
Consultation Response

FCA Call for Input on 'Accessing and using wholesale data'

07/01/2021

Introduction

The Association for Financial Markets in Europe (AFME), welcomes the opportunity to comment on the ***FCA Call for Input on 'Accessing and using wholesale data.'***

AFME represents a broad array of European and global participants in the wholesale financial markets, its members include pan-EU and global Banks as well as key regional Banks. We advocate stable, competitive, sustainable European financial markets that support economic growth and benefit society. AFME is the European member of the Global Financial Markets Association (GFMA) a global alliance with the Securities Industry and Financial Markets Association (SIFMA) in the US, and the Asia Securities Industry and Financial Markets Association (ASIFMA) in Asia. AFME is registered on the EU Transparency Register, registration number 65110063986-76.

Our response reflects input from AFME members on their general experience and opinion relevant to the questions raised by the FCA and for the avoidance of doubt neither AFME nor its members are commenting on the actions of any particular party or alleging any illegal conduct on the part of any party. Our response to certain questions may be constrained by AFME members being unable to disclose confidential or commercially sensitive information. However we have tried to provide helpful input in general terms on the types of experiences which members have faced.

Trading data

Questions for users of trading data

Q3.1. What type of trading data do you use/obtain directly from trading venues and APAs, and how do you use trading data?

Trading data is used by AFME members¹ to determine what order to make, when to execute, where to execute and to confirm and document best execution. Market participants' requirement to fulfil investor protection obligations and therefore consume trading data provides exchanges with the power to maintain high trading data costs independently of other exchanges and of their clients.

As a result, AFME members consume both displayed and non-displayed data (Level 1 & 2) from numerous trading venues at an inflated price when compared to the cost of the production and dissemination of that trading data. Generally, this data is consumed on a real time or low latency basis.

Q3.2. Are you content with the price, quality, provision, coverage, speed and depth of trading data (or other data sold by trading venues or APAs)? If you are not satisfied with any of these elements, please explain why not and the impact this has on your business.

AFME considers that the rising cost of market data represent a material challenge to the effective functioning of markets. We agree with ESMA's conclusions that MiFID II has so far not delivered on its objective to reduce the price of market data and to make data available free of charge 15 minutes after publication. We also agree with the FCA's statement that "MiFID reforms have also opened up trading venues to greater competition. Trading venues that see their margins squeezed on trading activities could exploit any market power they have in relation to the supply of trading data to

¹ Please note that this response is intended to provide feedback to the FCA on its Call for Input on market data and inform the FCA's consideration of regulation in this area going forward in the public interest. Our response reflects input from AFME members on their general experience and opinion relevant to the questions raised by the FCA and for the avoidance of doubt neither AFME nor its members are commenting on the actions of any particular party or alleging any illegal conduct on the part of any party. Our response to certain questions may be constrained by AFME members being unable to disclose confidential or commercially sensitive information. However we have tried to provide helpful input in general terms on the types of experiences which members have faced.

increase data prices, reduce quality and innovation". In our view, this has been the case and has had a detrimental impact on markets and, more importantly, end investors.

The increase in the cost to market participants of this essential component of the trading venue service offering represents a significant barrier to trading venue access. This includes indirect cost increases from venues separating use cases and imposing separate license charges for each whilst still increasing charges for the core service (recent examples include derived data rights, access to and retention of historical data, systematic internaliser use, and research and advisory use). We expand on this point in our response to Question 3.4 where we set out the impact of rising trading data costs on AFME firms' expenditure on trading data.

Furthermore, we note that a trading venue which facilitates the execution of a trade between two counterparties or the APA to which the trade is reported enforces its monopoly by imposing new licence restrictions to the trade data meaning that counterparties to a trade have to pay to access their own data. AFME members consider that this is an unfair system which applies minimal value to the counterparties of a trade, without whom the data would not exist.

In addition to market data costs the licensing of market data is often complex, within market data agreements there are often indirect costs and requirements stipulated via the vendor. As market data agreements do not include service level agreements (SLAs) vendors are not impelled to ensure the condition or availability of the data.

Q3.3. Do you consider any trading venues or APAs set of trading data a 'must have' for your business purposes? If so, please explain why. For example, is it linked to a liquidity threshold in the relevant financial instrument and/or to best execution requirements considerations?

Trading data from the majority of trading venues can, unfortunately, be considered a 'must have' due to a market failure.

Trading venues with a considerable market share in a security are able to exert high pricing power in the market data for that security. Market participants are forced to buy trading data from that trading venue as a condition of access to fulfil investor protection obligations (best execution, order protection and fiduciary duty obligations) while being an active contributor to the price being formed. It is worth noting that trading firms without specific best execution obligations are also compelled to obtain low-latency proprietary exchange data in order to stay competitive. Where trading profits are won and lost in milliseconds or microseconds and depend on detailed order-by-order market data, the only realistic choice is to pay for the data or exit the business.

The current provisions allow the trading venue to utilise high trading data revenues to cross subsidise *ad volorem* execution fees (which are subject to competitive forces). This helps the venue to maintain its market share in the trading of the security and therefore maintains its pricing power from a trading data perspective. It should also be noted that the closing price in a given stock is determined by closing auctions, which generally take place on primary venues. Given the growth of activity in closing auctions and the importance of the closing price, market data users are reliant on primary venues for this data.

Breaking the cycle described above would lead to lower market data charges for consumers and more open, resilient, and deeper capital markets as well as removing cost barriers to entry.

AFME members would also like to highlight that MiFID II includes regulatory requirements for firms to consume primary feeds. For example, a multilateral trading facility (MTF) operating under a reference price waiver (RPW) is required to use primary exchange feeds to set the reference price. Equally, systematic internalisers (SIs) must provide prices that "reflect prevailing market conditions where they are close in price, at the time of publication, to quotes of equivalent sizes for the same financial instrument on the most relevant market"². In order ensure compliance, SIs must consume data from the most relevant market which will often be a primary exchange.

Q3.4. For each data set you use, how have the trading fees, trading data costs and quality evolved over the last 5 years? What impact has this had on your business and your clients?

² Article 10 of RTS 1, MiFID II

Having consolidated data from a variety of AFME members, AFME observes that costs have risen for equity instruments. Our results support the FCA's statement that "trading data have become a key growth driver and major source of revenue for a number of trading venues"³.

We note that the most significant increases in charges for non-display consumption (typically used for algorithmic trading, smart order routing or market making). Amongst AFME members surveyed there was, on average a 96% increase in firm expenditure on Level 1 and Level 2 non-display fees between H1 2017 and H1 2019. Within the same time frame there was, on average an 9% increase in Level 1 and Level 2 per user fees (generally the cost "per display", or per screen that visualises the data). Increases vary by operator but clearly suggest that pricing remains driven by firms' need to consume the data rather than its cost of production and dissemination.

Please see the below anonymised tables which shows increases in expenditures per trading venue.

