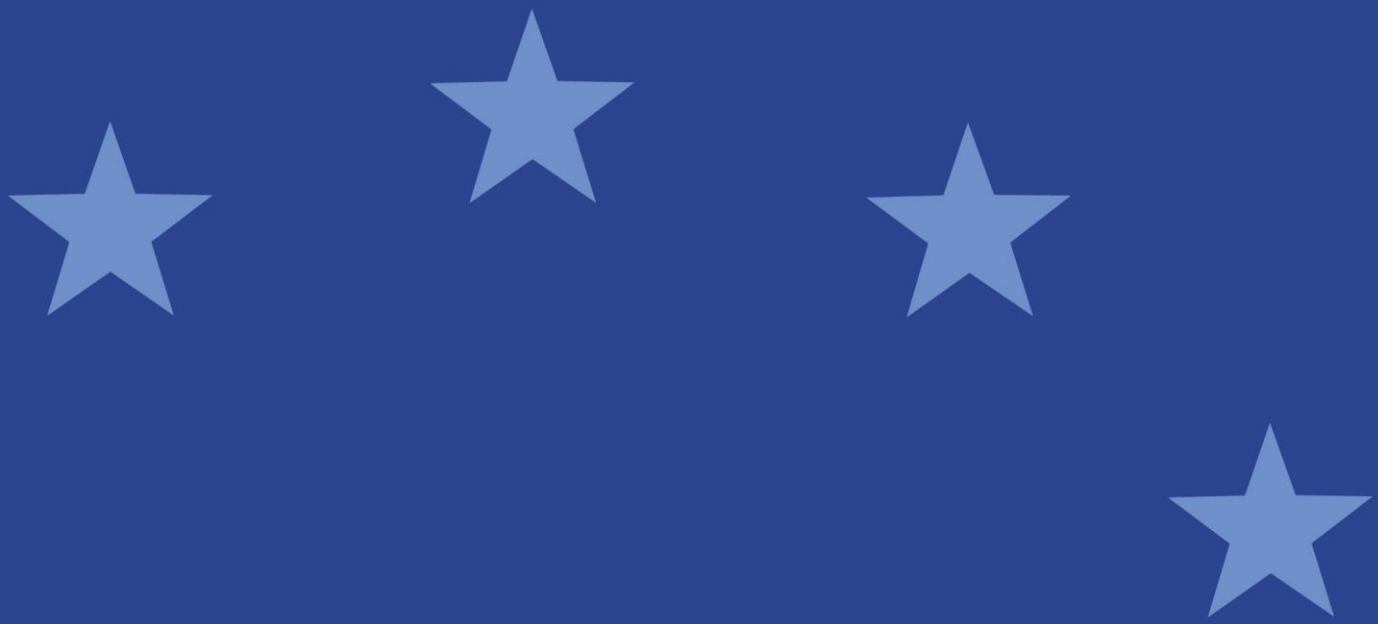
esma European Securities and Markets Authority

Response Form to the Consultation Paper

MiFID II/MiFIR review report on the development in prices for pre- and post-trade data and on the consolidated tape for equity instruments



12 July 2019 ESMA70-156-1471

Responding to this paper

ESMA invites comments on all matters in this paper and in particular on the specific questions summarised in Annex 1. Comments are most helpful if they:

- respond to the question stated;
- indicate the specific question to which the comment relates;
- contain a clear rationale; and
- describe any alternatives ESMA should consider.

ESMA will consider all comments received by **06 September 2019.**

All contributions should be submitted online at www.esma.europa.eu under the heading 'Your input - Consultations'.

