Consumer Access to EU Equity Trade Data

A BETTER FINANCE Research & Policy Paper



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The European Federation of Investors and Financial Services Users Fédération Européenne des Épargnants et Usagers des Services Financiers



Consumer Access to EU Equity Trade Data

DISCLAIMER

The scope of this research is limited to the public and free websites (if any and as available up until 22 March 2021, 17:30 CET) of the top four EU equity markets and of the top two EU-based regulated equity markets (RMs), according to the ESMA Annual Statistical Report of November 2020. In addition, it is also limited to sampled listed equities issued by companies domiciled in the EU-27.

EXECUTIVE SUMMARY

EU policies on equity markets have been detrimental to EU individual non-professional investors¹ and SMEs

EU Law

The Markets in Financial Instruments Directive and Regulation (MiFID II and MiFIR) require that trading venues make pre- and post-trade data publicly available and free of charge with a maximum 15-minute delay. Following ESMA's Q&A on market data, trading venues are expected to make this trade data available in an easily accessible manner for all potential users using a format that can be easily read, used and copied. Pre- and post-trade data must include the price of bid/ask and trade quotes, their timestamp and their "depth" (volume). Trading venues are not allowed to employ practices that circumvent this obligation, such as (but not limited to) imposing restrictions on accessing data, publishing data in non-readable formats, requiring search queries or deleting the data shortly after publication.

Extreme
Equity Trading
Fragmentation
to the benefit
of markets
unknown to
retail investors

The successive entry into force of the MiFID I (in 2007) and MiFID II (in 2018) has led to an extreme fragmentation of equity trading in the EU and a massive migration to opaque, non-transparent venues ("dark" venues and Systematic Internalisers - SIs).² In 2019, the second-largest equity market³ in the EU was a US-based SI, while **the total number of SIs has increased 15-fold since MiFID II's entry into force**.

¹ Referred to as "retail" investors in EU Law (MiFID II).

² According to MiFID II, a systematic internaliser is "an investment firm which, on an organised, frequent systematic and substantial basis, deals on own account when executing client orders outside a regulated market, an MTF or an OTF without operating a multilateral system" – Art. 4(1)(20) MiFID II; for a graphical explanation, see BaFin's infographic on Sis:

https://www.bafin.de/SharedDocs/Veroeffentlichungen/EN/Fachartikel/2017/fa bj 1704 Internalisierung en.html.

³ Throughout this paper the concept "EU equity market" is used with the meaning of the ESMA definition, which includes both trading venues and systematic internalisers – see ESMA Annual Statistical Report on EU Securities Markets (18 November 2020), ESMA-50-165-2020, pp. 10 and 51, available at: https://www.esma.europa.eu/sites/default/files/library/esma50-165-1355 mifid asr.pdf.



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Marked deterioration of trade data access & transparency for retail investors ESMA found that, among 77 entities required to report delayed trade data, many seem not to have been fully compliant with the law. What is worse, the largest equity markets in the EU are now non-EU-based operators, probably unknown to most retail investors, and which are less transparent and user-friendly towards non-professional investors than the EU-based Regulated Markets (RMs), which are down to only 18%⁴ of total equity trades: BETTER FINANCE has found that the trade data are much less — or not at all — accessible for retail investors on the public websites⁵ (if any) of the new EU equity market leaders than on the main EU-based RMs. Based on these findings, largest and non-EU-based equity markets do not seem to meet the EU regulatory standards regarding trade data transparency and access for non-professional investors.⁶

		MARK	CET DATA TRA	NSPARENCY / A	ACCESS FOR "I	RETAIL" INVEST	ORS
		1 CBOE Europe	2 Goldman Sachs SI	3 London Stock Exchange (LSE)		S XETRA (Deutsche Börse)	6 Euronext Paris
Restriction-free access	Pre-trade data (best bid & ask quotes) Post-trade data	~	*	~	*	~	~
access	(trade quotes)	×	×	~	×	/	~
Easily accessible	Pre-trade data (best bid & ask quotes)	×	×	×	×	~	/
	Post-trade data (trade quotes)	×	×	✓	×	✓	/
	Pre-trade data (best bid & ask quotes)	×	×	×	×	~	~
and usable format	(trade quotes)	×	×	✓	×	✓	/
Understandable	Pre-trade data (best bid & ask quotes)	×	×	~	×	~	~
language	Post-trade data (trade quotes)	×	×	~	×	✓	/
Timely (≤ 15	Pre-trade data (best bid & ask quotes)	?	×	?	?	~	~
minutes)	Post-trade data (trade quotes)	?	×	?	?	✓	~
Complete	Pre-trade data (best bid & ask quotes)	~	×	×	?	~	/
information	Post-trade data (trade quotes)	~	×	?	?	/	~

Please see Access Rating Methodology (p. 23-24 of the BETTER FINANCE "Consumer Access to EU Equity Trade Data" report)
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⁴ The actual figure published by ESMA in its Annual Statistical Report on Securities Markets (November 2020) specifies 26%, but the London Stock Exchange (which was excluded as it is no longer an "EU-based" RM) was worth 7%, thus the figure for "EU-based" lit markets is 18%.

⁵ <u>MB:</u> BETTER FINANCE did not verify compliance with or breach of EU or national law, and our statements should not be construed as such.

⁶ Those standards are not applicable for SIs.



Other possible detriment to consumers and SMEs

The easily and freely accessible, transparent and consumer-friendly EU-based regulated markets account for only 18% of total equity transactions (2019). This recent evolution raises other serious questions for consumers and SMEs:

- These market venues are the ones that provide an extremely valuable funding service to the EU economy: primary and secondary market services for SMEs and innovating companies (small- and mid-caps). These markets are more challenging to operate and trade volumes and liquidity are much lower. BETTER FINANCE asks public authorities to determine the respective activity of the now other dominant equity markets, which seem to mainly thrive on the "blue chips" (big capitalisation) secondary market transactions, and leaving most of the less profitable SME primary and secondary markets to the shrinking and now much smaller EU-based RMs;
- The SME equity markets (primary and secondary) are also the ones where non-professional investors are most active: their share of small and mid-cap markets is about twice that of large caps ones, meaning they are less risk averse than the professional funds and play a more important role on these crucial markets for the recovery and development of the EU economy;
- Also, the extreme fragmentation of EU equity markets and the now very minority role played by EU-based RMs seems to have also facilitated the significant rise of practices such as payment for order flows (PFOF), practices that target non-professional trades and are very detrimental to consumers.
- EU equity markets have also been confronted with a lot of delistings, share buy-backs and more recently with the floatation of "SPACs".⁷
 All these recent developments suggest that insider investors are being favoured over retail and other non-insider ones.

Lastly, all the above findings make BETTER FINANCE raise the issue of the level playing field among EU equity markets, along with fair competition in these digital markets used by consumers.

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⁷ SPAC stands for "Special Purpose Acquisition Company", also referred as "blank check company". By acting as a shell corporation that has no commercial operations, its purpose is to acquire an existing company by raising capital through an initial public offering (IPO). Therefore, SPACs offer a faster and simpler way to achieve public listing than the traditional IPO option. A SPAC can be composed of a variety of stakeholders, ranging from leading private equity funds to the general public.



POLICY RECOMMENDATIONS

1. Extend the rule on "fair, clear, and not misleading" information to trading venues and other equity markets

Currently, the rule obliging finance professionals ("investment firms") to provide clients with information that is "fair, clear, and not misleading" does not apply to operators of trading venues or systematic internalisers in the EU.

In light of the EU policy initiatives to bring more EU households – such as non-professional investors – to capital markets and invest directly in the EU economy, **ensuring** that **this rule is observed** by finance professionals in any interaction with "retail" investors **is key**.

Therefore, we recommend EU policy authorities to consider the following two amendments to MiFID II and one to MiFIR:

- add "market operators" in the scope of Art. 24(3) MiFID II: "All information, including marketing communications, addressed by the investment firm or market operator to clients or potential clients and participants or users shall be fair, clear and not misleading";
- eliminate the exemption under Art. 19(4) MiFID II for MTFs to abide by the rules of Art. 24 MiFID II (*General principles and information to clients*);
- add a provision on providing "fair, clear, and not misleading information" to Arts. 3 and 6 (pre- and post-trade transparency rules) in MiFIR.

2. Immediately enforce trade transparency obligations to all equity market venues, in particular on their public websites.

We recommend ESMA, in collaboration with national competent authorities, to take supervisory action by assessing and enforcing trade transparency obligations with all equity markets (Regulated Markets, Multilateral Trading Facilities, and Organised Trading Facilities). Authorities shall ensure that basic rules for delayed market data (max. 15 minutes, freely accessible, user-friendly, etc.,), and that all the MiFID II, MiFIR, the Level 2 and 3 rules – such as the ESMA Q&As in this sense – are respected by all equity market venues, focusing on the largest ones, especially regarding electronic access to pre- and post-trade data on the public websites.

3. Ensure a high standard of access and transparency of market data to nonprofessional investors for all EU equity markets

Impose the same market data disclosure standards to the public websites of **all EU equity** markets that are involved directly or indirectly in "retail" orders and trades: the standards of EU Law, of ESMA Q&As and those that individual investors enjoy from the EU-based RMs:

- Free post-trade data within 15 minutes;
- disclosing at least the most recent best five ask and best five bid orders;
- most importantly: **data access should be free, not restricted in any way** (for example by requesting the disclosure of personal data such as email address, and/or a prerequisite registration), easily and quickly accessible on the internet in a format that is user-friendly and clear (intelligible), in particular accessible by keying in the company name or at least by keying in the ISIN code of the listed companies.



Market operators not complying with these rules (and at the very least with the existing ones regarding non-professional investors) should not be allowed to get any "retail" orders, directly or indirectly.

4. Ban payments for order flows

Recently, a professional vs. individual investor stand-off over equity trading brought to light another issue for retail investments: conflicts of interests arising from the payment for order flows.⁸ In short, the payment for order flow (PFOF) is a practice by which a broker is remunerated by a market maker (usually a systematic internaliser – SI) for routing trading orders to be executed on its platform. If the platform is not subject to trade transparency and non-discriminatory rules, the market maker can use this retail pre-trade information to trade on its own account to derive a profit from the spread – or otherwise from other disguised arrangements (such as marketing costs).

In our view, such practice gives rise to two concerns: first, it's a deviation from the broker's best execution obligation towards its clients as it may happen that trades are executed at a sub-optimal price for retail clients, or with a delay or not executed at all; second, it creates a conflict of interest between brokers' duties to their clients and vis-à-vis third parties.

EU Authorities should conduct independent research to determine the role that the development of such practices may have played in the collapse of share of trading of the "lit" EU-based equity markets.

5. Harmonise EU law across equity markets and ensure fair competition

EU policies and regulation on market infrastructures should not be enacted in isolation ("silo approach") from the other services rendered (or not) by EU equity markets' operators, in particular:

- the preservation of transparent trading venues for citizens, which have become a small part of EU equity markets;
- the price formation capacity: last winter's tensions on equity markets laid bare a flight to "quality", i.e. to the price formation, transparent EU-headquartered RMs, which happens to be also by far the most retail investor-friendly market venues;
- the actual role of the different equity markets in real economy financing, in particular SME financing: both primary and secondary market services for small and mid-caps.

In addition, the European Commission (EC) and the European Securities and Markets Authority (ESMA) should investigate as soon as possible (for the MiFID II Review of this year) the respective roles of "institutional" and of non-professional investors in listed SME markets (primary and secondary).

Lastly the European Commission (DG Competition and DG FISMA, and possibly DG Connect, DG Justice & Consumers and DG Grow) should ensure a level-playing field and fair competition between all EU equity markets, taking into account services rendered to consumers, to SMEs and innovating companies and to the real economy in general.

⁸ See BETTER FINANCE's Press Release "GameStop Case Highlights Discrimination of 'Retail' Investors in Stock Markets" (4 March 2021) BETTER FINANCE, available at: https://betterfinance.eu/wp-content/uploads/PR-GameStop-highlights-Discrimination-of-Non-professional-Investors-in-Stock-Markets-04032021.pdf.



6. Consolidated Tape: What For?

The extreme EU equity market fragmentation and the current poor or lacking accessibility and transparency of market data for consumers will make any consolidation challenging and probably costly: consumers should not bear the costs of such a project unless its benefits to them and to SMEs and to the EU economy outweigh the cost.

More generally, the High-Level Forum on the Future of the Capital Markets Union recommended to the EC and EU co-legislators to undertake a comprehensive assessment on how such a consolidated tape would improve the liquidity and capital flows in the EU.

Also, any "tape" consolidation should come only after all the equity markets involved directly or indirectly in "retail" orders and trade fully comply with EU law on "retail" access and transparency of trade data.

7. End the systematic internaliser "wild west"

From a mere 14 SIs (in total!) registered in the EU before the entry into force of MiFID II, the number of SIs grew by the end of 2019 to 216. The Double Volume Cap (DVC) for reference prices was inefficient in countering the proliferation of SIs: the monthly volume of equity trades occurring on these opaque, non-transparent markets reached 49% of the total volume in 2019.

BETTER FINANCE firstly recommends banning "retail" trading (incl. routing) to dark venues and SIs if such markets do not abide to the same standards of transparency as "lit" markets do.

Second, as indicated in our response to ESMA's <u>public consultation on the transparency regime</u> for equity and equity-like instruments, we recommend EU authorities to exceptionally allow SI trading (and the reporting waiver) based on a high Large-in-Scale (LIS) factor. We believe that this would disincentivise SI creation for average trades, bring back most of equity and equity-like instruments on regulated trading venues, and address the issue of opaque, non-transparent markets created.

8. BETTER FINANCE recommends that the EU Authorities conduct independent research

The European Commission and/or ESMA should investigate

- a. the respective roles of the leading EU equity markets, and of "retail" and professional investors in small and mid-caps primary and secondary markets
- b. the impacts on retail investors and on other non-insider investors of the recent development of de-listings, of share buybacks and of SPACs.



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About BETTER FINANCE

BETTER FINANCE, the European Federation of Investors and Financial Services Users, is the public interest non-governmental organisation advocating and defending the interests of European citizens as financial services users at the European level to lawmakers and the public in order to promote research, information and training on investments, savings and personal finances. It is the one and only European-level organisation solely dedicated to the representation of individual investors, savers and other financial services users.

BETTER FINANCE acts as an independent financial expertise and advocacy centre to the direct benefit of European financial services users. Since the BETTER FINANCE constituency includes individual and small shareholders, fund and retail investors, savers, pension fund participants, life insurance policy holders, borrowers, and other stakeholders who are independent from the financial industry, it has the best interests of all European citizens at heart. As such its activities are supported by the European Union since 2012.