Per user L1 and L2 market data expenditure per trading venue (H1 2017 to H1 2019)⁴

Year	Half	TV1	TV2	TV3	TV4	TV5	TV6	TV7	TV8	TV9	TV10	TV11	Average
2017	H1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
2017	H2	4%	7%	4%	4%	9%	0%	6%	2%	2%	-1%	2%	3%
2018	H1	11%	10%	36%	16%	7%	9%	11%	-7%	8%	-4%	7%	9%
2018	H2	12%	5%	42%	20%	25%	3%	2%	-16%	2%	-3%	8%	7%
2019	H1	9%	11%	51%	16%	-3%	9%	12%	-13%	5%	-4%	1%	9%

Non-display L1 and L2 market data expenditure per trading venue (H1 2017 to H1 2019)⁵

Year	Half	TV1	TV2	TV3	TV4	TV5	TV6	TV7	TV8	TV9	Total
2017	H1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
2017	H2	0%	17%	5%	8%	22%	10%	11%	-4%	12%	10%
2018	H1	-27%	3%	7%	415%	61%	18%	151%	0%	28%	41%
2018	H2	-27%	0%	5%	439%	50%	35%	176%	-2%	20%	41%
2019	H1	-7%	66%	5%	417%	107%	76%	188%	55%	20%	96%

Within fixed income markets, low levels of competition have led to minimal incentives for market data providers to price competitively. There is a smaller choice of trading venues (when compared to equity markets) and there is no incentive for a buy-side participant to trade elsewhere given a new venue carries a significant internal cost of connectivity and impact to internal processes. This further encourages pricing power to reside firmly with a small number of trading venues:

- Government cash bonds, traded on three venues and the majority are executed on two venues: and
- Credit cash bonds, traded via three venues, majority executed on one venue

In addition, as a broader example, a significant fixed income EU trading venue has historically kept transaction fees relatively low but required market participants (end users) to subscribe to their terminal/interface to access the trading functionality. Since 2018 and the introduction of MiFID II, this venue is classified as an MTF which is considered a regulated market/trading venue. This MTF has always imposed transactional fees; between 2018 and 2020 these fees were imposed per trade, based on a tiered schedule on the size of trade. From 2021 this MTF is changing the fee structure to a model which now charges per basis point, resulting in a significant increase in transactional fees. The impact on AFME members and their clients is likely to be a very significant increase in the costs of trading creating a potential barrier for entry into the market.

³ Para 3.19, FCA Call for input on Accessing and Using Wholesale Data

⁴ Based upon a survey of 5 representative AFME members

⁵ Based upon a survey of 5 representative AFME members

The disaggregation of data in fixed income markets has also led to pricing at a “technical use” level. Regulated markets have introduced a charging model for disaggregated data which has seen Investment Firms incur additional separate charges for trading, risk, regulatory compliance, pricing, and valuations for the same data.

Additionally, there are a large number of SIs reporting via a broad number of APAs. Given a significant volume of business is OTC and traded off-venue via SIs, to get a complete picture of the fixed income market requires connectivity to all APAs and MTFs. These factors combined influence the ultimate costs paid for data.

Q3.5. How easy are trading data pricing/licensing terms to understand and comply with? What, if any, do you find to be complex or restrictive and what impact does this have on your business?

Increasing restrictions around usage rights within license terms unreasonably inhibit and create uncertainty around market participants’ practical uses of market data. Understanding and complying with data pricing/licensing terms requires significant resource, for example the pricing frameworks differ significantly between exchanges and has become an unnecessary burden to both buy and sell side firms. Furthermore, the duration of the auditing process for both the firm and the exchange is a lengthy process, which on average can take up to a year to complete. This means organisations are often in the process of conducting multiple audits simultaneously which is both time and resource intensive.

Furthermore, over the past decade AFME members have witnessed exchanges routinely and unilaterally modify contractual licensing agreements, without members being offered a period of reflection in relation to the modified terms and conditions. More recently (over the past two years) in terms of market data requirements many of the modifications to license agreements relate to “non-measurable” activities, such as types of usage based on instrument type, or/and client/subscriber type. Members note that such licensing terms are growing in commonality and are impractical for investment firms to adhere to, as the information requested is simply unreasonable for firms to obtain despite best efforts including firms dedicating extensive resources to complying with these nuanced obligations which were not specified at the time the contractual agreement was confirmed.

Members have also experienced challenges relating to usage rights within license of service providers which provide consolidated feeds to several trading venues and APAs. This means members must ensure compliance with the contractual terms and conditions of each venue and also with those of the solution providers who often adopt different pricing models to those of the trading venues, making it difficult to undertake meaningful cross benefit analysis/comparisons.

Members consider that licensing terms are extremely difficult to decipher, making it onerous to understand what information is included (e.g., type of data, streamlined or delayed) if the data provided is suitable for firm’s business purposes and governance procedures. Prohibition on derived data creation and distribution (without further licensing, charging, reporting, etc) is an unreasonable complexity and restriction as data analysis is an essential part of serving clients and meeting regulatory obligations, plus the restrictions potentially limit innovation as they prevent creation of, for example, evaluated pricing services that could benefit end users. Data vendors should only be allowed to charge separately for derived data use if it includes external use of their protectable intellectual property (i.e. trademarks) in a manner that would require licensing under intellectual property rules (rather than using contract terms they can impose as monopolies to implement restrictions that they would not otherwise have under the law).

Members note that the increased complexity of non-display licenses in some cases has resulted in the requirement for consumer firms to report trade data (including details of securities traded etc.) which is a comprehensive process for many firms to undertake. The complexity of market data license agreements means that consumers of market data do not deal directly with the respective vendor of the market data but the agreement between the trading venue and the client/customer pertains indirect costs and restrictions outlined by the vendor meaning in some cases, members have to review carrier terms, exchange terms and index provider terms to establish usage rights (and these often conflict”).

AFME members would appreciate standardised definitions for real time data and delayed data, we note that ESMA’s current consultation paper titled “Guidelines on the MiFID II/ MiFIR obligations on market data” looks to address such concerns.

AFME members highlight the unilateral power that Market Data Providers (MDPs) have. In general, there is no legal framework defining MDP's ability to unilaterally impose changes on contract terms or require additional fees. Not only does this create possible room for conflict of interests on the MDP's side, but it also requires supplementary work for members in order to comply with the additional requirements. In other words, MDPs do not negotiate changes to contract terms with the members of the venue(s), even though those changes represent frequent challenges for the members themselves. Furthermore, MDPs that operate trading venues have the ability to collate and utilize direct inputs such as quotes, and prices provided by members/participants of the venue within their own data products/broadcasts. AFME members maintain that MDPs should be obligated to clarify how any charges the MDP requests for their product is reflective of the venue's own costs and value add. Furthermore, MDPs should justify any proposed increases to costs through a clear explanation detailing whether the cost increase is attributed to an increased value add being provided, the adaption of a service or an increase in the cost base.

