display Trading, Order Routing, and all other Non-Display Trading [Includes Manual Intervention] - Nordic Depth Data - Direct Access or Indirect Access	2014–17: Nordic Equity Non-Display Trading, Order Routing, and all other Non-Display Trading [Includes Manual Intervention] - Nordic Depth Data - Direct Access or Indirect Access
	2018–24: Nordic Equity Category 1 Non-Display: Covers a firm's non-display trading-based activities as trading firms and for the purpose of customer business facilitation. Includes: order routing, fully automated trading, and trading with manual intervention.	2018–24: Nordic Equity Non-Display: Trading Platform Fee
SIX	2021–21: Trading application – Level 1 & Level 2 Data annual flat fee for multiple trading applications	2021–21: Trading application – Level 1 & Level 2 Data annual flat fee for multiple trading applications
	2022–24: Category 1 Trading-Based Activity, User-type 3 (Proprietary or Agency: Participants), Level 2 data	2022–24: Category 1 (Trading-Based Activity, User-type 1 (Trading Platform), Level 2 data
BME	2021–24: License Fee for Non-display Usage of Trading Applications	2019–24: Data Usage to Feed Price Formation Mechanisms of Trading Venues – Alternative Fee for Categories A, B, C, D, and E
Wiener Börse	2014–19: Vienna Non-display License Fee, Real time	2014–19: Vienna Non-display License Fee, Real time
	2020–24: Vienna Non-display Proprietary or Agent Trading, Real time	2020–24: Vienna Non-display Trading Platform, Real time
Budapest SE	2014–19: NOW – Indirect Usage of Licensee's Group - INTERNAL, Real time	2014–19: NOW – Indirect Usage of Licensee's Group - INTERNAL, Real time
	2020–24: Group NDU Trading	2020–24: Group NDU SI
Luxembourg SE	2019–24: Non-display license Level 2 (external)	2019–24: Non-display license Level 2 (external)

Note: All fees analysed in this note are for real time data. As far as possible, the fee names in this table reflect the terminology used in the original fee schedules. In some cases, the fee schedules do not explicitly refer to 'real time' data when presenting the fees for real time data.

Source: Oxera.

Table A1.4 Redistribution fees selected from fee schedules

Exchange	Fee used
Euronext	2014: Monthly license fee, Euronext Cash Level 2
	2015–18: Monthly redistribution license fee, Euronext Cash Level 2
	2018–24: Redistribution fee for real-time information, Euronext Continental Cash (Consolidated Pack) Level 2, Standard
Oslo Bors	2014–18: Real Time, License fee, Equities, Bonds, and Derivates Data. All levels of the order book, Indices (levels and volumes), News, Primary Insiders, Top20.
	2020–24: Redistribution fee for real-time information, Oslo Bors Equities, Standard
Deutsche Börse	2014–17: Distribution license fee, Realtime Levels 1/2, Xetra Ultra
	2018–21: Distribution license fee, Standard fee, Realtime, Xetra Ultra
	2022–24: Onward dissemination, Standard distribution license fee, Realtime, Xetra Ultra
Nasdaq Nordic	2014–18: Nordic Equities Distributor Levels 1 & 2
	2019–23: Nordic Equity Distributor – Business
	2024: Customer Category 1: External Distributor, Nordic Equity, Professional Distribution
SIX	2014–24: Base fees, Distribution Fee, Exchange market data for vendors/subvendors, real-time (including cash markets, index, and derivatives data)
BME	2014–24: Distribution and Usage of the Licensed Data Fee, Distribution License Fee (Annual), SIB N2
Wiener Börse	2014–24: License Fees, Standard Products, Vienna, Cash Market + Structured Products Level 2, real time
Budapest SE	2014–19: Annual License Fees, Level 5 Package
	2020–24: Group NDU Trading
Luxembourg SE	2014–17: Dissemination License Fees, Annual Fees, Market Data License, Real-time
	2018–24: Redistribution fees (real-time), Market Data, Pre-Trade Level 2

Note: All fees analysed in this note are for real time data. As far as possible, the fee names in this table reflect the terminology used in the original fee schedules. In some cases, the fee schedules do not explicitly refer to 'real time' data when presenting the fees for real time data.

Source: Oxera.