Instructions

In order to facilitate analysis of responses to the Consultation Paper, respondents are requested to follow the below steps when preparing and submitting their response:

1. Insert your responses to the questions in the Consultation Paper in the present response form.
2. Please do not remove tags of the type <ESMA_QUESTION_MDA_1>. Your response to each question has to be framed by the two tags corresponding to the question.
3. If you do not wish to respond to a given question, please do not delete it but simply leave the text "TYPE YOUR TEXT HERE" between the tags.
4. When you have drafted your response, name your response form according to the following convention: ESMA_MDA_nameofrespondent_RESPONSEFORM. For example, for a respondent named ABCD, the response form would be entitled ESMA_MDA_ABCD_RESPONSEFORM.
5. Upload the form containing your responses, in Word format, to ESMA's website (www.esma.europa.eu under the heading "Your input – Open consultations" → "Consultation on Position limits and position management in commodities derivatives").

Publication of responses

All contributions received will be published following the close of the consultation, unless you request otherwise. Please clearly and prominently indicate in your submission any part you do not wish to be

publically disclosed. A standard confidentiality statement in an email message will not be treated as a request for non-disclosure. A confidential response may be requested from us in accordance with ESMA's rules on access to documents. We may consult you if we receive such a request. Any decision we make not to disclose the response is reviewable by ESMA's Board of Appeal and the European Ombudsman.

Data protection

Information on data protection can be found at www.esma.europa.eu under the heading Legal Notice.

Who should read this paper

All interested stakeholders are invited to respond to this consultation paper. This consultation paper is primarily of interest to users of market data and trading venues, but responses are also sought from any other market participant including trade associations and industry bodies, institutional and retail investors.

General information about respondent

Name of the company / organisation	Deutsche Börse Group
Activity	Regulated markets/Exchanges/Trading Systems
Are you representing an association?	☐
Country/Region	Germany

Introduction

Please make your introductory comments below, if any

<ESMA_COMMENT_MDA_1>

General introduction

As an integrated provider of financial services, Deutsche Börse AG (DBAG) covers the whole range of Financial Markets Infrastructure (FMI) operators: Central Counterparties (CCPs), Central Securities Depositories (CSDs) and a Trade Repository, and in particular trading venues (Regulated Markets, RMs), Organized Trading Facilities (OTFs) and Multilateral Trading Facilities (MTFs), Data Reporting Services Providers (DRSPs) as well as market data and index services.

DBAG very much appreciates the opportunity to provide feedback to ESMA's consultation paper with regard to the MiFID II/MiFIR review report on the development in prices for pre- and post-trade data and on the consolidated tape for equity instruments. Considering the far-reaching implications of any regulatory intervention into pricing mechanisms and the provision of a consolidated tape (CT), we consider it of utmost importance that any policy measures should not be based on assumptions and allegations but rather on facts and figures. Hence, thorough analysis deems ever more important.

Exchanges operate regulated markets to the benefit of economies, market participants and investors alike

Exchanges are neutral service providers and stand for stable markets, transparency and investor protection since decades. They support the funding of their national economies (large and small companies alike) through primary listings and by organizing secondary markets trading. The size and structure of exchanges may vary. Some are offering only trading and market data, while others are more diversified and may offer additional services such as clearing, provision of indices, regulatory reporting services, etc. DBAG as well actively supports start-ups in finding funding even beyond listings on exchange. Global exchanges and

CCPs have not been the originators of the recent Financial Crisis, but have strongly supported the post-crisis regulatory reforms, which have made financial institutions and markets safer for their customers and society at large.

High quality exchange market data holds high value for multiple parties and comes at a cost

While EU exchange market data helps to foster investor protection, pension and private savings, it provides as well for a valuable basis for additional businesses to thrive on, creating additional jobs in the EU. Exchanges excel in the provision of high quality data and in consequence valuable data, which is being made available at non-discriminatory terms to any interested party – even to direct competitors. As a consequence, various entities – such as brokers, inter-dealer brokers, investors, index providers, vendors, etc – build lucrative businesses on the basis of exchange market data often in direct competition with exchanges. For EUR 4.280,-- p.m. a start-up may effectively compete with one of the largest EU exchanges at a significantly lower cost base, and while not contributing to the price formation process in the EU. For instance: using exchanges real-time market data for own business purposes in combination with cheap technology has lead a Third Country Exchange to rise from a low-cost start up to the EU number 1 exchange in cash equity turnover. Growing use of ever cheaper technology nowadays is visibly changing competition in Capital Markets as well as its market microstructures – not always to the benefit of the investor (e.g. less explicit cost in trading, but higher implicit cost) or the exchanges and the value they provide to Capital Markets as a reliable and stable partner. Transparent EU markets currently run the risk of becoming less transparent. Competition with the only focus on price will make EU markets finally less stable.