In relation to the information disclosed by trading venues to demonstrate that market data is available on a reasonable commercial basis, AFME members agree with ESMA's assessment that the information provided by trading venues and APAs "does not empower users to determine how the price for market data was set". We also agree with ESMA that the information provided does not allow for any meaningful comparison of the approach taken between trading venues and APAs.

Documents which AFME members have been able to obtain and review typically provide the user with a qualitative list of general cost types born by the venue. They usually provide no substantive information as to the resulting costs which were considered as the basis for market data pricing nor the *reasonable margin* or *appropriate share* of joint costs included.

Furthermore, trading venues do not allow users to easily separate between the cost of data production and dissemination and the cost of operating a trading platform. For example, in their "Market Data Transparency Obligation Disclosures" statement, London Stock Exchange state that "London Stock Exchange Trading and Market Data businesses provide jointly produced services: a single technology platform facilitates both trading activity and data production and it is not possible to offer one service without the other"⁶.

Another common approach is for trading venues to provide high level explanations of their methodology without providing supporting figures or relevant data. For example, in its "Transparency Obligation for Market Data under MiFIR" statement, Deutsche Boerse states that:

*"the determination of the relevant cost basis for the identification and assessment of the reasonable commercial basis of the fees set are the direct fixed and variable costs of the data business. As outlined above, those direct costs will be supplemented with attributable indirect costs and shared joint fixed and variable costs"*⁷.

Similarly, Bloomberg APA states that:

*"the cost accounting methodology used to calculate the cost of producing and disseminating the market data has been direct identification of costs, plus an allocation of those costs based on expected volume of data generated by BDRS BV"*⁸.

AFME members have observed that exchanges are increasing licensing data for narrowly defined use (based on corporate entity, business divisions, named users, location and/or usage type). Members are then required to agree amendments or separate agreements for relatively minor changes in scope. This includes exchanges licensing separately for systematic internaliser (SI) requirements (separate and distinct from non-display fees already paid for) resulting in members being required to pay multiple times over the previously accepted rate for the same data. Given that being an SI represents an additional regulatory status and not an additional use of data, AFME members do not believe that these fees can be justified. It is worth noting that if their activities meet the definition of being an SI, firms do not then have a choice about the fees.

⁶ <https://www.lseg.com/sites/default/files/content/documents/LSE%20RCB%20Disclosure%20Document%202020.pdf>

⁷ https://www.mds.deutsche-boerse.com/resource/blob/1334838/3c8268f3984369ea06aa20cb6ba47d07/data/MiFIR-RCB-documentation-english_V1_1.pdf

⁸ <https://data.bloomberglp.com/professional/sites/10/BDRS-BV-Data-Fees-Public-Disclosure-1.pdf>

Moreover, AFME would like to highlight that under Article 10 of RTS 1, MiFID II, SIs are required, as alternative execution mechanisms, to provide prices that “reflect prevailing market conditions where they are close in price, at the time of publication, to quotes of equivalent sizes for the same financial instrument on the most relevant market”. It should be noted that those “most relevant markets” are often the same incumbent trading venues who apply additional SI fees. Therefore, this represents a situation where incumbent trading venues are imposing additional costs to competing execution platforms (in this case SIs) and in doing so are imposing an additional burden to meeting requirements under MiFID II to quote prices reflecting the prevailing market conditions. This goes against the principles underpinning MiFID II/MiFIR and creates an unlevel playing field between trading venues and SIs.


Examples of this practice include Euronext and Warsaw Stock Exchange who have both introduced specific fees for SIs despite the use of the data not having changed. We are also aware that other trading venues have applied further measures, for example BME has a specific fee for systematic internalisers which is applied per Market Identifier Code (MIC). This has a particularly detrimental impact on entities servicing clients in both the EU and UK who have been forced to register more than one MIC in order to be able to service clients post-Brexit.

These newer SI fees are often based on granular counting, such as “turnover value” in the case of the Warsaw Stock Exchange and instrument counts in the case of BME. This type of reporting is outside of traditional market data reporting methodology where there are no current tools to enable reporting and calculation on this basis. For BME, there is different pricing for different groups of instruments. These metrics typically fluctuate monthly and the information is extremely burdensome to obtain. They are also auditable by the relevant exchange pursuant to exchange agreements and require detailed audit trails in order to ensure compliance. In these instances, many firms opt to pay high “alternative fees” or larger annual flat fees in order to avoid potential liability and the aforementioned burdensome reporting models.

Another example of non-traditional or “instrument” reporting and granular disclosures as to use of particular instruments is evident in the CME Group Derived Data agreement where disclosures of use and periodic reporting is based on particular instruments. These instruments fall within different price categories (where the price per instrument also varies) making it almost impossible to determine fees. Again, firms are often inclined to pay a higher flat annual fee which can be disproportionately expensive to users.

AFME would also like to highlight the issue of the LSE’s SEDOL licensing. The SEDOL Masterfile (SMF) is a central data security master for issuer and instrument data with the SEDOL code contributing to a unique, country level, global instrument identifier. This unique code is intended to improve pricing, clearing and settlement across global markets for subscribing participants.

SEDOL is a necessary companion to trading data as a common reference data identifier which is entrenched in banks' systems. It would be incredibly difficult, if not impossible, to remove. LSE has introduced a new pricing model effective from 1 January 2021. This pricing model more than doubles fees for global banks which have multiple business functions. Please see the highlighted sections within the graphic below⁹:



Transition Year: 2021

Effective January 1, 2021 the Exchange will transition Unlimited User Licence customers (User Bands D, E, and F) from a commercial model based on legal entities, to a commercial model based on Business Segments and Regions.

During this transition year, the fee payable will be calculated using a combination of:

- i. 50% of the Legal Entity model (as outlined to the right); and,
- ii. 50% of the Business Segment and Region model (demonstrated on page 11 and 12)

The new fee structure will be phased in over two years (2021 & 2022, 50% each) and the full Business Segment/ Region fee will apply from 1 January 2022.

Following the completed transition to the Business Segment and Region commercial model (effective 1 January 2022), Unlimited User Licence customers (those accessing over 10,000 codes) will be able to distribute an unlimited amount of SEDOL codes at no additional fee, subject to executing a separate Distribution License outlining specific distribution requirements and terms (see page 13 & 14 for more details).