Key acronyms and terms

Equity markets / trading facilities	These two terms, used interchangeably throughout the report, designate both trading venues (RMs, MTFs, and OTFs) and systematic internalisers (SIs); according to MiFID II, there is a legal distinction between trading venues and SIs.
"Lit" market	A trading venue or facility that – voluntarily or pursuant to legal obligations – discloses and published trade information (such as pre- and post-trade data, see below); it is not a legal concept (in EU law) and it is mostly used in connection to regulated markets ('RMs', and relevant 'MTFs', see below).
MiFID II	The second <u>Markets in Financial Instruments Directive</u> (entered into force on 1 January 2018) is the main piece of EU financial legislation laying down the organisational, conduct of business and investor protection rules for investment firms and trading venues.
MiFIR	The Markets in Financial Instruments Regulation (entered into force on 1 January 2019) accompanies MiFID II and lays down additional, directly applicable, rules concerning trade transparency rules for trading venues in the EU.
MTF	Multilateral Trading Facility, which is very similar to an RM (below) but it differs in that it can be operated by both an investment firm (as an investment service to clients) and by a market operators. In addition, Initial Public Offerings cannot be done through an MTF. The official definition of an MTF is "a multilateral system, operated by an investment firm or a market operator, which brings together multiple third party buying and selling interests in financial instruments – in the system and in accordance with non-discretionary rules – in a way that results in a contract in accordance with Title II of this Directive" – Art. 4(1)(22) MiFID II.
PFOF	Payment for Order Flow, which is "the practice of wholesale market makers paying brokers (typically retail brokers) for their clients' order flow. By acquiring order flow in this way, market makers are able to trade profitably against client orders (on average) while clients may benefit from reduced trading costs because the commissions retail brokers charge may be subsidized by the payments they receive from wholesale market makers".
Pre-trade data	It refers to information about the volume, price, and time of the offers (orders) to buy (bid) or sell (ask) securities – according to Art. 3(1) MiFIR; it is called "pretrade" because such information precedes the execution of a trade; ESMA refers to pre-trade transparency as "the obligation for market operators and investment firms operating a trading venue to make public current bid and offer prices, as well as the depth of trading interests at those prices which are advertised through their systems for financial instruments traded on a trading venue". 10
Post-trade data	It refers to information about the volume, price, and time at which a trade has been executed – according to Art. 6(1) MiFIR; it is called "post-trade" because such information is published after a trade was executed; ESMA refers to post-trade transparency as "the obligation for market operators and investment firms operating a trading venue to make public the price, volume and time of the transactions executed in respect to financial instruments traded on a trading venue as close to real time as is technically possible". 11

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⁹ CFA Institute, "Payment for Order Flow: Internalisation, Retail Trading, Trade-Through Protection, and Implications for Market Structure" (July 2016) Policy Brief, p. 2, available at: https://www.cfainstitute.org/-/media/documents/issue-brief/payment-for-order-flow.ashx.

¹⁰ ESMA Annual Statistical Report on Securities Markets (2020), p. 64, available at:

https://www.esma.europa.eu/sites/default/files/library/esma50-165-1355_mifid_asr.pdf.



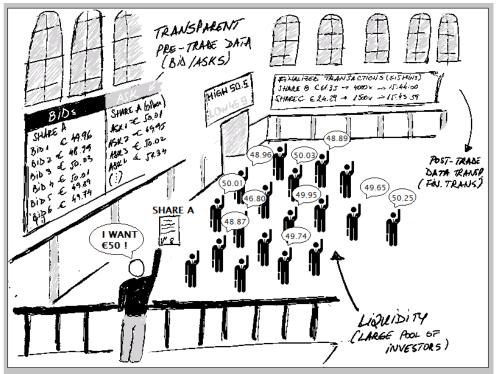
RM	Regulated market, which is the traditional venue where investors buy and sell securities (shares, bonds, etc.). The official definition of an RM is that of "a multilateral system operated and/or managed by a market operator, which brings together or facilitates the bringing together of multiple third party buying and selling interests in financial instruments – in the system and in accordance with its non-discretionary rules – in a way that results in a contract, in respect of the financial instruments admitted to trading under its rules and/or systems, and which is authorised and functions regularly and in accordance with Title III of this Directive".
SI	Systematic internaliser, which is a facility organised and managed by an investment firm where it trades, on its own account, with buyers and sellers of securities; the official definition is that of "an investment firm which, on an organised, frequent systematic and substantial basis, deals on own account when executing client orders outside a regulated market, an MTF or an OTF without operating a multilateral system" (Art. 4(1)(20) MiFID II).
Trading venues	According to EU law (Art. 4 of MiFID II, see above), trading venues are regulated markets (RMs), multilateral trading facilities (MTFs) and organised trading facilities (OTFs); however, securities trading can also take place privately (overthe-counter) or on systematic internalisers (SIs).



INTRODUCTION

BACKGROUND

Transparent and consolidated trading venues are the foundation of efficient capital markets for individual investors, small- and medium-sized enterprises (SMEs) and the economy as a whole. From a retail investors' point of view, securities exchanges enable them to securely and rapidly sell or buy an asset at a <u>fair price</u> by connecting them with a very large and diversified pool of investors (liquidity) wishing to buy or sell an asset. This is called "price formation" and it results from the publicity of pre- and post-trade data in real time, or as close as possible to real time.



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Securities exchanges (such as stock markets) went almost fully digital and can be accessed from anywhere around the world via their webpages. Unfortunately, the increasing fragmentation and reduction in trade data transparency have steered EU capital markets more towards "dark pools", where the essential functions of trade transparency and price formation are hampered.¹²

EU Authorities rightfully promote "a Capital Markets Union for people and businesses". However, equity markets in Europe are far from being "unionised" and – more concerning – are less and less helping EU citizens as individual, non-professional investors and EU SMEs who need capital to grow, innovate and create jobs.

¹² For a more elaborate explanation on the functions and benefits of equity markets, see Oxera, " (March 2019) prepared for Federation of European Securities Exchanges, pp. 14-35, available at: https://fese.eu/app/uploads/2019/03/190321-The-design-of-equity-trading-markets-in-Europe-full-report.pdf.

¹³ See the European Commission's webpage https://ec.europa.eu/info/publications/200924-capital-markets-union-action-plan_en.

Since the entry into force of the Markets in Financial Instruments Directive (MiFID I, in 2007) and then of the revised Markets in Financial Instruments Directive (MiFID II, in 2018), **the transparent EU-based regulated markets** – which not only act as secondary markets but are also the ones that provide primary market services (initial public offerings) to SMEs and to investors – **have seen their share of European equity trading declining from about 70% to only about 18% by 2019¹⁴**.

The much less transparent and much less individual investor-friendly non-EU-based market venues have been the beneficiaries of this decline.

This paper analyses this evolution and how detrimental it has been for EU citizens as investors and for EU SMEs. It then proposes key policy recommendations to address these detriments.

VISUAL GLOSSARY

Pre-trade data: before a security (e.g. a share in a company) is traded, a seller offers it on the exchange for a certain price, which will appear in the electronic order book of the exchange as the **ask** quote; investors offer to buy the same share for a certain price, which will appear in the system as the **bid** quotes. Generally, there are many shareholders and investors registering their intent to sell or buy shares in the same company at different **prices**, **times** and **volumes**, reason why the system will gather, sort, and display them in the **bid/ask list**, which is what EU law calls "pre-trade data".

Table 1. Example of pre-trade data on an electronic order book

Sellers	Time	# of shares	Ask price	Bid Price	# of shares	Time	Buyers
Shareholder 1	14:51:25	105	€35.03	€35.015	279	14:51:25	Investor 10
Shareholder 3	14:50:37	390	€35.035	€35.01	230	14:50:37	Investor 5
Shareholder 7	14:51:14	1,352	€35.04	€35.005	619	14:51:14	Investor 8
Shareholder 2	14:51:22	879	€35.045	€35.00	754	14:51:22	Investor 3
Shareholder 9	14:50:05	2,943	€35.05	€34.995	849	14:50:05	Investor 1
Shareholder 4	14:49:55	328	€35.055	€34.99	784	14:49:55	Investor 9
Shareholder 6	14:51:35	1,337	€35.06	€34.985	441	14:51:35	Investor 4
Shareholder 5	14:51:03	759	€35.065	€34.98	1,128	14:51:03	Investor 6
Shareholder 8	14:50:55	1,931	€35.07	€34.975	1,465	14:50:55	Investor 7
Shareholder 10	14:50:48	761	€35.075	€34.97	1,352	14:50:48	Investor 2

^{*}The latest data is published with a delay of 6 minutes

Source: BETTER FINANCE own composition based on real examples, 2021

Post-trade data: closely supervised and based on transparent, non-discriminatory and objective rules, the system will match sell and buy orders resulting in a trade, which will be recorded in the system with the new timestamp, the volume and the exact price traded. The list of trades published by the electronic order book is what EU law calls "post-trade data".

Table 2. Example of post-trade data on an electronic order book					
Time	Price per share	Volume (# of shares)			
15:06:35	€35.06	1,256			
15:06:25	€35.054	490			
15:06:22	€35.067	874			
15:06:14	€35.07	1,875			
15:05:55	€35.044	980			
Source: BETTER FINANCE own composition, 2021					

¹⁴ As mentioned in our Executive Summary, this total excluded the component of The London Stock Exchange (LSE RM).



"Lit" markets vs. "dark pools". There are two types of securities exchanges: those that are fully transparent and disclose all information, e.g. how many securities are traded, how many sellers/buyers are involved, what volumes and prices are quoted (to say, work with "all lights on", thus "lit markets") and those that are opaque, non-transparent, and generally disclose little to no information on the trading activity taking place. In EU Law jargon, "lit" markets are regulated markets (RM), multilateral and organised trading facilities (MTF/OTF), as opposed to systematic internalisers (SIs), over-the-counter (OTC) and private trades.

EU LAW

EU law (MiFIR¹⁵ and MiFID II¹⁶) obliges "lit" markets to disclose pre- and post-trade data on their websites, publicly available, free of charge and separated (Art. 12 MiFIR); however, there are certain limitations.

15-minute delay for free data. Pre-trade data (bid/ask orders) shall be made publicly available on a continuous basis, during trading hours (Art. 3(1) MiFIR) and free of charge within 15 minutes after publication (Art. 13(1) MiFIR). Post-trade data must be made public "as close to real time as is technically possible" (Art. 6(1) MiFIR) and free of charge within 15 minutes after publication, ensuring "non-discriminatory access" to the public (Art. 13(1) MiFIR).

Two <u>important clarifications</u> are made by ESMA in its Q&As of 2020 on MiFID II and MiFIR Transparency topics¹⁷

- a) the pre- and post-trade data "must be made directly available to end users" (Q9, pt. a);
- b) the pre- and post-trade data must be made available "in an easily accessible manner for all potential users using a format that can be easily read, used and copied" (Q10).

Systematic Internalisers. The only equity market excepted from this general trade transparency obligation are systematic internalisers (SIs). SIs are required to make public only "firm quote" data (Art. 14(1) MiFIR) <u>only for clients</u> and only where exists "a liquid market", without any limitation in terms of completeness, timeliness, or other factors. In other words, an SI is free to decide any and all aspects of access to data on its platform.

Moreover, even for clients Art. 17(1) of MiFIR provides an exception: an SI is allowed to decide to which of its clients it gives quote access pursuant to "their commercial policy and in an objective non-discriminatory way", based on "clear standards governing access to their quotes".

Practices designed to circumvent publication obligations. Some venues are very transparent and incorporate easy to find, accessible, user-friendly and expanded data formats free of charge, while others simply endeavour to tick a legal box and focus on subscription services; or so it may seem.

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¹⁵ Markets in Financial Instruments Regulation, i.e. Regulation (EU) No 600/2014 of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Regulation (EU) No 648/2012, ELI: http://data.europa.eu/eli/reg/2014/600/2020-03-26

¹⁶ Markets in Financial Instruments Directive, i.e. Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU (recast), ELI: http://data.europa.eu/eli/dir/2014/65/2020-03-26.

¹⁷ European Securities and Markets Authority, "Questions and Answers on MiFID and MiFIR Transparency Topics" (8 July 2020) ESMA70-872942901-35, available at: https://www.esma.europa.eu/sites/default/files/library/esma70-872942901-35 gas transparency issues.pdf (hereinafter "ESMA Q&As").

The ESMA Q&As further clarified that "any practice designed to circumvent the provisions [explained above] (...) is not compatible with the requirement to make data available free of charge". Among the examples of practices considered to circumvent this obligation, ESMA specified that trading venues should "make clear instructions on how and where to access the data (...) in a format that can be understood by the reader". 19

"Fair, clear, and not misleading" information. At EU level, the "retail" investor protection framework rests on two main pillars, i.e. the obligations of investment firms to:

- (1) "act honestly, fairly and professionally in accordance with the best interests of its clients" (Art. 24(1) MiFID II), and
- (2) provide information that is "fair, clear, and not misleading" to clients or potential clients (Art. 24(3) MiFID II).

These two cornerstone rules are elaborated throughout MiFID II, MiFIR, and the subsequent levels of legislation and apply to investment firms whenever providing investment services for clients or potential clients **with one exception**: trading venues.

BETTER FINANCE's analysis shows that no operator of EU equity markets (RMs, MTFs or SIs) is bound by these obligations. First, regulated markets can be set up and operated only by "market operators" (Art. 4(1)(18) MiFID II), thus falling out of the personal scope of Art. 24 MiFID II, which refers only to "investment firms" (Art. 4(1)(1) MiFID II).

Second, MTFs – which can also be operated by investment firms (Art. 4(1)(22) MiFID II) – are specifically exempted from the provisions of Arts. 24 and 25:

Art. 19(4) MiFID II: "Articles 24, 25 (...) are not applicable to the transactions concluded (...) between the MTF and its members or participants in relation to the use of the MTF".

Best execution. Investment firms, when receiving and executing orders on behalf of clients (regardless of whether the execution is done directly or through intermediaries) are bound by the obligation to "execute orders on terms most favourable to the client" (Art. 27 MiFID II). This is commonly referred to as the duty of best execution. This provision is significantly relevant for the topics of "retail" trading and payments for order flows (PFOF).

Thus, investment firms executing trading orders must "take all sufficient steps (...) to <u>obtain</u> the best possible result for their clients" (Art. 27(1) MiFID II, emphasis added). In determining what is the best possible result for retail clients, MiFID II prescribes the "total consideration" to be taken into account, comprising the price and execution costs, which include "all expenses incurred by the client which are directly relating to the execution of the order, including execution venue fees, clearing and settlement fees and any other fees paid to third parties involved in the execution of the order".

However, paragraph (2) comprises a prohibition for investment firms to receive "any remuneration, discount or non-monetary benefit for routing client orders to a particular trading venue or execution venue which would infringe the requirements on conflicts of interest or inducements set out in paragraph 1 of this Article [27] and Article 16(3) and Articles 23 and 24" of MiFID II. The third sub-paragraph of paragraph (5) obliges investment firms to inform and

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¹⁸ ESMA Q&As (n 17), p. 26.