Besides using real-time exchange data for trading, Vendors use exchange market data for the provision of own valuable services, such as portfolio evaluation services, or general valuation services. Such services are part of the wider market data industry and have seen good growth during the last few years, driven by regulation. The beneficiaries, however, have not been exchanges, in contrast to the arguments brought forward against exchanges. Third party vendors have benefitted from this demand. Index providers provide tradable indices on the basis of real-time exchange data. They are the basis for low cost passive investments in ETFs – to the direct benefit of pension funds and private investors. Investments in passive funds is extremely cost-effective for investors, saving cost of more than 1/3 compared to actively managed funds. However, passive investments are focused mainly on equity markets as only in equity markets real-time data is available - through exchanges. Other asset classes – where exchanges are not active – usually are in-transparent to the broader public and to the detriment of end investors who thus may only benefit from passive investment only in the area of equities.

Exchange data are a joint product of trading and data

While structure and size may vary, all exchanges have something in common: high fix cost blocks and high regulation, which is further increasing. In order to remain a reliable and trusted partner in capital markets, ongoing investment is needed. Innovation is an important factor too, in the current restructuring of the economies to a digital world. Funding is of essence in such scenarios. While some market participants refer to exchange market data as “aggregated data”, we need to emphasize that this is wrong. Economics literature is clear on this. Indeed, exchange data form a joint product of exchange trading and data publication. This is a significant difference. Exchange market data is produced in a dynamic price formation process. Exchanges deliver both trading and price formation. Given the general structure of electronic order books and electronic order matching on exchange systems, it is not possible to provide trade execution without producing market data and vice versa. Thus, economics literature refers to it at joint product. This means that “with joint products, the production costs of the outputs (market data and trading) cannot be fully separated, i.e. some, if not all, costs are joint

costs1". Economic literature further concludes that in such cases it is efficient to generate revenues through fees from both products - and this is what exchanges (including DBAG) do in practice. This approach is fully in line with Art. 7 (2) of Commission Delegated Act Regulation 2017/567, which clearly states that "the costs of producing and disseminating market data include an appropriate share of point costs for other services provided by market operators".

Excursion: EU exchange market data represents only rather small part of the global and EU market data industry

In 2018, global revenues generated by global firms (incl. EU exchanges) in the area of real-time streaming data were approx. USD 12,5 bn, with the overall market data industry being above USD 30,5 bn2. As regards pre- and post-trade market data as defined under MiFID II/MiFIR, revenues of all EU trading venues (cash equity and others) should be well below EUR 1 bn of global market data revenues. In 2018, EU cash equity exchanges which are members of FESE earned approximately EUR 245 mn in cash equity market data3. As a consequence, EU cash equity market data constitute only approx. between 2,1% of the global "streaming market data", respectively 0,9% of the overall market data industry globally.
In this context it is important to be clear in the discussions, which data fees are being raised by exchanges, and which not. Furthermore, exchanges are not the "last" mile to the investor. The whole value chain of the EU market data industry needs to be considered when regulating market data fees of exchanges.