Unlimited User Licences (>10,000 codes)		2021 Fees (per annum)
Legal Entity model		
Band D	10,001 or more SEDOL codes by one legal entity	£29,070
Band E	10,001 or more SEDOL codes by up to five legal entities	£91,865
Band F	10,001 or more SEDOL codes by six or more legal entities	£121,310

London Stock Exchange Group
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⁹ <https://www.lseg.com/sites/default/files/content/documents/SEDOL%20Masterfile%20Pricing%20and%20Policy%20Guidelines%202021%20vF3.pdf>

Fee Structure: Unlimited User Licence Fee Levels



The below fees will apply from 2022 for Unlimited User Licence customers (>10,001 codes) under the new Business Segments & Region model:

2022 SEDOL Unlimited User Licence Fees (per annum)

		Regions		
		1	2	3
Business Segments	1	£35,500	£66,000	£87,000
	2	£66,000	£122,000	£161,000
	3	£87,000	£161,000	£212,000
	4	£97,000	£180,000	£238,000
	5	£103,000	£190,000	£251,000

Finally, AFME would like to highlight the detrimental impact of auditing practices imposed by market data providers. Data consumers are required to undergo audits overseen by exchanges or contracted third parties who are able to exercise significant leverage through the auditing process. Ostensibly, the purpose of these audits is to confirm that the market data recipients understand the policies and are paying fairly and according to contract for data usage. Instead, market data audits have become instruments to recover additional revenues where auditors, without any particular oversight, persist for years reviewing data usage and requiring invasive information causing disruption to business activities. These audit-related activities have developed an industry of audit firms where there may be motivation to recover additional revenues based off their audit findings. Though this financial arrangement often creates conflict, there are no rules, credentials, guidelines, or best practice documents governing the manner in which audits function, instead audits are required by contract and are conducted under subjective rules imposed by exchanges.

Furthermore, a potential by-product of the auditing process is that exchanges and venues may be able to gain insight into their clients' data consumption which may influence the introduction of additional data licenses (that incur a cost) and are required by exchanges and venue in order for clients to access the data they require.

AFME members have raised examples where conflicts of interest exist, for example where third-party auditors are paid a portion of the funds they recover. Another concern relates to the fact that the same third-party auditor will be used to audit multiple data consumers. As part of the auditing process, firms are required to provide sensitive information relating to their commercial practices (sometimes including client information) meaning that an unregulated third party, with unsubstantiated data preservation capabilities, becomes responsible for the safeguarding of highly confidential information.

AFME therefore recommends that FCA provide detailed guidance on auditing practice conducted on behalf of exchanges.

Q3.6. Are you aware of trading venues or APAs charging different amounts to different customers for similar services? Please give specific examples and explain how these practices affect your ability to compete in the markets you operate in.

AFME is aware that certain trading venues have set out proposals to sell a subset of their data at a premium to the entire data package. It is understood that this provides an advantage with regard to latency.

Additionally, AFME would like to highlight the concerning practice of exchanges licensing separately for systematic internaliser requirements (separate and distinct from non-display fees already paid for) resulting in members being required to pay multiple times over the previously accepted rate for the same data.

Q3.7. Please explain when you are charged for the use of delayed data.

AFME members have observed that delayed data is not always accessible in a systematic/machine readable format in the same way as corresponding real-time data. Firms are not able to make full use of the data provided as it is typically provided in a view-only format, and subject to restrictive terms of use (including exclusion of any derived data use). The simple version of “free after 15 minutes” public data published by venues is not fit for any tangible purpose, leaving the user with little option but to accept a higher priced service if they wish to access the market. Please see below a table of delayed data licence fees which provide examples of exchanges charging for delayed data:

Exchange	Delayed Data License Fees	Price List (For Reference)
Bolsas y Mercados Espanoles (BME)	<ul style="list-style-type: none"> Redistribution 	https://www.bmemarketdata.es/docs/docsSubidos/Documentacion/Contractual/ANNEX 4 - FEES IN FORCE.pdf (Page 4 – “Distribution Licence Fee”)
Deutsche Boerse	<ul style="list-style-type: none"> Redistribution 	https://www.mds.deutsche-boerse.com/resource/blob/1334540/ff930625d198a4f9879bfd155d91fec3/data/MDDA_Price_List_10_15.pdf (Page 3 - “Distribution Licence Fees”)
Euronext (includes Oslo Bors)	<ul style="list-style-type: none"> Redistribution 	https://connect2.euronext.com/sites/default/files/documentation/data/For%20Publication%20-%20Information%20Product%20Fee%20Schedule%20%28effective%201%20July%202020%29%20V2.pdf (Page 6 – “Delayed Redistribution Licence Fees”)
London Stock Exchange	<ul style="list-style-type: none"> Redistribution Derived Data (such as NAV calculations) Indices/Financial Products 	https://www.lseg.com/sites/default/files/content/documents/Schedule%20B%20-%202020%20%28003%29.pdf (Page 5 – “Category 4 – Other Data Licenses”; Page 5 – “Calculation and Distribution of Indices/Benchmarks Licences”; Page 6 – “Calculation and Distribution of Derived Data Other Than Indices/Benchmarks Licences”)
Luxembourg	<ul style="list-style-type: none"> Redistribution Non-Display Display 	https://www.bourse.lu/documents/fees-INFORMATION_SERV-market_data_services_schedule-2020.pdf (Page 4 - “Dissemination Fees”; Page 5 – “Activity Fees”; Page 7 – “Non-Display License Fees”)
Nasdaq Nordic	<ul style="list-style-type: none"> Redistribution 	https://www.nasdaq.com/docs/2020/06/24/Nasdaq_European_Markets_Data_Price_List_2_3.pdf (Page 13 - “Nordic Delayed Redistributor”)

Wiener Borse (includes Vienna, Prague, Ljubljana, and Zagreb)	<ul style="list-style-type: none"> • Redistribution • Non-Display • Derived Data (such as NAV calculations) • Indices/Financial Products 	https://www.wienerborse.at/uploads/u/cms/files/market-data/en-annex1-market-data-agreement-2021.pdf (Page 3 - "License Fees"); https://www.wienerborse.at/uploads/u/cms/files/market-data/en-annex1-derived-data-agreement-2020.pdf (Page 3)
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Q3.8. To what extent do you think ESMA's suggested improvements to the RCB requirement will adequately constrain trading data pricing (see 3.23)? Are there other ways to ensure trading data prices are competitive?

AFME members agree with ESMA's recommendations to strengthen the concept that market data should be charged based on the costs of producing and disseminating data and that pricing should not be proportionate to the perceived value of its usage. However, it is important to note that market data providers largely have not complied with the spirit of the MiFID II/MiFIR regulations to provide market data on a reasonable commercial basis. Therefore, it is vital that a future regulatory approach includes mechanisms to ensure that the rules are being followed.

AFME supports ESMA's recommendation to include Level 1 text to standardise RCB information and require that trading venues, APAs, SIs and CTPs share information on the actual costs of producing and disseminating market data. This will set clearer expectations on the expected outcome and degree of compliance with the RCB provisions. Moreover, it will allow regulators to better understand the complexity of a revenue cap approach, should a "transparency plus" be deemed insufficient.

AFME members also recommend that further additional measures be considered including but not limited to: reviewing the intellectual property rights and licenses on quotes provided by and trades executed by investment firms and corporates. To set-up supervisory authorities in charge of control and aspects of costs of market data and have fee changes justified by exchanges and approved by ESMA.