¹⁹ Ibidem.



obtain the prior, express consent of clients for executing orders **outside of trading venues**, that is on SIs or otherwise OTC.

In other words, Article 27(2) unfortunately states that receiving commissions for routing client orders is permitted as far as such arrangements do not breach the conflicts of interest rules (Art. 23(2) MiFID II) and the rules on inducements (Art. 24(9) MiFID II).

Receiving commissions for the provision of investment services ("inducements"). MiFID II contains a weak ban on inducements and distinguishes between three situations: a general ban (Art. 24(9)); investment advice (Art. 24(7)); and portfolio management (Art. 24(8)). For the purpose of this report, only the general ban will be analysed.

Art. 24(9) states that an investment firm being paid any fee or commission²⁰ or receiving any non-monetary benefit for the provision of an investment service or ancillary service to a client will constitute either a breach of the conflicts of interest rules (Art. 23) or of the duty to "act honestly, fairly and professionally in accordance with the best interests of its clients", with two exceptions:

- 1) the payment or benefit comes from the client, or a person acting on behalf of the client; or
- 2) the "inducement" enhances the quality of the services. 21

In relation to the quality enhancement test (pt. b) above), the Commission Delegated Regulation (2017/593)²² sets four cumulative criteria that must be proven by investment firms to argue that the "inducement" (commission, fee, or non-monetary benefit) enhances the quality of the service provided and, thus, does not breach Art. 24(1) MiFID II. In short (simplified), the inducement:

- a) must be "justified by the provision of an additional or higher-level service to the relevant client, proportional to the level of inducements received";
- b) must "not directly benefit the recipient firm, its shareholders or employees without tangible benefit to the relevant client";
- c) must be "justified by the provision of an on-going benefit to the relevant client in relation to an on-going inducement"; and
- d) must be considered acceptable, meaning that "the provision of relevant services to the client is [not] biased or distorted as a result of the fee, commission or non-monetary benefit".

²⁰ Art. 24(9) MiFID II was simplified for the purpose of this report's topic; the full subparagraph quoted is as follows: "Member States shall ensure that investment firms are regarded as not fulfilling their obligations under Article 23 or under paragraph 1 of this Article where they pay or are paid any fee or commission, or provide or are provided with any non-monetary benefit in connection with the provision of an investment service or an ancillary service, to or by any party except the client or a person on behalf of the client, other than where the payment or benefit: (a) is designed to enhance the quality of the relevant service to the client; and (b) does not impair compliance with the investment firm's duty to act honestly, fairly and professionally in accordance with the best interest of its clients".

²¹ In fact, the second exception is contingent on cumulatively satisfying two criteria: "(a) is designed to enhance the quality of the relevant service to the client; and (b) does not impair compliance with the investment firm's duty to act honestly, fairly and professionally in accordance with the best interest of its clients" (Art. 24(9) MiFID II); However, since pt. b) is redundant with the rule, it was not mentioned again in the

²² Art. 11(2) of Commission Delegated Directive (EU) 2017/593 of 7 April 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council with regard to safeguarding of financial instruments and funds belonging to clients, product governance ob ligations and the rules applicable to the provision or reception of fees, commissions or any monetary or non-monetary benefits, ELI: http://data.europa.eu/eli/dir_del/2017/593/oj.

Conflicts of interest. According to Article 23(1) MiFID, investment firms must identify conflicts of interest and take all appropriate steps to prevent or manage those whose existence may damage the interests of clients. If all the appropriate steps taken by investment firms are insufficient to ensure "with reasonable confidence, that risks of damage to client interests will be prevented" (Art. 23(2)), MiFID II requires the former to disclose to the client the source, nature of what steps are taken to "mitigate those risks".

The MiFID II Delegated Act²³ requires investment firms to establish, in writing, a conflict of interests' policy that sets out the measures taken to ensure that supervision, control, remuneration or exercising influence over the persons giving rise to the conflict of interests is avoided and does *"ensure the requisite degree of independence"*.

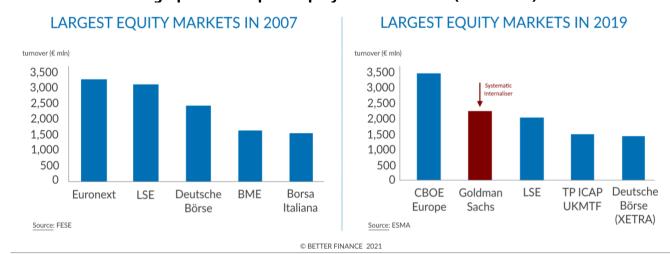
In terms of disclosure, it further specifies that "Investment firms shall ensure that disclosure to clients (...) is a measure of last resort that shall be used only where the effective organisational and administrative arrangements established by the investment firm to prevent or manage its conflicts of interest (...) are not sufficient to ensure, with reasonable confidence, that risks of damage to the interests of the client will be prevented"—Art. 34(4) MiFID II Delegated Act.

ANALYSIS

1. The shrinking of transparent EU-based equity markets, in favour of non- or less transparent, non- or less transparent EU-based players since MiFID I

In very few years, two US-based operators owned by very large US financial institutions have become the top EU equity market operators in lieu of the EU-based "lit" markets. Non-EU-based financial firms have replaced the EU-based "lit" equity markets which are more transparent and friendly to individual investors and SMEs:

Infographic 3. European Equity Market Leaders (2007-2019)



ESMA reported that, in 2019, monthly trading volumes for equities on dark pools fluctuated between 43% and 49% of the total; moreover, 87% of equity instruments issued by companies

²³ Article 34 of Commission Delegated Regulation (EU) 2017/565 of 25 April 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council as regards organisational requirements and operating conditions for investment firms and defined terms for the purposes of that Directive, ELI: http://data.europa.eu/eli/reg_del/2017/565/2019-10-11.

outside the European Economic Agreement (EEA, meaning the EU and EFTA) were traded outside "lit" markets.²⁴

Thirteen years ago, the top four European equity markets were EU-based companies ("market operators", 25 according to the MiFID II terminology). By 2019, the landscape shifted towards non-EU-based companies, with the top four markets being subsidiaries of US- or UK-based operators, which are less transparent and user-friendly in terms of retail access to the free-market data they are entitled to by EU law, as our research found.

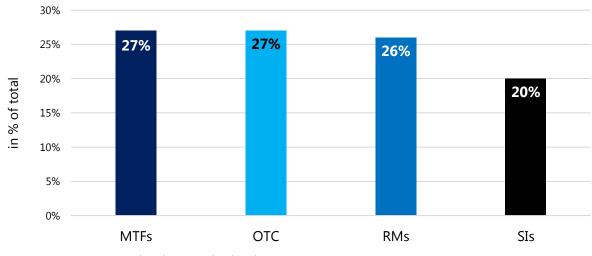


Chart 4. EU trading activity by venue (2019)

Source: BETTER FINANCE, 2021, based on ESMA data (2020)

Overall, the share of all "lit" (as they are called by stakeholders) **EU-based regulated markets combined has declined to around 18% of total European equity trades**²⁶, down from around 70% thirteen years ago. This trend is quite unique when compared to other major equity markets (US and Asia).

The largest SI registered in the EU (and operated by a non-EU investment bank) handled over €2 trillion trades in equity instruments.

2. MiFID generated an extreme fragmentation of equity market venues in Europe

A report by the European Central Bank in 2001 prodigiously predicted the fragmentation of EU equity markets, highlighting stakeholders' concerns for "the capture of retail flows in broker systems and the migration of institutional turnover to crossing networks". The purpose of the MiFIDs was to integrate EU capital markets and enable them to develop and flourish; the result was that, while listings and IPOs have not increased, local securities exchanges did not grow, but instead the already existing markets have become more and more fragmented.

²⁴ ESMA Annual Statistical Report on Securities Markets (November 2020), p. 18, available at: https://www.esma.europa.eu/sites/default/files/library/esma50-165-1355 mifid asr.pdf.

²⁵ According to Art. 4(1)(18) MiFID II, a market operator is "person or persons who manages and/or operates the business of a regulated market and may be the regulated market itself".

²⁶ BETTER FINANCE computation based on the ESMA Annual Statistical Report on Securities Markets (November 2020) ESMA-50-165-1355, available at: https://www.esma.europa.eu/sites/default/files/library/esma50-165-1355 mifid asr.pdf.

²⁷ https://www.ecb.europa.eu/pub/pdf/other/euroequitymarketen.pdf, p. 43

Systematic Internalisers (SIs), which are a form of non-transparent, opaque bilateral trading organised by investment firms (such as investment banks²⁸), have significantly proliferated after the entry into force of MiFID II. From a mere 14 SIs registered in the EU before 2018 (mostly domiciled in the UK), by October 2019 there were 212 SIs recorded in the public registers of ESMA, reaching 216 by the end of 2019; a query at the time of writing shows a slight decrease, to 175 entries, probably because of the departure of the UK from the EU.

The figures for SI trading are too significant to be ignored: in 2019, a total of 15,000 financial instruments were traded on SIs and a total equity volume of €5.7 trillion, according to ESMA.²⁹ Chart 6 below shows the dispersion of SIs (total number) in the EU by jurisdiction (2019) and the evolution since pre-MiFID II (pre-2018) by October 2019; however, only 73 SIs were authorised to carry trades with equity instruments by the end of 2019.

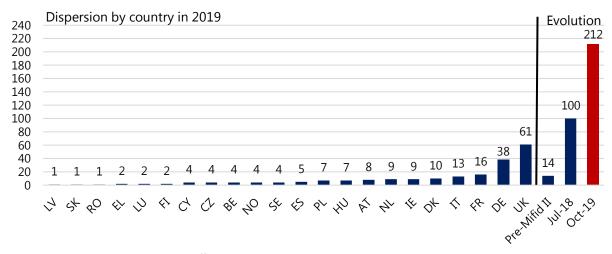


Chart 5. Number of SIs in the EU (incl. non-equity markets)

Source: ESMA Registers (2019), CFA Institute³⁰; own composition.

RMs ("lit") vs. SIs? Unlike SIs, for whom rules are voluntary in their use, regulated trading facilities are bound by certain rules such as the obligation to organise trading and match bid/ask orders under fair, orderly and non-discriminatory rules. Moreover, "lit" market operators cannot hold positions on the same financial instruments as those traded on their venues, thus limiting conflicts of interests, which is not applicable to investment firms operating SIs. Moreover, in terms of free delayed data publication (pre- and post-trade), SIs are not held by the same transparency requirements as RMs. Another issue with SIs is that it affects the price formation process and segments informed from uninformed investors.³¹

According to ESMA, at the end of 2019, there were 430 trading venues registered in the EEA: 135 RMs, 223 MTFs and 72 OTFs.³² This "high fragmentation" increases the complexity of the

²⁸ ESMA remarked that the tendency of SIs to be set-up and operated by large investment banks [AN: non-EU] is confirmed by the top four by volume in 2019: 70% of the value of SI equity trades took place on four venues operated by Goldman Sachs, Barclay's, Morgan Stanley and Credit Suisse – ESMA Report, p. 19.

²⁹ ESMA Report, p. 19

 $^{^{30}} Sviatoslav Rosov, 'MiFID II and Systematic Internalisers: If Only Someone Knew This Would Happen' (13 July 2018) - accessed 20/10/2019 - \\ \underline{https://blogs.cfainstitute.org/marketintegrity/2018/07/13/mifid-ii-and-systematic-internalisers-if-only-someone-knew-this-would-happen/.$

³¹ For a more elaborate explanation, see Oxera (n 1), p. 53.

³² ESMA Report, p. 10.

³³ ESMA Report, p. 18.



European equity markets and one can question how this could help ensure cost optimisation and improve liquidity.

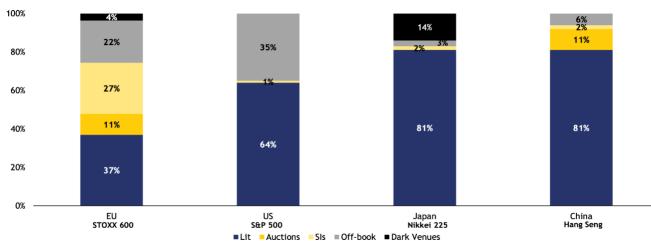


Chart 6. Equity trading volumes, by venue and jurisdiction (2018)

Source: FESE-based on Oliver Wyman, Fidessa Fragmentation Index;

Infographic 4 above shows that **the EU had the least "lit" equity trading across the largest worldwide jurisdictions in 2018**: less than half of "lit" equity trading takes place in the EU compared with Japan and China (37% vs. 81%) At the same time, the EU recorded the largest share of equity trading on SIs (27% compared to 1% in the US, 2% in Japan and China) and the second-largest off-book volume (22%, compared to 3% in Japan and 6% in China, only overtaken by the US with 35%).

It may have an impact on non-professional trades from individuals. Contrary to professional investors who are on average "momentum" investors, individual investors seem to be overall contrarian as several studies³⁴ show, and as the recent sharp downturn in March 2020 showed as well when millions of individual investors stepped in as buyers. They are also much less timely informed on market prices, and even sometimes do not issue limit orders (with a stock price limit). This is why market makers and other intermediaries value "retail" order flows more and more: liquidity capture matters more and more; see below para. 4.

3. ESMA Assessment of delayed data provision by trading venues and APAs

As part of a public consultation conducted on the topic in November 2020,³⁵ ESMA assessed four factors relating to the publication of delayed data by 77 trading venues and APAs (approved publication agreement):³⁶ access, format, completeness and timeliness, scoring them on a scale from 1 (non-compliance) to 5 (full compliance).

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³⁴ See for example Haguet, Daniel: The determinants of the purchase decision by individual investors: the French case (PhD thesis), 2016.

³⁵ ESMA Public Consultation Paper on Guidelines on the MiFID II/ MiFIR obligations on market data (6 November 2020) ESMA70-256-2477, available at: https://www.esma.europa.eu/sites/default/files/library/esma70-156-2477_cp_guidelines_on_market_data.pdf

³⁶ APA is the acronym for Approved Publication Arrangement, but simply designates an entity charged to collecting and disclosing the trade data from a trading venue on behalf of investment firms – Art. 4(1)(52) MiFID II.

Table 7. ESMA Assessment Table

Entity type	Access	Completeness	Format	Timeliness
RMs	4.43	3.78	3.65	3.57
MTFs	4.25	3.69	3.40	3.27
OTFs	3.90	4.00	3.70	3.80
APAs	4.50	4.21	3.86	4.21
Average	4.27	3.92	3.65	3.71

Source: ESMA own assessment, (footnote 36), p. 27

Note: The acronyms RM, MTF, OTF, SI are explained in the preceding section; APA is explained in footnote 35.

From the outset, two findings are stringent: first, close to half of the equity markets are missing as dark venues (SIs and OTC) are exempt from these transparency rules; second seemingly many of the 77 entities obliged to publish delayed data are not compliant with the law, as the table above shows.