It is important to note that the existing provisions are open to interpretation between producers and users of trading data. Notably, the words reasonable and appropriate are not defined within Article 7 of the Delegated Regulation. The resulting ambiguity provides for room for manoeuvre in deriving a venue's cost base and therefore justifying high market data charges. The provisions also fail to set expectations for what would constitute a reasonable margin over and above costs. For this reason, producer groups have presented a number of arguments to support their view that the appropriate share of joint costs is a high one. AFME members, as consumers, and producers of data do not agree.

Incumbent stock exchanges suggest that they play a pivotal role in price formation, which they are uniquely able to provide through their status and without which, the wider market could not operate.

While AFME members recognise that exchanges do provide some of the possible price formation mechanism, we disagree with the view that providing a pricing mechanism makes a trading venue the owner of price formation.

The status quo is maintained by a market failure: a venue with considerable market share in a security exerts high pricing power in the market data for that security. Participants must buy the data as a condition of access and to fulfil investor protection obligations (best execution) while being an active contributor to the price being formed. A venue can then use high data revenues to cross subsidise ad valorem execution fees (which are subject to competitive forces). This helps the venue to maintain its market share in the trading of the security and maintains its pricing power from a market data perspective.

Breaking the cycle described above would lead to lower market data charges for consumers and more open, resilient, and deeper capital markets in Europe as well as removing cost barriers to entry in European markets.

Within fixed income markets there are far fewer EU venues through which institutional clients execute their business. For example, Government cash bonds are offered on three venues, with the majority being executed on two venues and Credit cash bonds can be traded via three venues, with the majority executed on one venue. This trading concentration across a small number of venues raises questions around the strength of the incentives for venues to price market data competitively.

Finally, AFME members would like to emphasise that the current transparency provisions and guidance do not allow consumers to assess the costs allocated to the production and dissemination of trading data.

To be effective, disclosures need to include quantitative and standardised information as to how a venue had allocated costs to the production and dissemination of market data which could be compared with revenues. This would allow consumers and regulators to assess and in the case of regulators, enforce, compliance with the RCB provisions.

Questions for providers of trading data (including trading venues and APAs)

Q3.9. Please explain the trading data you offer and how you ensure that the quality, speed, coverage, and depth of trading data provided meets the needs of your users.

AFME is not responding to this question.

Q3.10. For each trading venue you operate, how have overall trading fees and trading data price levels, pricing policies and your service offering evolved over the last 5 years? Please explain reasons for changes in prices and other relevant dimensions.

AFME is not responding to this question.

Q3.11. Please describe your policy for charging for the use of delayed data, providing specific examples.

AFME is not responding to this question.

Q3.12. What factors do you take into account when setting your pricing policy? Do you face any constraints when doing so? Please provide reasons for changes in prices and detail how you ensure compliance with MiFID/MiFIR RCB requirements.

AFME is not responding to this question.

Q3.13. Please explain how you categorise types of user and the reasons for any price differentiation based on the categorisation of the user.

AFME is not responding to this question.

Benchmarks

Questions for users of benchmarks

Q3.14. Which type of benchmarks do you use in your business? How many benchmarks do you use, and how many administrators have you had agreements with, over the last 5 years?

AFME is not responding to this question.

Q3.15. Are you content with the price and quality of the benchmarks you use? If you are not satisfied with any of these elements, please explain why not and the impact this has on your business.

AFME is not responding to this question.

Q3.16. Do you consider any benchmarks a 'must have' for your business purposes? What factors do you consider in this assessment?

AFME is not responding to this question.

Q3.17. How have prices and quality evolved over the last 5 years across the types of benchmarks you use? What impact has this had on your use of benchmarks, on your business and your clients?

AFME is not responding to this question.

Q3.18. Are benchmark administrators' pricing/licensing terms established by benchmark administrators easy to understand and comply with? What terms, if any, do you find to be overly complex or restrictive and what impact does this have on your business?

AFME members note that benchmark administrators' prices and fee structures are not publicly available, they tend to be customized to the specific use case(s). Licenses tend to include geographical or narrow field of use restrictions that are difficult to manage, they require complex and detailed levels of reporting and disclosure and tend to include restrictions on the use and dissemination of derived output. This results in a high degree of friction and cost in the process to respond to client index trading requirements and can be a barrier to entry for both new participants and new products.

Q3.19. Are you aware of benchmark administrators charging different amounts or imposing different contract terms, to different customers for similar services? Please give specific examples and explain the impact on your ability to compete in the markets you operate in.

AFME is not responding to this question.

Q3.20. How easy is it to compare and switch between benchmark providers? Please provide details on the benchmarks considered when choosing and possible hurdles affecting your ability to compare, choose and switch.

The most established benchmark providers are extremely embedded in the financial ecosystem and end users are reluctant to accept alternative benchmarks due to lack of familiarity and the costs and resource required to switch. A new entrant would need to reach a certain scale to be effective, which is challenging when market participants are, correctly, unable to act in consort. As a result, the bar for entry into the market is too high and as a result competition between benchmarks and benchmark providers is limited. Recent and proposed consolidations across providers has also strengthened their position and their ability to impose their terms.

Questions for benchmark administrators

Q3.21. Please explain the benchmarks you offer and how you ensure that they meet the needs of your clients.

AFME is not responding to this question.

Q3.22. How have your prices and charging structures, volume, and value of sales of services and innovation in your offerings evolved over the last 5 years? Please explain reasons for changes in prices and other relevant dimensions.

AFME is not responding to this question.

Q3.23. For your main benchmarks/indices, who are your key competitors, and to what extent are their products reasonably good substitutes for yours? How have competitive pressures affecting your business evolved over the last 5 years, including entry/exit of competitors?

AFME is not responding to this question.

Q3.24. What are the main barriers to attracting users away from your competitors? Please provide specific examples in your response.

AFME is not responding to this question.

Q3.25. Are you aware of input data providers charging different amounts or imposing different contract terms to different benchmark administrators for similar services? Please provide specific examples where possible.

AFME is not responding to this question.

Q3.26. Are there markets downstream from benchmark administration where you compete with customers of the benchmark(s) you supply?

AFME is not responding to this question.

Q3.27. What, if any, barriers to accessing input data put you at a competitive disadvantage in the design and provision of benchmarks? Please provide specific examples where this happens or may happen.

AFME is not responding to this question.

Market data vendor services

Questions for users of market data vendor services

Q3.28. Which market data vendor services do you use in your business and how has this evolved over the last 5 years?

AFME is not responding to this question.

Q3.29. Are you satisfied with the price, quality, and level of innovation of market data vendors' offerings? If you are not satisfied with any of these elements, please explain why not and the impact this has on your business.