BETTER FINANCE was surprised to observe the average score for data access (4.27/5) considering that 36 entities (47% of the total) should not have received a score higher than 4.0/5. According to the granular specifications made by ESMA, 8 entities required signing contractual terms to give access to delayed data, 13 required registration and 15 were not "straightforward to find the delayed data on the website". In BETTER FINANCE's view, these three details (signing a contract, registering or having difficulties finding data) are core to data access, transparency and trust of non-professional investors in capital markets, and represent a circumvention of the law. Thus, this factor (data access) may have been optimistically overrated by ESMA.

BETTER FINANCE was again surprised by the finding that **for 17 entities (22% of the sample)** "the basic post-trade data (price, volume, transaction timestamp) were not found" by **ESMA experts**, while 49 others omitted one of the six data points to be published (transaction flag). In our estimation, the ESMA average score of 3.92/5 is too optimistic, and the best-case scenario should have been lower.³⁸ In terms of pre-trade data, 31 entities (out of 69) "do not publish basic pre-trade data (best bid and offer and depth of interest) on a delayed basis", which is essentially what the law requires.

Again, surprising is ESMA's finding in relation to data format, where it was concluded that up to 55% of entities analysed (42/77), accessing pre- or post-trade data cannot be done in an automatised way, but only by submitting search queries ISIN-by-ISIN, which is precisely what ESMA describes in the Q&As on MiFID II/MiFIR transparency topics as <u>not</u> "meeting the requirement of making data available free of charge".

Lastly, in terms of timeliness (period of time for which pre-and post-trade data must be available for the public), ESMA found that 57% (39 entities) of venues obliged to report pre-trade data and 55% (42 entities) of venues do not make it available for a period of 24 hours, as specified in the ESMA Q&As.

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 $^{^{}m 37}$ ESMA Public Consultation (n 13), p. 27, para 102.

³⁸ ESMA Public Consultation (n 13), pp. 27-28, paras 104-106.



4. BETTER FINANCE research: EU equity market data have become much less accessible and transparent for "retail" investors

Pursuant to Article 13(1) of MiFIR, trading venues³⁹ (this exempts SIs) are required to make data available free of charge within 15 minutes after publication ("delayed data"). BETTER FINANCE believes that at least the spirit of this requirement is not being followed by the top equity market leaders' **public websites** with regard to individual, non-professional investors.⁴⁰

In 2007, non-professional equity investors enjoyed de facto consolidated pre- and post-trade data for free and with easy online access within seconds or minutes for post – and within 15 minutes for pre-trade ones. This is because markets were much less fragmented and the market venues friendly to individual investors (EU-based RMs) were executing the majority of trades. Therefore, up to 2007, non-professional investors were enjoying de facto a largely "consolidated tape" of equity market data as EU-based RMs covered about 70% of all equity trades.

Today's largest equity markets⁴¹ are not providing access, transparency, and completeness of market data for free in an easy and user-friendly way for EU citizens as non-professional individual investors, as the infographic above and the screen shots attached (Annex) show, based on research on their public and free websites. The first, second, and fourth-largest equity markets in Europe⁴² provide either none, incomplete, and/or outdated free EU⁴³ equities market data to individual investors, and sometimes with additional constraints like pre-registration, required disclosure of personal data, and/or legal consents.



REMINDER BOX: RULES APPLICABLE TO TRADE DATA TRANSPARENCY

Equity trading venues (Regulated Markets and Multilateral Trading Facilities) must publish pre- and post-trade data for end-users:

- 1) free of charge,
- 2) directly available,
- 3) in an easily accessible and non-discriminatory manner,
- 4) using a **format** that can be **easily read**, **used**, **copied** and **understood** by the **average** reader, and
- 5) with a maximum 15-minute delay.

Practices designed to circumvent this obligation are not compliant with EU law.

³⁹ ESMA found Goldman Sachs' SI to be the second-largest European equity "venue" (ESMA ASR report, p. 18) and the second-largest equity "market" (page 51). However, on page 10, one reads that SIs (systematic internalisers) are not "trading venues" according to the EU Authorities' jargon.

⁴⁰ If there are any: not found for Goldman Sachs SI

⁴¹ ESMA Annual Statistical Report on Securities Markets (November 2020), ESMA-50-165-1355, available at: https://www.esma.europa.eu/sites/default/files/library/esma50-165-1355 mifid asr.pdf.

⁴² According to ESMA's Annual Statistical Report on Securities Markets (November 2020), ESMA-50-165-1355, available at: https://www.esma.europa.eu/sites/default/files/library/esma50-165-1355 mifid asr.pdf.

 $^{^{\}rm 43}$ EU equities means listed equities from issuers domiciled in the EU.



BETTER FINANCE attempted to replicate, at a smaller scale and with much less resources, the ESMA Assessment (pt. 3 above) for the six largest EU equity markets in 2019 from the perspective of:

- access,
- transparency, and
- current legal requirements (MiFIR/MiFID II, RTS 1, ESMA Q&As),

for individual, average non-professional ("retail") investors (who tend to have a rather moderate or low level of financial literacy).

The assessment looks at: accessibility, ease of finding and understanding the data on the website (user-friendliness), timeliness and completeness of information published. The analysis summary is listed in the order of size (2019 data) of the equity markets in question.⁴⁴

Infographic 9. Market Data Transparency and Access for Individual Investors

		MARK	ET DATA TRA	ANSPARENCY / A	ACCESS FOR "	RETAIL" INVEST	TORS
		CBOE Europe	2 Goldman Sachs SI	3 London Stock Exchange (LSE)		S XETRA (Deutsche Börse)	6 Euronext Paris
Restriction-free access	Pre-trade data (best bid & ask quotes) Post-trade data (trade quotes)	×	×	~	×	×	×
Easily accessible	Pre-trade data (best bid & ask quotes) Post-trade data (trade quotes)	×	×	* ~	×	*	×
Clear presentation and usable format	Pre-trade data (best bid & ask quotes)	×	×	* ~	×	Y	×
Understandable language	Pre-trade data (best bid & ask quotes) Post-trade data (trade quotes)	×	×	~	×	Y Y	×
Timely (≤ 15 minutes)	Pre-trade data (best bid & ask quotes) Post-trade data (trade quotes)	?	×	?	?	Y Y	×
Complete information	Pre-trade data (best bid & ask quotes) Post-trade data (trade quotes)	*	×	x ?	?	Y	*

<u>Source</u>: BETTER FINANCE, based on research on the public websites of the market venues

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(See summary analysis below and ANNEX for screenshots and explanations.)

⁴⁴ Note: The divergence between our methodology and ESMA's requirements embodies BETTER FINANCE's view of how the assessment (and requirements) should be done from a retail investor point of view in terms of access to equity trade data.



RATING METHODOLOGY for ACCESS TO MARKET DATA by "RETAIL" INVESTORS

According to ESMA, the six largest equity markets in 2019 – by order of the volumes traded – were: Cboe Europe (MTF), Goldman Sachs (SI), London Stock Exchange (RM), TP ICAP UK (MTF), Xetra – (RM) and Euronext Paris (RM).

Thus, these were the venues tested by BETTER FINANCE under this report.

In order to objectively assess the accessibility and user-friendliness of trade data pages of the equity market leaders, the research team defined the following criteria: (the following criteria take the perspective of an **average retail investors'** experience)

Restrictions-free	Does not require registration (opting-in for trials, signing-up, providing contact details, etc.) or accepting any terms and conditions specifically for accessing the trade data webpages.
	Refers to the number of steps (clicks) and how laborious it is to find company quotes on the public website from its main page; this is further differentiated:
	Easy access: Either directly from the search engine query or from the main page, the user can find the company data page with one click (after typing the name) and all relevant and complete (price, volume, timestamp), on the same webpage and legally compliant (MiFID II and ESMA Q&A) trade data.
Easily accessible	<u>Difficult access</u> : Although the market data is complete and timely (as per MiFID II/MiFIR rules), it takes searching, reading information and browsing around (up to three clicks) in order to find it.
	 "De facto" no access: the market data can be publicly accessed, but an average "retail" user would be de facto unable or prevented from accessing it due to: it requires specific knowledge (about the website about, even beyond the ISIN number) or the website uses technical jargon; it requires more than 3 steps (clicks) to access the page, or otherwise the page is too complex and difficult to find; the path to company data is "demotivating", i.e. the same long or complex path to find the page again;
Clear presentation and usable format	 This criterion refers to the means to export data from the website. In our view, graphs, pre- and post-trade data must be available for download: in an easy-to-download format, e.g. excel, word; downloads in image formats (PNG, JPG) or formats that require a higher level of digital literacy (.csv and .txt) are not; by default in an understandable display (i.e. not using finance-specific charts such as candlesticks), even if the plugin offers the possibility to add elements or make the chart or data more elaborate; must be in an accessible format for retail investors (ex: not downloadable csv files);
Understandable language	The presentation of the page makes it easy for non-professional users to identify and get the information needed: company name (or ISIN), last price and (preferably) last 5-10 trades of the day, a graph with the historical returns of the security, the last bid/ask quote and (preferably) the current 5-10 bid/ask quotes (with the timestamp). In addition, the language used throughout the webpage is essential to help non-professional users understand what they are



	reading, especially if helped with hover-over-text or pop-up pages with explanations. It is, in fact, the obligation of market operators to explain to users: "should make <u>clear</u> instructions to the public on their website on how and where to access the data" (ESMA Q&A, Q10 – emphasis added).
Timeliness	Data is published with a maximum of 15 minutes delay and there are no inconsistencies in the information disclosed on the webpage.
Completeness	The pre- and post-trade data must show the volume, the price quote and a clear timestamp.
No data or not found	This means that, even after prolonged research by finance experts: a webpage with trade data was not found, or the trade data link/page was not found on the website of the market operator.

This assessment does not state or acknowledge compliance with or breach of EU or national law, which is a prerogative left for supervisory authorities. The research is only meant to express the point of view of non-professional investors and should be treated as such. All public websites have been accessed up until 22 March 2021, 17:30 CET.

The summary analysis can be found below:

- a) Firstly, we doubt that the two market leaders are widely known to most EU retail investors, given that we have no knowledge so far of any communication, marketing or awareness-raising campaigns from these companies towards "retail" investors, nor did we assess their websites "retail"-investor friendliness.
- b) **Assessment of Choe Europe**: The largest EU-based equity market in 2019, according to ESMA, Choe Europe (subsidiary of Choe Global Markets / Chicago Board Options Exchange) is de facto inaccessible for non-professional investors from the point of view of trade data:
 - although the "Book Viewer" is on the main page of Cboe European Equities (https://www.cboe.com/europe/equities/overview/; Screenshot 3 in ANNEX), company data is not accessible as the search function returns "unknown symbol" or "unidentified symbol" (Screenshot 4 in the ANNEX): pre-trade data are not accessible either for using the ISIN code (already a challenge for the average retail investor) or even the Ticker symbol;
 - only after "browsing" around the website, the research team found the separate "Book Viewer" webpage (Screenshot 6 in ANNEX) using the "Quick Links" (Screenshot 5 in ANNEX), where a few explanations were added, including a link to a "Reference data" page where "Symbol names for use on the Book Viewer can be found" (Screenshot 7 in ANNEX);
 - however, a non-professional user would have to download the file corresponding to one of the three lit order books of Cboe – CXE, BXE, DXE – and search the specific symbol, which can be validly used on the Book Viewer search function (Screenshot 8 in ANNEX);

Note: Even if the necessary links and files to identify the symbol for a company (and search it) are available on the website of Cboe Europe, the research team believes that it is far too difficult to arrive there (for a non-professional user), as it requires research, specialised knowledge, browsing, patience and time efforts—all which the average retail investor does not have.



- o in addition, the platform operator splits this information into four different market segments (or books) named with undisclosed and not explicit acronyms: "CXE", "BXE", "DXE", "TRF", "SI quotes" (Screenshot 8 in ANNEX);
- o post-trade data are not directly accessible as it requires a difficult to find (4 clicks, Screenshots 26-29 in ANNEX) page and pre-registration (disclosure of email address, and legal consent that is if the non-professional investor is acquainted with the EU legal jargon and knows to find the "quick links" and click on the "MiFID II Public Trade Data" to be taken to the relevant page, Screenshot 26 in ANNEX);
- o finally, assuming the retail investor does find the page and accepts all the additional constraints, the display of the page is unattractive, and the data is available for download in comma-separated values (.csv-totally unclear and unusable by non-professional investors), the descriptions of the data files (Screenshot 29 in ANNEX) are very prohibitive, very difficult to understand and without any explanations;
- c) <u>Assessment of Goldman Sachs SI</u>: For the largest SI and number two equity market in the EU (in 2019, according to ESMA): the research team did not manage to find any public website of the SI itself, nor a trade transparency page; we were able to find MiFID II disclosure documents (such as the *Systematic Internaliser Commercial Policy for Equity and Equity-like instruments*⁴⁵). The document specifies that the GS SI must "meet the pre-trade transparency obligations set out in Articles 14–17 of the Markets in Financial Instruments Regulation 648/2012 ('MiFIR'), where applicable", further mentioning that MiFIR allows them to: "(i) decide the clients to whom they give access to their quotes; and (ii) limit the number of transactions they undertake to enter into in certain circumstances for the purposes of risk management".
- d) <u>Assessment of London Stock Exchange</u>: The number three equity market (in 2019, according to ESMA) and former largest EU based RM:
 - has the easiest to find path from the main page to the company data page (small differences with Xetra and Euronext; see Screenshot 11 in ANNEX);
 - o however, the company trade data page comprises confusing information at first (Screenshot 12 in ANNEX): the main price displayed is different than the last price displayed in the historical price chart and from the last trade displayed in the "Last Trades" section (Screenshot 29 in ANNEX) and it is not clearly indicated why;
 - a non-professional user can learn the differences only by reading the instructions page, which does not comprise the most user-friendly language, and does not clarify the issue of timestamps;
 - o Post trade data are easily accessible, but the main one:

o may not be compliant as it is followed by this statement: "all data delayed at least 15 minutes" instead of the 15 minutes maximum;

- o is inconsistent with the one for the latest trade disclosed at the bottom of the page, and inconsistent again with the last data on the graphic on the same page;
- The full post-trade data page comprises inconsistencies with the last trade presented on the "overview" page: could not be found in the history of transactions;

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⁴⁵ Available here (https://www.goldmansachs.com/disclosures/eq-si-policy.pdf, dated 3 January 2018) accessed 22 March 2021 on the following page: https://www.goldmansachs.com/disclosures/mifid/.



- e) Assessment of TP ICAP EU MTF: The most difficult to find, understand and access public trade data was on the platform of the fourth-largest EU equity market (in 2019, according to ESMA). The research team spent twice more time and effort than on any other platform to simply obtain trade data for any company: the shortest path from the main page of the platform (after Brexit) comprises 7 "clicks" (Screenshots 14-20 in ANNEX), or otherwise means being redirected at least six times:
 - searching companies (on the internet, using the company name and market name) returns no relevant results; the website of the trading venue does not have a search function (see Screenshot 14 in ANNEX);
 - the main page (Screenshot 16 in ANNEX) of the EU-domiciled MTF only presents technical information about the venue (overview, operator information, trading rules and hours) (see Screenshot 15 in ANNEX);
 - Let the link to the trade data webpage (titled "Transparency" in the "other" links section) is difficult to spot, and:
 - redirects to a new "Transparency" page, where the user must click to "subscribe to the data feed" (Screenshot 17 in ANNEX), which
 - ► redirects to a new page ("transparency data & quality of execution reporting"), where the user must click on "Transparency Data" to be
 - Ly redirected to a page where the user must select out of three technical options ("Slice Feed", "Feed connection" and "Web access") to register (Screenshot 18 in ANNEX), and
 - being redirected to a registration page, where the user must fill in employment data, after which
 - Let the user must log in, after receiving the registration email, and
 - Larriving to the data section (Screenshot 19 in ANNEX), the non-professional user must fill 5 filters, comprising only "jargon" choices, and must know the ISIN number of the security researched,

... just to obtain either pre- or post-trade data, which was (at three different times between 09:30-10:52 CET on 22/03/2021) unavailable (Screenshot 20 in ANNEX).

Even if a non-professional user had the time and patience to undergo such a process, he would still need to be acquainted with EU financial law jargon (starting with "MiFID II Transparency" requirements) in order to arrive to the desired result.

This strenuous process is referred to in other fields of digital services as "dark patterns", a behaviour by which the provider of a website creates a complicated enough path, along with language or visual barriers, that disincentivises the user to pursue its path. While it can be said that the platform operator does fulfil its MiFID II and MiFIR obligations concerning publicly available trade data, the reality is that for a non-professional saver, even one with experience in investing and a higher level of financial literacy, it will be very difficult to find that pre- and post-trade data, and not possible for the average one.

The full explanations, including testing screenshots, are available in the ANNEX.



f) Assessment of Xetra:

Xetra from Deutsche Börse is the second most easily accessible trade data webpage, after LSE; however, all three former EU-based equity markets (LSE, Xetra and Euronext) are very easy to find and access trade data for companies on their websites. From the main page of Xetra (https://www.xetra.com/xetra-en/ – Screenshot 22 in ANNEX) the user is redirected twice (two clicks) to arrive to the trade data page of a company (Screenshot 23 in ANNEX). Although not ideal, the path (starting from the main page) is fairly easy for non-professional investors and user-friendly. As is for Euronext, it is much easier and quicker to access the company trade data page using the independent search engine rather than their own websites.

The research team did not remark any issues that would raise questions about compliance with EU law: the webpage contains timely (less than 15 minutes) and complete pre- and post-trade data in a user-friendly design and avoiding jargon, downloadable in a usable format, and with quick access to historical price charts. The full explanations, including testing screenshots, are available in the ANNEX.

q) Assessment of Euronext:

Judging by the easiness to arrive to the trade data page from the home page (https://www.euronext.com/en), Euronext ranked third easiest platform, although non-professional users would have minimal difficulty finding the relevant webpage, actually being even easier (and direct) to access it from the top result of a search engine.

The company page (Screenshot 22 in the ANNEX) provides the user with quick and user-friendly access to all relevant company information, the historical price chart, prominent pre-and post-trade data (last trade, last bid/ask quotes), the "Central Order Book" box with the last 10 bid and ask quotes, the "Intraday Price" with the last 5 executed trades, and the "Historical Price" box with the last 5 trades of the day.

In terms of page design (user-friendliness, language and presentation), Euronext ranked best of all five largest equity markets as all information (pre- and post-trade) are available on the same page (no redirections) and it also comprises "help" buttons with explanations on what the investor is seeing. The research team did not identify any issues raising questions about compliance with EU law. Moreover, Euronext publishes almost real-time post-trade data (less than 2 minutes). The full explanations, including testing screenshots, are available in the ANNEX.

In overall, the research team found on equal footing Xetra and Euronext the most accessible and user-friendly websites for consumers (retail investors) to access and inform about trade data quotes for listed companies. To this we add that, among the six largest EU equity markets, these are also regulated markets.

5. The largest equity markets are less transparent for individual investors but is this ranking influenced in any way by "payment for order flow" practices?

Another source of concern for conflicts of interests in retail trading is that of payments for order flow (PFOF), a practice by which a wholesale market maker pays brokers to direct retail



trade orders to their execution venue; the market maker will deal on its own account and earn from the spread, profit from which it will pay back the broker.⁴⁶

However, such arrangements may come at the expense of retail investors. To illustrate through an example: an individual places an order for 300 shares with a price limit of €18.25 to his intermediary who in turns channel this order via an "alternative platform", instead of to the "lit" RM. This platform then buys the shares at €18.2335 and has them delivered to the individual client at €18.25. In this profit-making process, the intermediary and the platform split the difference (margin or spread) among themselves. This detriment for the consumer may look small, but, in reality, multiplied by millions of transactions, it represents huge margins.

In fact, PFOF seems widespread, and it became particularly visible in Germany as the recently illustrated by the GameStop – Trade Republic case.⁴⁷

MiFID II generally bans this practice (Art. 24(9) MiFID II) but exceptionally allows it if the remuneration or non-monetary benefit received by the trader improves the execution of the trade order (quality enhancement test) and does not breach the obligation of Art. 24(1) MiFID II to act fairly, professionally and in the best interests of the client. However, it does not prevent some intermediaries to exploit this complexity and the ambiguities linked to the so-called "best execution" rules. Since it is incentive-oriented, the drawback of PFOF lies in its core: it entails selectivity from market makers in order to achieve apparent "commission-free bids", which in fact disadvantages the end-consumer in its buying process at trade level. Concretely, this is reflected in the pre-trade data availability option (or lack thereof) provided by the platforms, often resulting in higher-than-average market prices for bidders.

Based on existing research literature, it remains unclear whether non-professional investors have benefited at all from any significant reduction of transaction costs, which seem still higher for them for European equities than for US ones. At another level, some questions also arise from the underlying exchange (or sell) of consumer data this may represent in the face of partnering activities with other credit institutions, starting in the US.⁴⁸

This practice must be investigated as swiftly as possible by NCAs and ESMA should consider prohibiting it, while ensuring indemnification of abused consumers.

6. Benign neglect for EU citizens as equity investors?

In addition, this detrimental and deteriorating situation of individual investors with regard to capital markets trade data is often overlooked by regulators and supervisors. For example, the most recent consultation paper from ESMA on capital market data⁴⁹ does not point to any

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⁴⁶ For example, see Aldo Sicurani, "Zero commission ne veut pas dire zéro coûts" (67) December 2020, Inform@ctions – Le Magazine de la Fédération des Investisseurs Individuels et des Clubs d'Investissement F2iC, available at: https://www.f2ic.fr/ffci-portal/custom/module/cms/content/file/Informactions/informactions-n67-12-2020.pdf; Serge Mampaey, "Euronext, la garantie des meilleurs cours pour les petits investisseurs" (18 November 2016) L'Echo, available at: https://www.f2ic.fr/ffci-portal/custom/module/cms/content/file/Informactions/informactions-n67-12-2020.pdf; Serge Mampaey, "Euronext, la garantie des meilleurs cours pour les petits investisseurs" (18 November 2016) L'Echo, available at: https://www.lecho.be/les-meilleurs-cours-pour-les-petits-investisseurs/9832453.html.

⁴⁷ See the BETTER FINANCE Press Release, "GameStop Case Highlights Discrimination of Retail Investors in Stock Markets" (4 March 2021) available at: https://betterfinance.eu/publication/gamestop-case-highlights-discrimination-of-retail-investors-in-stock-markets/.

⁴⁸ Kate Rooney, "A controversial part of Robinhood's business tripled in sales thanks to high-frequency trading firms" (CNBC.com, 18 April 2019), accessed at: https://www.cnbc.com/2019/04/18/a-controversial-part-of-robinhoods-business-tripled-in-sales-thanks-to-high-frequency-trading-firms.html; Jeff John Roberts, David Z. Morris, "Robinhood makes millions selling your stock trades... Is that so wrong?" (Fortune.com, 8 July 2020) accessed at: https://fortune.com/2020/07/08/robinhood-makes-millions-selling-your-stock-trades-is-that-so-wrong/0/.

⁴⁹ ESMA Consultation Paper on Guidelines on Market Data (6 November 2020) ESMA70-156-2477, available at: https://www.esma.europa.eu/sites/default/files/library/esma70-156-2477_cp_guidelines_on_market_data.pdf



issue nor include any question targeting non-professional market data users, and all questions are at least implicitly regarding only professional stakeholders. The millions of EU citizens who are equity market participants have been quite ignored by EU Public Authorities.

This is all the more unfortunate, as the success of the EU policy priorities for sustainable finance ("ESG") and for a Capital Markets Union both call for—and largely rely upon **engaging EU citizens as savers and individual investors into the investee companies**. EU capital market policies should therefore align to these priorities and focus on facilitating such non-professional shareowner engagement.

7. A negative impact on price formation?

Even though EU-based regulated markets represent only 18% of total equity transactions they are the main addressees of market professionals' demands for cheap market data, not the much less transparent market leaders who execute much bigger trade volumes. This is quite disturbing and could have a simple explanation: the "lit" markets still play a major role in price formation despite their dwindling and now much smaller trade volume.

This appeared recently, at a time of equity market stress (early March 2020 – beginning of the COVID crisis), where the trade volumes moved significantly back to the "lit" market venues. Would the now dominant and opaque players sometimes be acting as "free riders" on the back of the EU-based "lit" ones? As part of the CMU initiative and in particular of the upcoming MiFID II Review this year, EU Authorities should investigate this crucial issue further.

8. The dominance of non-EU based less transparent markets is also hurting SME financing

The actual role of "lit" regulated markets in real economy financing, in particular SME financing, is not taken into account to ensure a level playing field with the less transparent non-EU-based already dominant newcomers: the less liquid small and mid-cap secondary markets seem to rely much more heavily on the RMs and on individual investors who play a much bigger role in this market segment (and therefore where professional fund managers are proportionally less active). This is even more critical on SME primary markets where most of the task has been left to the EU-based RMs (together with their recent Growth market "MTFs" affiliates), and where again, individual investors play a much more important role than on large – "blue chips" – IPOs and other market offerings. Hitting even more these venues on market data pricing, and disregarding this much added value service, could be very harmful to individual investors, to SME financing and to the main objectives of the CMU and the real economy in general. This should be urgently assessed (see more detailed policy recommendations at the beginning of the report).



ANNEX

1. Methodology

An average individual, non-professional investor cannot be expected to have the knowledge or resources of a finance professional to find information about listed companies with the same ease or time efforts. Therefore, the research team attempted to relive the experience of a prospective "retail" saver wishing to obtain pre- and post-trade data about two EU companies on the websites of the five largest (2019 data from ESMA) equity trading venues and SI in the EU. The two companies searched are the following:

| Name | Ticker symbol | ISIN |
|--------|---------------|--------------|
| AIRBUS | AIR | NL0000235190 |
| LVMH | МОН | FR0000121014 |

The first step was to identify if the equity markets have publicly available trade data webpages and if the two companies can be found there using simple internet searches. Based on our research, we could easily find the electronic order books only for four trading venues. The two exceptions are accounted as follows:

- for the second-largest EU MTF in 2019 (TP ICAP MTF), finding the trade data webpage proved the most difficult of all;
- for the second-largest equity market in the EU in 2019 (Goldman Sachs SI), totalling roughly €2.1 trillion worth of trades, the research team could not find a website or webpage where trade data is published by this operator. The only relevant result for this research was that we found a website with MiFID II disclosures or disclaimers, but no pre- and post-trade data;

The results in terms of pre- and post-trade data are presented, along with the other markets, in sections *Pre-trade data* (1.1) and *Post-trade data* (1.2) below.

<u>The second step</u> was to actually search the two company names, along the equity market name ([company name] + [market name]) on a frequently used search engine to see how easy (fast) it was to find the webpage with trade data (electronic order book).

For LSE, Xetra (Börse Frankfurt) and Euronext, the result was either the first displayed, or among the top results, which means that a saver attempting this search for the first time would have easily found his way to the relevant page.

For the largest MTF in the EU (in 2019), we were not able to find any link to the relevant page; thus, the following steps assume unrealistically that an average retail investor must know how to search and which website and which page to access to obtain the pre-and post-trade data for the company.

<u>The third step</u> was for the research team to assess how easy (in how many clicks) can a non-professional user obtain the following information (for details, please refer to the Rating Methodology for Access to Market Data, pp. 23-24):

- pre-trade data: bid/ask offers (volume, price, timestamp);
- post-trade data: transaction quotes (volume, price, timestamp).

The results recorded by the research team are laid below.



1.1. Pre-trade data

In order to eliminate issues related to the result availability based on the search engine, the research team searched the companies in question directly from the main page of the five markets in question, in order to assess whether a non-professional user, after having found the main page, can easily arrive to the trade transparency page of the company and how quick (how many clicks and redirections) does it take to find *pre-trade data* and *post-trade data* (section 1.2) from the main page.

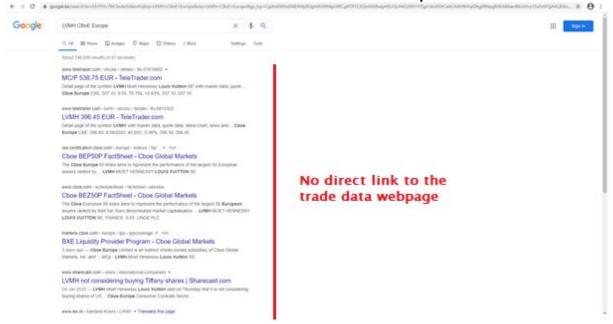
On the website of Cboe European Equities



Source: BETTER FINANCE search on google.be [accessed on 15/03/2020 at 16:47 CET (GMT+1)]

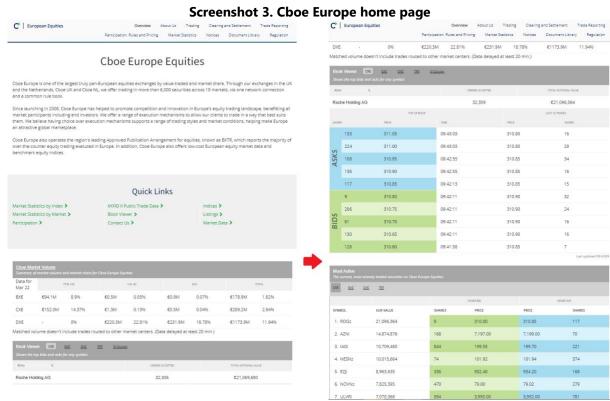
As observable in both Screenshots 1 and 2, the results page contains other, third-party websites with data information on the two researched companies. The only two results from the equity market in question are, in fact, PDF files which describe products of the market operator, and not trade data about the researched companies.