There are factors that indicate that competition amongst data vendors may not be working as well as it could to secure favourable outcomes for data end-users and their customers. For example: (i) restrictions on downstream use of derived data or works, even where the vendor's data cannot be extracted or reverse engineered, limit the potential for innovation; (ii) technical or regulatory lock-in to vendors; (iii) acquisition of nascent competitors by the market-leading data vendors; and (iv) data vendors asserting intellectual property or other proprietary rights over data and imposing license requirements and usage restrictions where such rights do not exist or are questionable, as a matter of law.

Q3.30. How have prices and quality evolved over the last 5 years across the types of market data vendor services you use? What impact has this had on your use of data, on your business and your clients?

AFME is not responding to this question.

Q3.31. Are you aware of market data vendors charging different amounts or imposing different contract terms on different customers for similar services? As a user are you, or have you been, at a competitive disadvantage as a result?

Market data vendors contractual terms, which include the amounts they charge customers are confidential, bilateral in nature and not publicly available, as a result AFME members are unable to opine on this question.

Q3.32. Are there any products and/or services that you needed/ tried to purchase from market data vendors on a standalone basis, but were not able to? What impact does purchasing a bundle have on your business?

AFME is not responding to this question.

Q3.33. How do you choose market data vendors? Do you use more than one, and if so why? How easy is it to compare the content and price of alternative packages before choosing which data package to use? How easy is it to switch providers?

AFME is not responding to this question.

Questions for market data vendors

Q3.34. Please explain the market data services you offer and how you ensure that they meet the needs of your clients.

AFME is not responding to this question.

Q3.35. How would you characterise the market data related market(s) in which you are active and what approximate share do you believe you hold in each market?

AFME is not responding to this question.

Q3.36. How have your prices and service offering for data packages, trading data and other data/analytical services evolved over the last 5 years? Please explain reasons for changes in prices and other relevant dimensions.

AFME is not responding to this question.

Q3.37. Who are your key competitors, and to what extent are their products reasonably good substitutes for yours? How have competitive pressures affecting your business evolved over the last 5 years, including entry/exit of competitors?

AFME is not responding to this question.

Q3.38. What is your contractual relationship and ability to negotiate with trading venues in relation to the pricing and provision of trading data?

AFME is not responding to this question.

Q3.39. To what extent is your firm vertically integrated? How does vertical integration affect your pricing and sales practices? Are there instances in which you are at a competitive disadvantage when you compete with providers offering bundled products or that are operating in different parts of the value chain. For example, a market data vendor running also an MTF or administering a benchmark?

AFME is not responding to this question.

Business models and opportunities

Q4.1. How are firms operating in wholesale markets using alternative data and advanced analytics, and for which particular activities or markets? How might this change in the future?

Firms are using alternative data and advanced analytics for a range of activities in wholesale markets. For example, the use of Environmental Social Governance (ESG) data, such as data on emissions, energy usage (e.g. building energy efficiency certifications), and climate risk mapping (e.g. flood plain data).

This data can be useful for financial analysis purposes, or for identifying sustainable products and services, such as the development of improved services and offerings for clients who seek to hedge against their own climate risk. However, ESG data quality remains an issue, and collecting ESG data from a company's own source could lead to bias. Therefore, it is important to ensure sufficient ESG source diversity, now and in the future.

Regarding how the use of alternative data might change in the future, firms operating in European markets will be affected by ongoing initiatives at the EU level relating to Common European Data Spaces (CEDS). CEDS may open up additional alternative data sources that firms can leverage to provide additional or improved service offerings; however, it will be important to consider how data-sharing in CEDS will be governed, in order to ensure there are appropriate data-

sharing controls in place. For more detail, please see our response to the European Commission consultation on A European Strategy for Data.¹⁰

Q4.2. How much has your firm allocated to investments in data and advanced analytics over the next three years?

AFME is not responding to this question.

Q4.3. What are the potential benefits for firms and investors of the development of data and advanced analytics, now and in the future, and for which particular activities or markets? Please provide examples and where possible explain how the benefits are passed on to investors. How do you assess these benefits against the potential risks associated with the use of data and advanced analytics?

Using alternative data

There are many potential benefits for firms and investors using or developing alternative data. For example:

- **Client servicing:** Market forecasting, more innovative and convenient services for consumers/investors, e.g. aggregators, comparison, switching tools with the opportunity to have a more complete view of the customer and provide solutions for the long term.
- **Market efficiency:** Access to aggregated and anonymised data is useful for benchmarking with the wider industry and developing or refining market practices and regulations in order to meet specific objectives.
- **Compliance and reporting:** Greater sharing of cross-sector data on fraud, in full compliance with GDPR, could enable potential issues to be identified and stopped sooner; and
- **Risk management:** Better assessment of financial and non-financial risks e.g. climate risk mapping. Improvements in data collection and standardisation would provide greater clarity in the identification of counterparties, exposures, risks, and cash flows.
- **Research:** Alternative data can be used by financial institutions to provide more accurate and robust research for clients, contributing to better portfolio performance.

Advanced analytics

Potential benefits for firms using advanced analytics in capital markets include:

- **Client servicing:** Personalised products and services to meet individual client needs, automated and predictive resolution of client service issues, for example, through the use of Machine Learning in the context of equity order placement, firms are able to provide benefits to reduce price slippage where the market moves against client while placing an order.
- **Market efficiency:** Reduced investment costs for market entry of new products, reduced transaction breaks and exceptions and increasing data quality, more rapid entry into and development of new markets, and increased standardisation and commoditisation of existing products and services.
- **Compliance and reporting:** More efficient processing of information, increased ability for firms to report and supervisors to evaluate large and complex data sets, mining of both structured and unstructured data sets, and
- **Risk management:** Better assessment of financial and non-financial risks.

Regarding how these potential benefits are assessed against the potential risks, please see our response to Q 4.9 – 13 below on mitigating risks from the use of alternative data and advanced analytics.

Regarding assessing these benefits against the potential risks associated with the use of alternative data and advanced analytics, we set out the robust governance processes used by the industry to mitigate potential risks in Q 4.10,12,13 below.

¹⁰[https://www.afme.eu/Portals/0/DispatchFeaturedImages/2020%2005%2029%20AFME%20EC%20European%20Strategy%20for%20Data%20response%20\(FINAL\)_CLEAN.pdf](https://www.afme.eu/Portals/0/DispatchFeaturedImages/2020%2005%2029%20AFME%20EC%20European%20Strategy%20for%20Data%20response%20(FINAL)_CLEAN.pdf)

Q4.4. How have business models changed in light of developments in the use and value of data, and how might they change in the future? What affect might this in turn have on different financial markets?

New market entrants may drive changes in business models, as open banking initiatives have reduced barriers to entry. This could potentially create new financial markets. It will be important to apply the principle of ‘same activity, same risk, same regulation’ to new market entrants that are conducting the same or similar activities as incumbent market participants, to ensure there are no gaps in the applicability of regulation.