Screenshot 2. Search "LVMH CBoE Europe"



Source: BETTER FINANCE search on google.be [accessed on 15/03/2020 at 16:30 CET (GMT+1)]

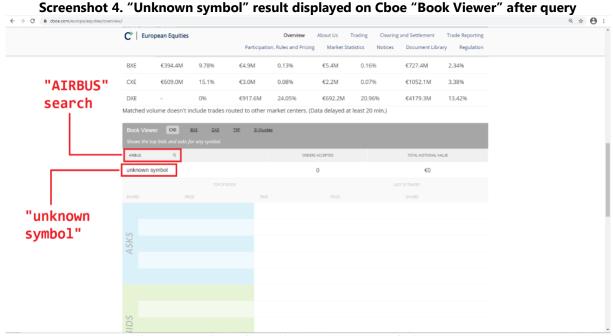
On the "European Equities" page of Cboe Europe the "Cboe Market Volume" (for "CXE", "DXE", and "BXE") is shown, specifying that "data is delayed at least 20 minutes". Below, the "Book Viewer" is displayed, showing the last five bid and ask quotes for a company displayed by default; last, the page displays a table with the 10 "Most Active" companies, mentioning "The current, most actively traded securities on Cboe Europe Equities". This last table shows in the first left-hand side column the symbols instead of the names of companies (equities).



Source: https://www.cboe.com/europe/equities/ [accessed on 22/03/2021 at 10:44 CET (GMT+1)]



Without giving any explanation or link where the correspondence of the symbols can be found, the research team attempted to search on "Book Viewer" the name of either two companies



Source: http://www.cboe.com/europe/equities/overview [accessed on 15/03/2021 at 16:55 CET (GMT+1)]

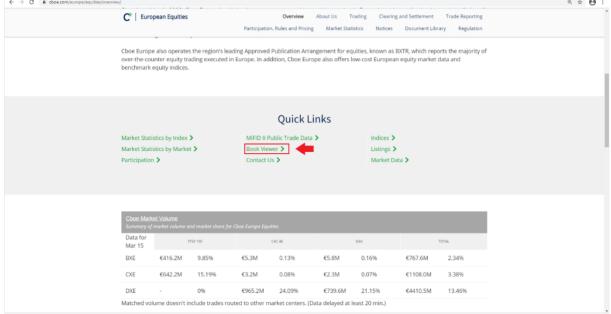
The search query returns the "unknown symbol" result. This occurred for both companies tested and on all five "books" (CXE, BXE, DXE, TRF, SI quotes – which we do not know what they stand for). The results are the same if one tries to search by ticker or ISIN codes, including the ones used in the "Most Active" table below the "Book Viewer.

Note: The research team still does not understand why the main page "Book Viewer", nor the separate "Book Viewer" page returns "unknown symbol" for the symbol used by the platform itself to denominate companies: according to the "Reference Data" files, the symbol for the company in question is correct ("CXESymbols-PROD.csv" file, row 475)—the research team randomly tested 4 other symbols, three for which it worked (BMW3d, CCEPa, CDIp) and for another it didn't (AVI).

Regarding the "Most Active" table, the research team is not able to distinguish the time frame on which the "most actively traded securities" is calculated (daily, weekly, monthly, annually?).

Only after "browsing" around the website, the research team found the dedicated "Book Viewer" page, where additional explanations were added, including a new link to a "Reference data" page where files with symbol names (for equity and equity-like instruments) can be found, as follows:

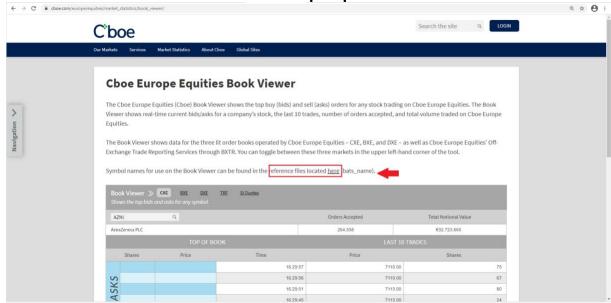
Screenshot 5. "Quick Links" for "Book Viewer" on Choe Europe website



Source: http://cboe.com/europe/equities/overview [accessed on 15/03/2021 at 17:11 CET (GMT+1)]

From the "Book Viewer" main page, where additional explanations are given, the user can click on "Reference data" to be redirected to the page containing the files with symbol names that can be used to search companies in "Book Viewer".

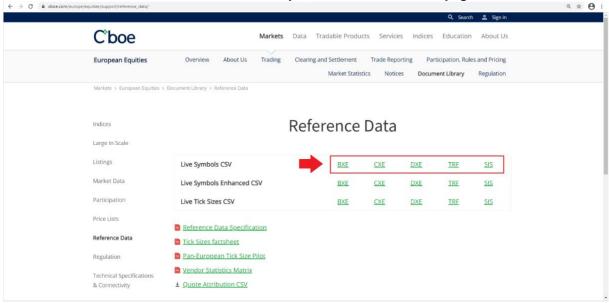
Screenshot 6. "Cboe Europe Equities Book Viewer"



Source: http://cboe.com/equities/markt_statistics/book_viewer/ [accessed on 21/03/2021 at 21:46 CET (GMT+1)]



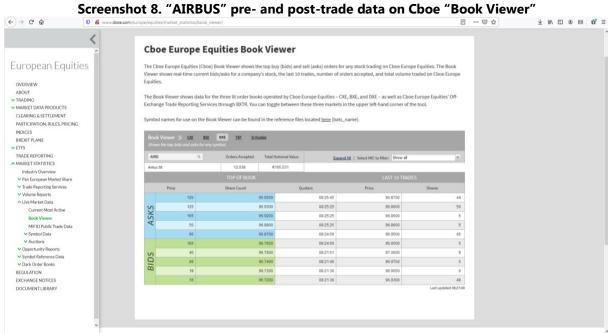
Screenshot 7. Cboe Europe "Reference data" webpage



Source: http://cboe.com/europe/equities/support/reference_data/ [accessed on 21/03/2021 at 21:47 CET (GMT+1)]

An important highlight for this pre-trade accessibility is that, until January 2021, the Cboe Europe page did not contain any instructions or explanations on how or where to find the "working" symbols for the "Book Viewer" so that searches could return valid results (in opposition to Screenshot 4 above). As shown for the post-trade data (Screenshot 27 below), this "Reference Data" page has been added at a later stage.

Then, knowing the reference data (symbol used for the two companies), the trade data can be searched on the "Book Viewer".



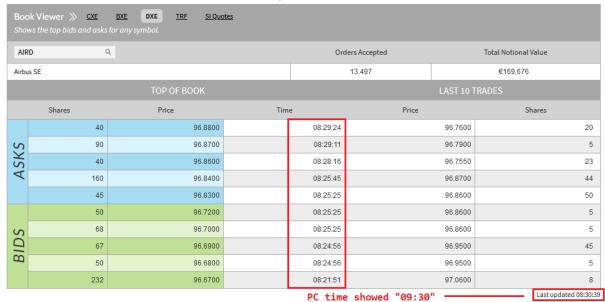
Source: http://www.cboe.com/europe/equities/market_statistics/book_viewer/ [accessed on 22/03/2021 at 09:27 CET (GMT+1)]

The page displays the "Top of Book" bid/ask quotes (pre-trade data) and the last 10 trades. However, the research team is uncertain about the time of the pre- and post-trade data: either



the platform is the fastest of all researched (publishing in less than a minute delay the pretrade data (but on the UMT+0 time zone, which is one hour earlier than the Central European one) or it is an hour delayed.

Screenshot 9. Unclear timestamp for trade data on Cboe "Book Viewer"



Source: http://www.cboe.com/europe/equities/market_statistics/book_viewer/ [accessed on 22/03/2021 at 09:30 CET (GMT+1)]

However, the timestamp is unclear if it is for pre- or for post-trade data.

On the website of GS

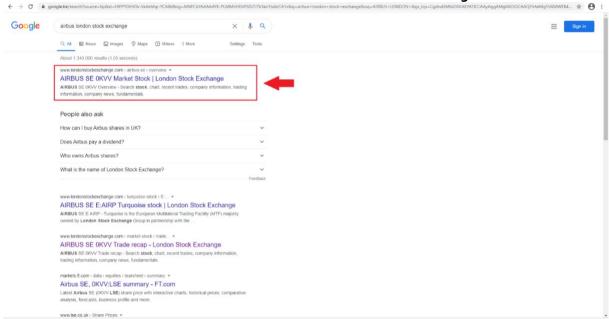
The research team could not find a website or webpage of Goldman Sachs SI where pre-trade data is publicly available.

On the website of LSE

Finding the company trade data page using a search engine proved easy and simple for a non-professional user: searching [company name] + [exchange name] returns the top result the relevant trade data page on the website of the London Stock Exchange.



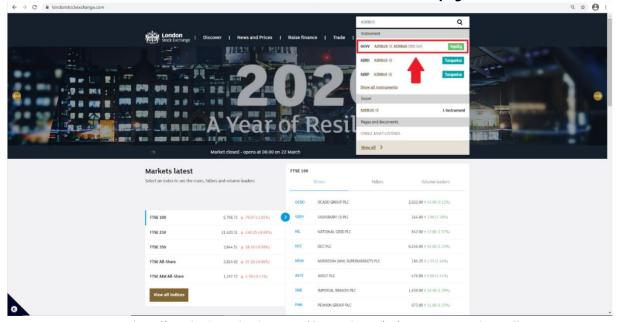
Screenshot 10. Search "AIRBUS London Stock Exchange"



Source: BETTER FINANCE search on search engine, google.be [accessed on 15/03/2021 at 16:47 CET (GMT+1)]

From the main page of the London Stock Exchange (https://www.londonstockexchange.com/), there is a user-friendly search function that suggests results after typing in the company name, from which it requires one click to arrive to the pre- and post-trade data page.

Screenshot 11. Search "AIRBUS" on LSE home page



Source: https://www.londonstockexchange.com/ [accessed on 20/03/2021 at 14:59 CET (GMT+1)]

From this point of view, finding the trade transparency data page for the two companies was the easiest and fastest on LSE of all websites researched. Having arrived on the trade data page, the research team found many trade quotes, but in overall very confusing information.



First, the user is disclosed several figures which are not explained on the page (nor with popups or hover-over-text functionalities) and for which the research team had to assume that (Screenshot 12 below):

- the main figure (100.57) would perhaps be the last price at which the equities were traded (post-trade data), but without a timestamp;
- two figures (100.57 and 100.00) marked "High/Low", which we assume it is the last highest and lowest prices at which the equity was traded during that day;
- two other figures (95.09 and 105.44) marked "Bid/Offer", which suggests those are the last published pre-trade data;
- <u>confusing timestamp</u>: below these figures, without an indication if applicable to all or only to a few, the webpage displays the timestamp and only indicates "as at (...)".

Only having read the instructions, which require a certain level of financial literacy, the research team understood the figures displayed on the main page:

- the main figure (100.57) is the "last automatic trade, the last uncrossing price or the mid-price of the best bid and offer prices available for the security", thus it should be real-time;
- two figures (100.57 and 100.00) marked "High/Low" are the daily highest and lowest "price reached" for the company in question, for which we assume the timestamp underneath applies;
- two other figures (95.09 and 105.44) marked "Bid/Offer", are the buying and selling prices, for which we assume the timestamp underneath applies;



Screenshot 12. "AIRBUS" trade data page on London Stock Exchange

Source: http://www.londonstockexchange.com/market-stock/OKVV/airbus-se/overview [accessed on 16/03/2021 at 09:23 CET (GMT+1)]

Thus, the result is that a non-professional user would have to first go through the explanations page to get a basic understanding of what the figures mean, which still leaves one in the dark as to the exact time applicable. Moreover, the research team had difficulties finding the real-time post-trade price in the list of intra-day historical prices.



On the website of TP ICAP MTF

For TP ICAP MTF, the searching the company name and market name on the search engine returned no relevant results. However, the research team was able to find a webpage, but the main links and sections were redundant and did not lead to any online trade data for any of the securities traded on that venue. The main page presents technical information about the trading venue (overview, operator information, products, rulebook or trading hours), but no link or indication whatsoever to where the pre- and post-trade data can be made available in accordance with EU law.

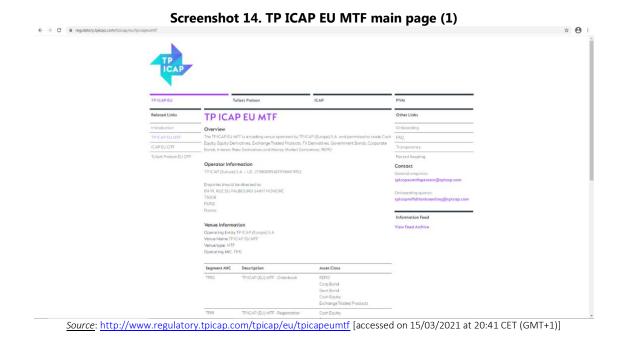
Although, in hindsight, the research team observed that the third result displayed directs to the MiFID II Transparency data of the equity trading venue, it is not intuitive for a non-professional user to not see the name of the company searched among the top results.

× 🌷 Q Q All a Images B News I Videos 👽 Maps : More About 6.260 results (0,54 seconds) The TP ICAP UK MTF is a trading venue operated by ICAP WCLK Limited and permitted to trade Cash Equity, Equity Derivatives, Exc Missing: AIRBUS | Must include: AIRBUS ves, Exchange Traded Products, TP ICAP EU MTF The TP ICAP EU MTF is a trading venue operated by TP ICAP (Europe) S.A. and permitted to trade Cash Equity, Equity Derivatives, Exchange Traded Products, ... Missing: AIRBUS | Must include: AIRBUS No relevant TP ICAP MiFID II transparency data & quality of execution ICAP EU OTF. OTF. ICOT. ISWAP EU MTF. MTF. ISWP. I-Swap Euro. MTF. ISWA. TP ICAP UK MTF. MTF. ICPM. ICAP Securities Ltd. OTF. IOTF. ICAP Energy. results Interdealer Broker - TP ICAP - TP ICAP TP ICAP: Compliance Manager in Paris France - TP ICAP -TPICAP: Compliance Manager C75EB9 - TP ICAP operates at the heart of the ... Compliance Department; Experience of oversight of a venue (Exchange, MTF, ... Securities Updates - Goldman Sachs | Global Markets SIGMA X MTF & SIGMA X Europe MTF - SIGMA X MTF > News & Updates > Securities Updates. Overview · Becoming a Participant · Information for Participants . BANCA MEDIOLANUM S.P.A. : Banks - NEC Sector News I BMED layed BORSA ITALIANA EQUITY MTF - 01/15 02-11:07 pm. 7.325, EUR, -0.41% ... 2020, TP AP Sues Nex Over Failure to Disclose Probes Into Swaps, 'Cum-Ex' Trading... DJ ... 2020, RBUS : Bank of America maintains a Buy rating, MD.

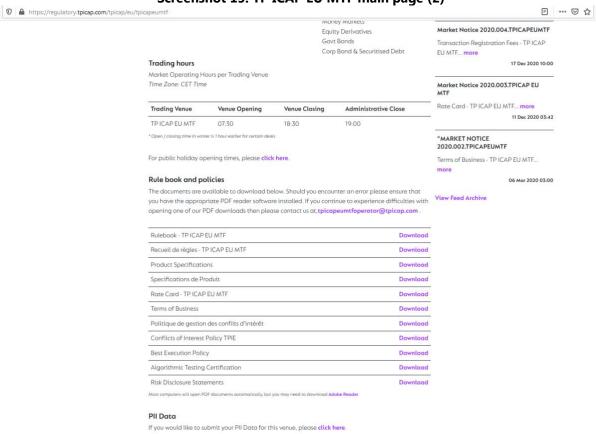
Screenshot 13. Search "AIRBUS TP ICAP" on the search engine and the results

Source: BETTER FINANCE search on google.be [accessed on 15/03/2021 at 16:47 CET (GMT+1)]

Starting from the main page of TP ICAP, the search team found the website section dedicated to the EU MTF of TP ICAP:



Screenshot 15. TP ICAP EU MTF main page (2)

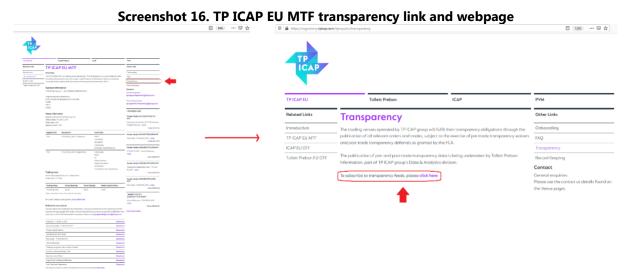


<u>Source</u>: http://www.regulatory.tpicap.com/tpicap/eu/tpicapeumtf [accessed on 22/03/2021 at 09:58 CET (GMT+1)]

After having screened the website, the research team identified the "Transparency" link in the "Other Links" box (Screenshot 16 below), which redirects to a page where the user is required



to "subscribe to transparency feeds", which is plain language for professionals, but jargon for retail savers.

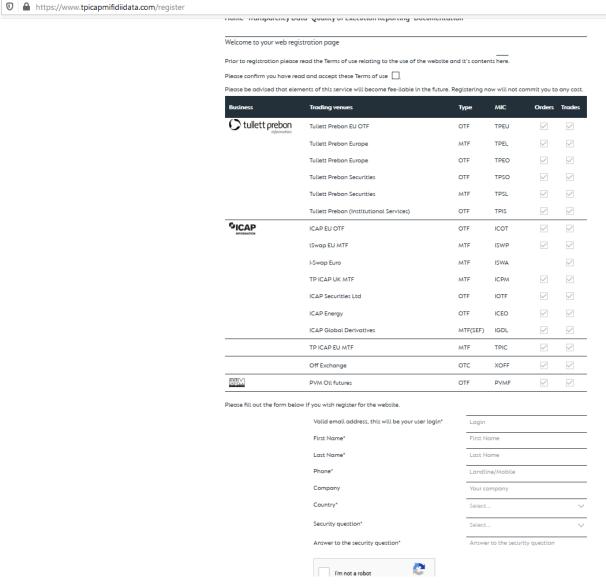


<u>Source</u>: https://regulatory.tpicap.com/tpicap/eu/transparency [accessed and created on 22/03/2021 at 09:59 CET (GMT+1)]

Subscribing to the "transparency feeds" actually redirects to a new page – not identified or described as such before –, the "TP ICAP MiFID II transparency data & quality of execution reporting", where the user must select the "Transparency Data" tab. The user is again redirected to a registration portal which requires filling mandatory fields (the name, phone number, company, postal code and address) in order to register. In our view, asking for registration in any case is a breach of the MiFID II/MiFIR rules on free access to delayed data, but asking more sensitive information is a strong disincentive to pursue this path.



Screenshot 17. TP ICAP EU MTF registration page



Source: https://www.tpicapmifidiidata.com/register; [accessed on 15/03/2021 at 20:40 CET (GMT+1)]

Note: Phone number (landline or mobile) and the country are mandatory fields

After filling the registration data and accepting the terms and conditions for accessing and using the specific website, the user receives a confirmation mail with the password, following which he must log in and arrive to the filtering page.

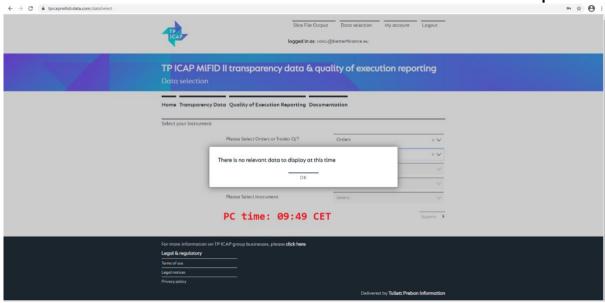
Screenshot 18. TP ICAP MiFID II Transparency data page filters

| ← → C ■ tpicapmifididata.com/dataSelect | | | | | ☆ 😝 |
|---|---------------------------------------|--|--------------------------|------------------------|-----|
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logged in as: v | tput Dato selection My a | Ccount Logout | |
| | TP ICAP MiFID II to
Data selection | transparency data & q | uality of execution | reporting | |
| | Home Transparency Data | Quality of Execution Reporting Doc | umentation | | |
| | Select your instrument | | | | |
| | Pl | lease Select Orders or Trades O/T | Select | <u> </u> | |
| | PE | lease Select Trading Venue | Select | Y | |
| | PE | lease Select Asset Class | Select | ~ | |
| | Pf | lease Select Sub-Asset Class | Select | × | |
| | PI | lease Select Instrument | Select | ₩ | |
| | | | | Submit • | |
| | | | | | |
| | | group businesses, please click here | | | |
| | Legal & regulatory | | | | |
| | Terms of use | | | | |
| | Legal natices | | | | |
| | Privacy policy | | | | |
| | | | Delivered by Tul | ett Prebon Information | |
| | Copyright® 2021 TP ICAP | | | | |
| | | | | | |

Source: https://tpicapmifidiidata/dataSelect [accessed on 15/03/2021 at 21:04 CET (GMT+1)]

After registering and logging in, the operator displays a hard-to-navigate selection of filters for the users to obtain pre- and post-trade data. Screenshot 4 above shows that the user must individually select from drop-down lists the filtering criteria, which is mainly jargon and most of the time (given the limited financial literacy or understanding of "retail" savers) unintelligible: orders or trades O/T; trading venue (16 trading venues, such as TP ICAP EU MTF (TPIC) or Tullet Prebon Europe MTF (TUPEL) without any explanation); asset and sub-asset class and the instrument, where the user **cannot select by name** or **symbol** (abbreviation), **but only by ISIN code**. The website has no search function and selecting equity securities based on the ISIN code is very difficult – if not far out of reach – for individual, non-professional investors.

Screenshot 19. Pre-trade date not available on TP ICAP EU MTF after markets open



Source: https://www.tpicapmifidiidata.com/dataSelect [accessed on 22/03/2021 at 09:49 CET (GMT+1)]



The research team re-attempted at later times and the same message was displayed. Later in the trading day, the research team was able to access "Order" data (pre-trade) and, after arriving on the relevant page, no order quotes were displayed.



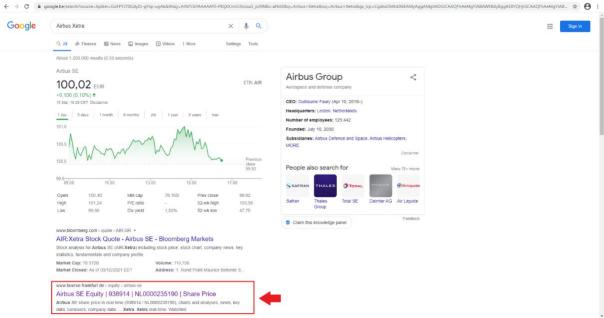
Source: https://tpicapmifidiidata.com/data-viewing/order [accessed on 22/03/2021 at 17:17 CET (GMT+1)]

To ensure it was not a browser/platform issue, the research team clicked "refresh" and also tried with a different equity instrument: the same result was shown.

On the website of Xetra

Finding the company trade data page using a search engine did not prove as easy and simple for a non-professional user (as for LSE or Euronext): searching [company name] + [exchange name] returns the top result a webpage of a different market data provider, and the second result (the relevant one) is counter intuitive as the name of the domain of the website is different from what the user would expect (boerse-frankfurt.de instead of Xetra).

Screenshot 21. "AIRBUS Xetra" search



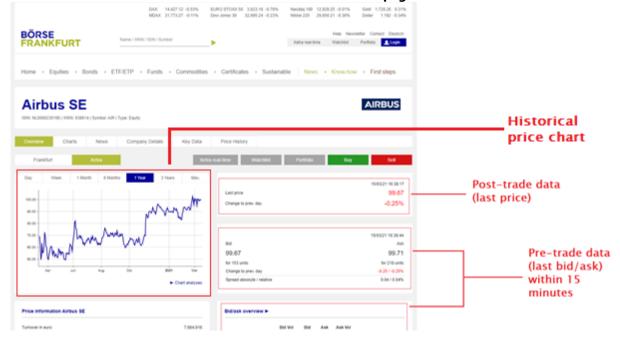
Source: BETTER FINANCE search on google.be [accessed on 15/03/2021 at 16:47 CET (GMT+1)]

Searching for company data is slightly easier by using a search engine rather than the main page of Xetra: after submitting "Search" on the "Price search" box, the user is redirected to a new, different website (Börse Frankfurt) where he must search again for the company, after which the user is redirected to the company trade data page.



Source: https://www.xetra.com/xetra-en/ and https://www.boerse-frankfurt.de/ [accessed on 21/03/2021 at 23:45 CET (GMT+1)]

Screenshot 23. "AIRBUS" trade data page on Xetra

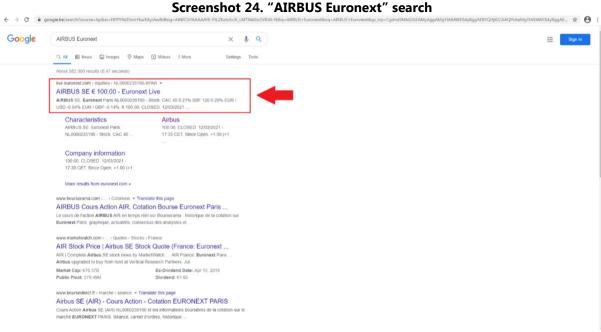


Source: http://www.boerse-frankfurt.de/equity/airbus-se [accessed on 15/03/2021 at 16:53 CET (GMT+1)]

Screenshot 4 above also stands to show the user-friendly format of the Xetra page, where a non-experienced user can quickly find the necessary pre-trade info on the company researched.

On the website of Euronext Paris

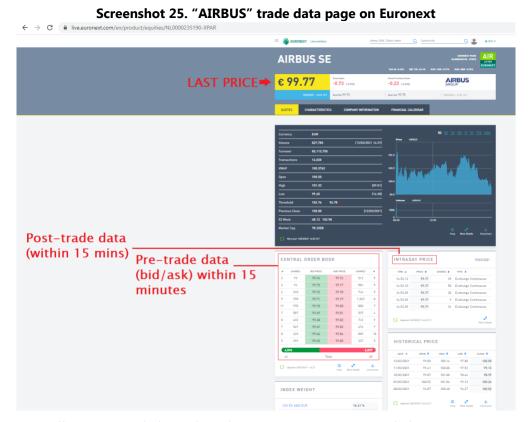
Finding the company trade data page using a search engine proved easy and simple for a non-professional user (as for LSE): searching [company name] + [exchange name] returns the top result the relevant webpage.



Source: BETTER FINANCE search on google.be [accessed on 15/03/2021 at 16:47 CET (GMT+1)]



Starting from the main page of Euronext, finding the company data page proved third easiest for Euronext, as explained below.



Source: http://live.euronext.com/en/product/quities/NL0000235190-XPAR [accessed on 15/03/2021 at 16:52 CET (GMT+1)]

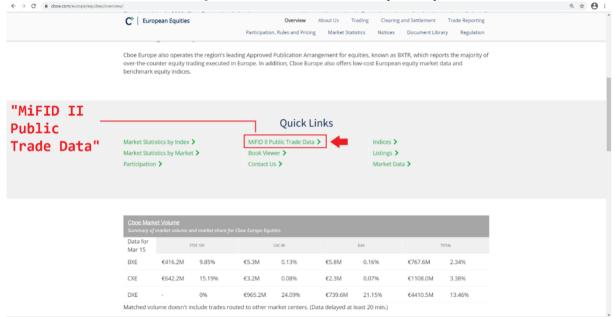
As it can be seen in Screenshot 3 above, the main page provides a transparent and user-friendly layout with all necessary information about the searched company for the non-professional user: key info (top dashboard and first box), pre-trade data (left-hand side "Central order book") and post-trade data (right-hand side "Intraday price") and the historical prices (below). The post-trade data box can be expanded to show the last 20 transactions; the historical price data, the central order book (pre-trade data) can be downloaded in Excel format; the chart (dark box above) contains the historical prices of the company and can be downloaded in 6 formats.

1.2 Post-trade data

On the website of Cboe European Equities

From the main page of Cboe European Equities (Screenshot 3 above), it takes four clicks (redirections) to arrive to the post-trade data page; however, this (shortest) path is difficult to achieve as it requires specialised knowledge. As apparent on Screenshot 26 below, the "Quick Link" that redirect to the registration page is called "MiFID II Public Trade Data".

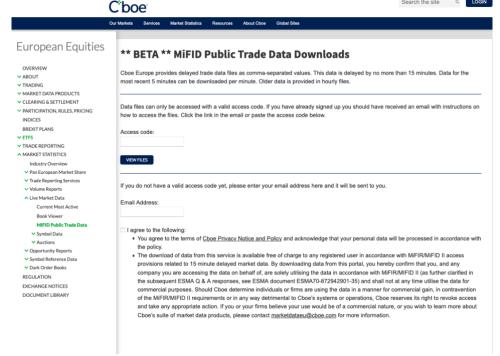




Source: http://cboe.com/europe/equities/overview [accessed on 15/03/2021 at 17:11 CET (GMT+1)]

In our view, "MiFID II Public Trade Data" is jargon and non-professional investors can't know what this refers to. After clicking on the link, the user is redirected to a webpage "MiFID Public Trade Data Downloads", where the user is required to submit an email address and consent to the terms and conditions of the website, following which an email with the access code is sent via email.