From an advanced analytics perspective, we note that since the introduction of technology innovation into financial markets, markets have become increasingly reliant on technology solutions. Artificial Intelligence (AI) and Machine Learning (ML) have allowed financial institutions to continue that trend, however these solutions have not led to a fundamental change to the nature of financial markets – the same market activity continues to be undertaken, albeit through the use of new tools. AI/ML provide tools to introduce better controls, better productivity, and more efficiency in financial markets. Through these tools, AI/ML provides firms with the ability to focus human effort on higher order tasks away from low risk and easily automated tasks.

Access to data and advanced analytics

Q4.5. What barriers make it difficult for firms to access data or access the technology necessary for analysing data, and how might this change in the future?

High costs can be a significant barrier for firms in accessing data. This includes the cost of the market data and costs in developing the infrastructure for data access, such as connectivity for data-sharing, data collection infrastructure, and processing and storage infrastructure. Poor data quality can also create significant costs, as data cleansing processes are complex. This may change in the future, if firms accelerate the use of Information Communication Technology (ICT) third-party providers (TPPs) (e.g. cloud service providers) for data collection, cleansing and processing and storage, as this can be a cheaper and therefore more accessible alternative. It is important regardless to ensure minimum requirements for data quality to mitigate these costs and driver greater efficiencies.

ICT TPPs are increasingly important within the current financial market infrastructure as providers of data analytics. However, regulatory barriers to outsourcing may make it difficult for firms to access or analyse data when using TPPs. Appropriate oversight of ICT TPPs will support the EU financial services sector to continue to manage risks whilst fostering innovation and competition. However, we caution introducing any additional mandatory requirements on financial service firms in how they manage and oversee their use of ICT TPPs. For more detail, please see our response to the European Commission consultation on Digital Operational Resilience.¹¹

Legal and technical barriers, or a lack of effective mechanisms to allow FIs to share data, can also make it difficult for firms to access data. For example, in some cases FIs can only access data from other organisations in the financial services sector, such as technology platform providers, in a rudimentary manner, relying on bilateral agreements and being subject to those organisations’ terms and conditions.

In particular, some FIs have faced difficulties in using data from other non-financial organisations, either because data is unavailable or access is denied, or because there is a lack of technical interoperability, transfer mechanisms and/ or appropriate security measures. AFME believes the FCA should therefore encourage a level play field on data sharing and the use of APIs for the transmission of data.

Furthermore, open banking initiatives ongoing at the UK and EU level are expected to increase access to data for certain parties. We believe further data sharing initiatives must be driven across multiple sectors, particularly as new entrants emerge, and any mandatory requirements should be applied equally to market participants to maintain a level playing field.¹² Elaborated or inferred data insights should not be subject to mandatory sharing requirements between businesses (except where required as part of specific competition policy interventions, if a market failure is clearly detected) as this

¹¹ <https://www.afme.eu/Portals/0/DispatchFeaturedImages/20200319%20AFME%20EC%20CP%20Digital%20Operational%20Resilience.pdf>

data is the product of the intellectual property of an organisation. Therefore, to continue to encourage research, development and innovation, organisations must be able to retain this value.

Finally, we note that the CFI places reliance on 'access' in terms of the ability to obtain data and technology. However, a lack of access to skills and talent can create barriers to data access. The difficulties in recruiting data professionals may include a range of factors, such as: salary, skills, or location.

Q4.6. With reference to paragraph 4.25, do you agree there are situations where the use of data could lead to unfair advantages in wholesale markets which could:

- i. pose potential barriers to competition well; or**
- ii. harm market integrity**

In respect of advanced analytics, we note that there are a number of vendors that can provide both smaller and large firms with tools that facilitate new techniques for innovative and advanced forms of analysis. This can help to limit the presence of unfair advantages.

Q4.7. What factors do you consider are relevant in assessing whether the use of data may create unfair advantages in wholesale markets? For example, if the data are only available to one or a handful of firms or if some market participants are not able to secure sufficient financing to access data.

Equal access to data speeds and formats can help prevent against unfair advantages. To the extent that recipients receive structured data unequally, this could provide the recipient with a special advantage by uniquely offering them structured/machine readable data whilst only providing other recipients with unstructured data.

Impact of Concentrated markets

Q4.8. How concentrated is the supply of data, or technology required to analyse data, to wholesale market participants? Please explain how this differs by data type and technology type and the impact on your business.

In equities markets, AFME believes that the supply of wholesale market data represents a market failure. A trading venue with considerable market share in a security exerts high pricing power in the market data for that security. Participants must buy the data as a condition of access and to fulfil investor protection obligations (best execution) while being an active contributor to the price being formed. A venue can then use high data revenues to cross subsidise *ad valorem* execution fees (which are subject to competitive forces). This helps the venue to maintain its market share in the trading of the security and maintains its pricing power from a market data perspective. It should also be noted that the closing price in a given stock is determined by closing auctions, which generally take place on primary venues. Given the growth of activity in closing auctions and the importance of the closing price, market data users are reliant on primary venues for this data.

Breaking the cycle described above would lead to lower market data charges for consumers and more open, resilient, and deeper capital markets as well as removing cost barriers to entry.

AFME members would also like to highlight that MiFID II includes regulatory requirements for firms to consume primary feeds. For example, a multilateral trading facility (MTF) operating under a reference price waiver (RPW) is required to use primary exchange feeds to set the reference price. Equally, systematic internalisers (SIs) must provide prices that "reflect prevailing market conditions where they are close in price, at the time of publication, to quotes of equivalent sizes for the same financial instrument on the most relevant market"¹³. In order ensure compliance, SIs must consume data from the most relevant market which will often be a primary exchange.

¹³ Article 10 of RTS 1, MiFID II

Within fixed income markets there are far fewer EU venues through which institutional clients execute their business. For example, Government cash bonds are offered on three venues, with the majority being executed on two venues and credit cash bonds are can be traded via three venues, with the majority executed on one venue. This trading concentration across a small number of venues raises questions around the strength of the incentives for venues to price market data competitively.

Information sharing, collusion, and biases

Q4.9. Do you consider that the wider use of algorithmic solutions in wholesale markets could give risk to new types of market abuse or collusive behaviour? If you currently use these solutions, do you have any processes in place to manage these potential risks?

Firms have established a number control, governance, and advisory mechanisms to advise businesses of the potential market abuse or collusive behaviour risks that can occur when using algorithmic or non-algorithmic solutions (see further detail in Q4.10 below).

We also note that the risks relating to algorithmic trading have been substantially reviewed and considered within RTS 6, MiFID II, the PRA Policy Statement following CP 5/18 and the FCA report on Algorithmic Trading Compliance in Wholesale Markets.

Data governance, controls, and ethics

Q4.10. Are there any potential control or governance issues associated with these data that you currently use or think will be used in the future? Please provide examples and explain your reasoning.

The current inability to transmit data between participants in a controlled manner is one issue. The industry views that APIs are the preferred method for the transmission of data to address control issues relating to cyber incidents. APIs are secure, efficient and can provide data access on a real-time and/or regular basis. Further, access can also be more easily revoked, where appropriate. APIs should be uniform where possible, and technical details of the required API functionality and standards landscape should be clearly defined. In addition, a cross-sectoral approach to managing cyber risks would be beneficial for improving governance and control of data.

We also believe control issues could arise with the emergence of new financial services providers in a more open finance ecosystem, and the increased availability of new processes and services to users. These risks could be effectively mitigated by applying the same principles and rules to new entrants or firms as they are currently applied to existing FIs. For example, due to the sensitive nature of financial services data and operations, any sharing of financial data requires a robust regime that enforces appropriate rules on consent, transparency, security, licensing, and authorisations. Firms have established robust governance processes to manage the risks associated with the use of data, including alternative data. These governance processes ensure data use is consistent with relevant legal (including competition considerations), regulatory and contractual obligations, along with an assessment of the appropriateness of such use in the specific circumstances. Throughout this process, business functions, data scientists, legal, compliance, risk and controls are involved. It is important that firms conducting the activities identified in this CP have governance frameworks in place (e.g. testing, controls and monitoring) that are commensurate to the risks of the business.

Regarding advanced analytics governance, firms have put robust processes in place to oversee and review models across the firm.

Q4.11. For wholesale market participants that make use of advanced analytics, how does senior management ensure that it has sufficient understanding of how these algorithms, as an example of one tool, work in order to ensure that they are complying with their regulatory and competition law obligations?

Please refer to our responses to Q.4.9 and 4.10.

Q4.12. A: Are there any potential ethical implications as a result of the use of new forms of data and advanced analytics in wholesale markets? Please give specific examples.

New forms of data

It is important to highlight that the ethical considerations for wholesale markets will be different to retail markets, as wholesale markets do not require the data-sharing of individuals' data. There are however some challenges around data-sharing to aggregators, in which it is important to ensure that personal data from employees of FIs is protected.

As with all forms of data, there should be controls in place to identify and mitigate potential data bias.

Advanced analytics

As noted above, the ethical considerations relating to entities' data will be different to the use of personal data. Examples of ethical considerations related to advanced analytics include:

Data input: Where data is inaccurate, biased, or not representative of a sufficient sample size, advanced analytics may produce results that are unfair, inaccurate, or incorrect. For example, if a bank trains analytics on data that is not representative of the full client set for which it will be used, this may result in adverse outcomes for those clients.

Design: Ethical questions could be raised in the process which the advanced analytics is designed, the team responsible for the design, or limits or parameters in its function. For example, unless proper controls are in place, advanced analytics could apply unethical trading methods to move a market in its favour.

For more detail, please see our position paper on *Considerations on the Ethical Use of Artificial Intelligence in Capital Markets*.¹⁴

Q4.12. B: What steps do you take to make sure that the data you use have been sourced legally and ethically?

New forms of data

Steps taken to ensure data is sourced legally and ethically include the use of strict data governance control frameworks, including conducting due diligence of data vendors, and periodic reviews.

Advanced analytics

In our recent paper on the ethical use of AI in capital markets, we made recommendations for how firms can address ethical considerations which we believe are relevant here. In summary: Apply a critical view of the data sets used for each AI application and perform specific quality control checks from design through to operation;

- Train design teams and individuals to be aware of, and mitigate, biases within the function and design of individual AI applications.
- Assess what level of 'explainability' is necessary for each AI application and take this into account in its design; and
- Ensure that all AI applications are subject to a suitable control framework and audit process throughout their lifecycle.

For more detail, please see our position paper on *Considerations on the Ethical Use of Artificial Intelligence in Capital Markets*.¹⁵

¹⁴ <https://www.afme.eu/reports/publications/details/Considerations-on-the-Ethical-Use-of-Artificial-Intelligence-in-Capital-Markets>

¹⁵ <https://www.afme.eu/reports/publications/details/Considerations-on-the-Ethical-Use-of-Artificial-Intelligence-in-Capital-Markets>

Market stability

Q4.13. What challenges or risks (for example, in relation to market stability) are associated with the increased use of technology by wholesale market participants? For example, could this lead to the increased risk of herding like behaviours or excessive risk taking?

The increased use of technology in wholesale markets is most prominent in areas where there are gaps in the regulatory perimeter due to the quickly evolving nature of the market. It is therefore essential that regulation is able to adapt to the evolving market. We believe this can be achieved through a regulatory framework that continues to be technology-neutral, supports technology adoption and innovation, is applied in the principle of “same risk, same activity, same regulation”, and is consistent with global standards.

As with traditional financial activities conducted today, there are risks associated with wholesale banking activities that leverage new technology, however it is important to note that banks have a range of governance and controls frameworks in place to mitigate these risks, based on the activity being conducted. A few examples of potential risks and mitigation methods are provided below:

Operational risks: Operational failures in trading systems and electronic platforms (e.g. due to code bugs or failures of system components) could result in market disruption or increased costs. This can be mitigated with testing and monitoring.

Herding risks: Risk of herding is possible if multiple algorithms follow the same market signal and reinforce each other. This could potentially lead to flash crashes or the formation of bubbles in financial assets. This can be mitigated with algorithm monitoring systems.

Market abuse risks: Market abuse risks are possible if, for example, an algorithm behaves in an unforeseen way that inadvertently causes market abuse. Mitigation should again include scenario-testing before release, continuous monitoring, and pre-trade then post-trade controls.

Pricing risks: If markets deviate significantly from where algorithms have been trained, including when the algorithms start reacting to one another, this can present a mispricing risk. In this instance, human market makers should track the incident and turn off electronic pricing, as is the case for pre-ML electronic pricing.

The role of regulation

Q4.14. What specific aspects of the regulatory regime unduly limit the way firms can use data and advanced analytics? How do these limit the benefits of data being realised by firms or consumers?

Regulatory regimes should remain technology-neutral and principles-based to avoid limiting the way firms can use data and advanced analytics. This is because regulation that focuses on a particular technology (e.g. a specific AI technique) is less effective as it does not address the underlying behaviours or practices in an activity, in which a technology is simply a tool used to perform that activity. Given the speed of technological advances, it is also difficult for technology-specific regulation to maintain pace with developments in its use.

Policymakers and authorities should also seek to avoid duplication with existing regulatory requirements, particularly for sectors that are already highly regulated such as capital markets. Such sectors have already had to develop processes for identifying and mitigating a variety of risks, which will also be applicable to firms’ use of data and advanced analytics.

While there is a practical distinction between those who ‘purchase’ alternative data and those who ‘capture’ it, the way in which it is obtained (whether by a firm itself or through a third party), does not alter the way it is relied upon. Regulators should be cognisant of this in order to ensure all market participants are appropriately covered in the regime.