Screenshot 27. Former Cboe "Book Viewer" in Beta version



Source: browser archives from BETTER FINANCE from https://cboe.com/europe/equities/trade_data/login [accessed 16/01/2021]

A striking aspect with respect to the (lack of) compliance of the new non-"lit" market leaders is their loose implementation of the transparency standards. The Cboe Europe post-trade data page on their



website remained marked as a "Beta" configuration until early January 2021. We were surprised that three years after the entry into force of MIFID II, Cboe had not produced a final version of its website that fully met the compliance requirements. Moreover, the disappearance of this "beta" mention from Cboe website has not translated into improvements in terms of presentation or usable and understandable format. As a minimum requirement, the transition to the "final" version of the website has only been achieved through the addition of "quick links" to the pre- and post-trade data. However, these changes did not meet our requirements as presented in our evaluation.

Screenshot 28. Registration page for Post-Trade data on Cboe Europe ← → C 🖺 cboe.com/eu Q # 8 : Search the site Q LOGIN C^{*}boe < **MiFID Public Trade Data Downloads** European Equities Cboe Europe provides delayed trade data files as comma-separated values. This data is delayed by no more than 15 minutes. Data for the most recent 5 minutes can be downloaded per minute. Older data is provided in hourly files. Data files can only be accessed with a valid access code. If you have already signed up you should have received an email with instructions on how to ▼ TRADING ➤ MARKET DATA PRODUCTS

CLEARING & SETTLEMENT access the files. Click the link in the email or paste the access code below Access code: PARTICIPATION, RULES, PRICING BREXIT PLANS VIEW FILES TRADE REPORTING ↑ MARKET STATISTICS
Industry Overview If you do not have a valid access code yet, please enter your email address here and it will be sent to you. ➤ Pan European Market Share ➤ Trade Reporting Services ✓ Trade Reporting Services
✓ Volume Reports
^ Live Market Data
Current Most Active ☐ I agree to the following: agree to the following:

* You agree to the terms of <u>Close Prisor</u>, <u>Notice and Policy</u> and acknowledge that your personal data will be processed in accordance with the policy.

* The download of data from this service is available free of charge to any registered user in accordance with MRRIPARIFO II access provisions related to 15 minute dealeyed market data. By downloading data from this portal, you hereby confirm that you, and any company you are accessing the data on behalf of, are solely utilizing the data in accordance with MRRIPARIFO II (as further clarified in the subsequent ESMA Q. A responses, see ESMA document ESMAD #2724290.35) and shall not at any time utilize the data for commercial purposes. Should Choe determine individuals or firms are using the data in an anneare for commercial purposes. Should Choe determine individuals or firms are using the data in a mannee for commercial purposes. Should Choe determine individuals or firms are using the data in a mannee for commercial purposes. Should Choe determine individuals or firms are using the data in a mannee for commercial purposes. Should choe determine individuals or firms are using the data in a mannee for commercial purposes. Should choe determine individuals or firms are using the data in a mannee for commercial purposes. Should choe determine individuals or firms are using the data in a mannee for commercial purposes. Should choe determine in the subsequent that the data for commercial purposes. Should choe determine the subsequent that the data for commercial nature, or you wish to learn more about Choe's suite of market data products, please contact marketdataeu@choe.com for more information. Book Viewer MIFID Public Trade Data

Symbol Data

Auctions

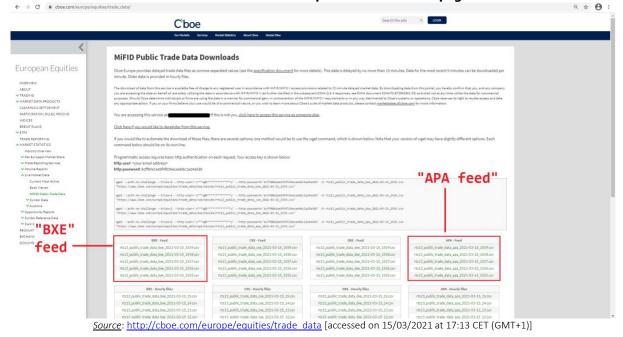
Source: http://cboe.com/europe/equities/trade_data/login [accessed on 15/03/2021 at 17:12 CET (GMT+1)]

✓ Opportunity Reports ➤ Dark Order Books

After filling the access code (which is the same for all future connections or logins), the following post-trade data page is displayed.



Screenshot 29. Cboe Europe Post-Trade data page



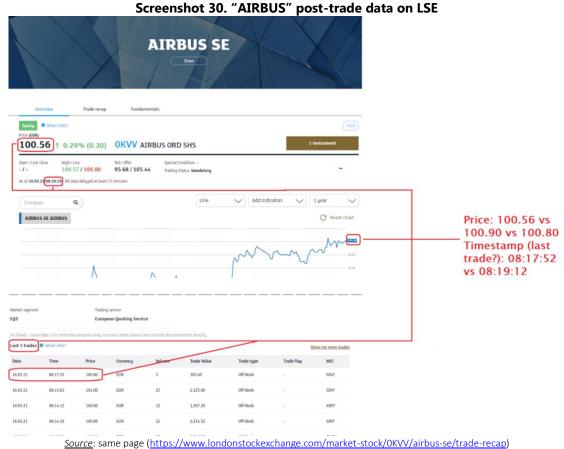
In our view, although multiple data files are available in Excel-compliant (comma-separated values) format, including the latest 5-minute data, we find that the display (names and symbols) prohibitive for non-professional users.

On the website of Goldman Sachs SI

The research team could not find a website or webpage of Goldman Sachs SI where post-trade data is publicly available.

On the website of London Stock Exchange

With regards to the former EU-headquartered largest RM, we believe that trade data is firstly difficult to find due to the inconsistent post-trade information displayed and presentation format on the page. This is because the user would be required to go through all the information displayed on the page to reach, at the bottom, the "Last 5 trades". However, the last 5 trades information is not consistent with the last price displayed in bold and big size fonts at the top of the page and neither the timestamps do; moreover, this trade data is also "delayed at least 15 minutes" which is not a timestamp and does not seem to be compliant with EU law (15 minutes maximum).



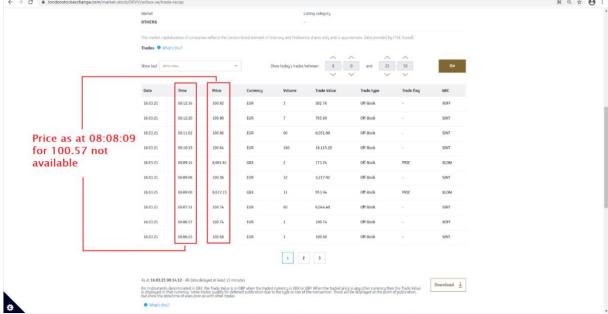
NB.: The full info could not be captured with sufficient detail on the same screenshot [accessed on 16/03/2021 at 09:19 CET (GMT+1)]

Three different prices are shown: first, the top 100.56 compared to the one in the historical price chart (100.90) and the most recent price in the "Last 5 trades" table at the bottom of the page, indicating 100.80 at a timestamp that does not coincide with what (assumingly) is the timestamp for the bottom price. Thus, the question stands: which one is the last price: 100.56, 100.80, or 100.90?

The research team took several subsequent screenshots of the same page, but at different times, for the two researched companies, to ascertain whether the "last 5 trades" section at the bottom of the page is updated and, if yes, at what frequency.

From the company data page on London Stock Exchange, it is possible to view all the transactions carried in the current day by clicking on the "Trade recap" tab on top: the user is redirected to a separate section, as shown below.





Source: https://www.londonstockexchange.com/market-stock/0KVV/airbus-se/trade-recap [accessed on 16/03/2021 at 09:29 CET (GMT+1)]

However, the research team found two inconsistencies in the trade data page of LSE: the price displayed for the company researched (as at 08:08:09 UMT+0) of 100.57 was not found in the last 10 trades displayed and concluded before and after that timestamp (between 08:06:45 – 08:12:34).

On the website of TP ICAP EU MTF

Searching for post-trade data on the TP ICAP website requires knowledge of what filters and market venues to select.

Source: http://tpicapmifidiidata.com/dataSelect [accessed on 22/03/2021 at 09:58 CET (GMT+1)]



After arriving to the trade data page of a randomly selected ISIN number (DE00006047004, corresponding to Heidelberg Cement), the research team observed only one post-trade data series (Price: 72.32; Vol: 66767; Time:12:44:33) below:

Screenshot 33. Post-trade data for a random equity on TP ICAP EU MTF

Source: https://www.tpicapmifidiidata.com/data-viewing/trade [accessed on 22/03/2021 at 09:55 CET (GMT+1)]

The page mentions "Showing **real-time** trade data", but the research team is actually uncertain of the timestamp of the data displayed: the PC time indicated 09:55 (CET), and based on the information showed: the "Trade Date/Time UTC" seems to indicate 17 March 2021 ("2021-03-17") AND 12:44:33.9 (T12:44:39.9).

On the website of Xetra

Besides the main page, more price history data is available under the "Price History" tab, both for pre-trade (historical bid/ask quotes) and post-trade data (historical prices and volumes, as well as "tick" data). The historical data can be searched both for Börse Frankfurt and XETRA; however, the research team did not find a way to download these data sets.

(see following page)

Screenshot 34. "AIRBUS" Post-trade data on Xetra Description between the selected regardly induses expose hattery designed in boards and the selected flowers and it by the country of the selected flowers and it by the country flowers and the selected flowers to be formed to as and the selected flowers to be formed to as and the selected flowers to be formed to as and the selected flowers to be formed to as and the selected flowers to be formed to as and the selected flowers to be formed to as and the selected flowers to be formed to as and the selected flowers to be formed to as and the selected flowers to be formed to as and the selected flowers to be formed to as and the selected flowers to be formed to as and the selected flowers to be formed to as and the selected flowers to be formed to as and the selected flowers to be formed to as and the selected flowers to be formed to as and the selected flowers to be formed to as and the selected flowers to be flowers to as and the selected flowers to be flowers to be flowers to as and the selected flowers to be flowers to as and the selected flowers to be flowers to be flowers to as and the selected flowers to be flowers to be

Source: http://boerse-frankfurt.de/equity/airbus-se/price-history/tick-data [accessed on 15/03/2021 at 17:01 CET (GMT+1)]

However, for Xetra the user would have to search the page to find the "Price History" tab, under which the "Historical Prices and Volumes" section can be misleading if one needs to find the intra-day post-trade data. Only by browsing the three different sections would the non-professional user find the "Tick Data" tab (which is jargon and non-intuitive) for the intra-day prices and would have to read the explanation to understand that the list contains the historical trade prices of the day.

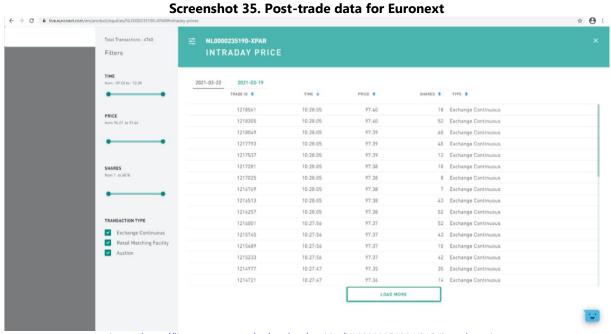
In order to obtain the most equitable evaluation possible, as in this instance where the strict application of our methodology was deemed not possible due to a "margin of appreciation", we were led to cross-consider some methodology points. Three aspects were thus considered in close interrelation: namely "easily accessible", "clear presentation and usable format", and "understandable language".

As such, Xetra's "easy accessibility" of post-trade data is rated as medium, although marked with a green check (Infographic 8 in the main report) as it is not as easy to obtain as for the LSE or Euronext ones; nevertheless, we believe that the layout and display used by Xetra suffice to enable retail investors, without a significant amount of effort, to find the post-trade data in question. Overall, the clarity of the presentation and format, in correlation with the accessibility factor, allows us not to consider it as strictly non-conforming.



On the website of Euronext

The pre-trade data is easy to find on the Euronext website and it can be expanded in a separate page to obtain more quotes, including from the previous trading day; the data on this page, however, cannot be downloaded.

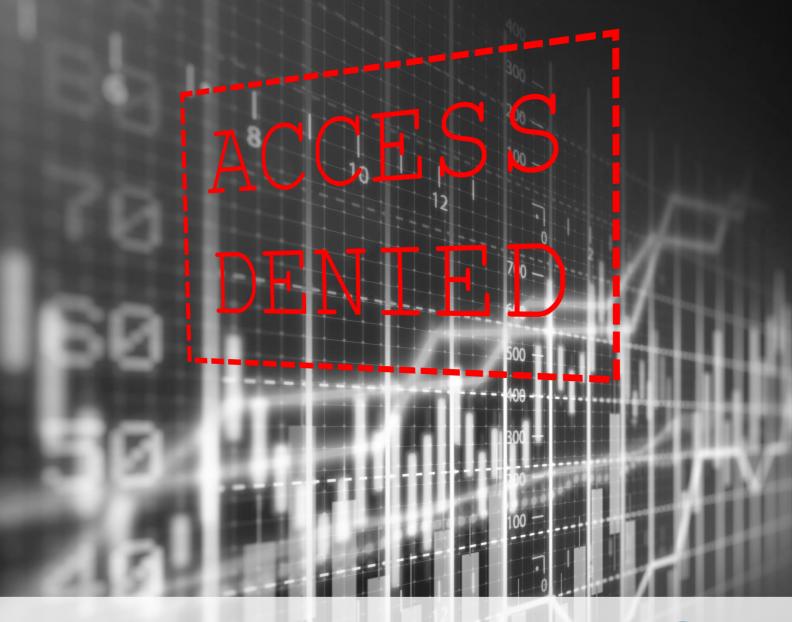


<u>Source</u>: https://live.euronext.com/en/product/equities/NL0000235190-XPAR#intraday-prices [accessed on 22/03/2021 at 10:28 CET (GMT+1)]

Conclusion

This Annex is meant to show how impossible or difficult it has become for non-professional, non-paying users to access and obtain the mandatory publicly available trade data in the EU, as well as the striking differences in terms of accessibility and user-friendliness between platform operators. While some of the requirements set out in MiFID II and MiFIR are merely "ticked", others are not met. This lack of compliance happens with the largest trading venues in the EU.

As Infographic 8 (in the main report) illustrates, the two main EU-based RMs still provide easy online access within seconds or minutes (and only one click from home page after typing the company name there) for post-trade delayed data and within 15 minutes for pre-trade ones, but they now represent only a small minority of the EU equity markets.



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