Executive summary

As regards to RCB:

DBAG would like to point out again that the issue of price regulation in financial markets and of exchanges is globally unique. However, there is no evidence of a market failure within the EU, nor of an abuse of any assumed dominant position. To the contrary, competition of third parties with exchanges for the same order flow is thriving and easier than ever before, based on very reasonably priced high-quality exchange market data and ever cheaper IT, and exchange data are broadly available to any interested party at reasonable commercial terms. Stricter price regulation would not bring any wealth increase to the end investor, taking into account both, the reasonably priced exchange data fees in absolute terms, and in relative terms (according to their value)4. On top, as exchanges are not the last mile to the end investor all intermediaries would need to be included in order for the regulation to be effective. We deem this not to be a good way forward for the EU, though. In more detail:

MiFIR has introduced a Transparency Plus approach, which has delivered to expectation, as far as we can see, even after a rather short review period.

DBAG does not see a necessity, however, to change or adapt the current Transparency Plus Approach. To the contrary, neither is there a market failure in the EU markets due to exchange market data, nor are exchange fees impacting the overall cost of end investors[4]. Stricter price

[1] Oxera, "The design of equity trading markets in Europe", March 2019¸
[2] Burton Taylor, Financial Market Data/Analysis Global Share & Segment Sizing 2019, p. 76
[3] Oxera, "The design of equity trading markets in Europe", March 2019¸
https://www.oxera.com/wp-content/uploads/2019/03/design-of-equity-trading-markets-1.pdf
[4] "The costs to end-investors are small—aggregate market data revenues were approximately €245m in 2018,5 which represents 0.003% of total assets under management.", see Oxera, "The design of equity trading markets in Europe", March 2019, as well as Oxera, "Pricing of market data services: an economic analysis", Feb. 2014

regulation only affecting exchanges and without considering the whole value chain would neither be effective, nor proportionate.

A Revenue Cap as proposed by ESMA, would be an even stricter price regulation, for which the necessary basis is lacking. Up to date, and to our knowledge, there has not been any practical experience with a revenue cap model. Regulators should be careful with such instruments as there maybe unexpected and negative side effects. Strong, reliable and innovative exchanges are a necessary backbone as well for the EU Capital Markets Union.

Development of data fees: Revenues in the streaming r/t data for FESE cash equity exchanges seemingly have been rather stable over the last years and have increased on average by only around 1% per year in real terms, according to Oxera[5]. This is as well in line with Burton Taylor Reports[6] findings, which however shows growth in other areas such as portfolio valuation or KYC information, and research instead, areas which are not covered by exchanges data offerings.

Furthermore, for most exchanges, average increase in market data fees have been small in general amidst ongoing higher cost for adaption to increasing regulatory requirements incl. disaggregation and clock synchronisation (e.g. pre- and post-trade data Level 1 and Level 2 data, on average less than around 1.5% per year in real terms)[7].

In 2018 DBAG has introduced direct and indirect cost savings for data users: Frankfurt Floor data fees for private investors fees have been removed in full already in advance of the introduction of MiFID II/MiFIR. The transposition of regulatory requirements resulted in further price reductions – amidst higher cost for regulatory implementations – and provided for additional options for cost savings at customer side. In more detail: data fees for private investors have been reduced by 39% for Eurex data, and by 66% for Xetra data. PPU fees for professional users have been reduced by 8%. However, DBAG is not aware if price reductions have been passed on by intermediaries to end users, or not, as exchanges are not the last mile to the end-investor. Besides those direct license fee reductions, indirect reductions have been made available as well. Market data products in line with Art. 12 MiFIR have been disaggregated according to the rules, which now provide for cost saving opportunities for data users. On top, 15 minutes delayed data are free of charge to end users and offer valuable data for free as well.

However, due to current structural changes, DBAG adapted its NDIU model to a global standard changing from “internal use” and an “external NDIU use” only, to a more nuanced NDIU model, which takes note of the nuanced usage of the data by customers while ensuring a fairer pricing according to the use8. This resulted in price decreases for 1/3 of NDIU users, and price increases for the other users, indeed. While this is usually not the norm, it was a necessary step, in order to adapt to transition from a human driven world (terminal use of data) into a more digital driven world (electronic use of data). Exchanges see more and electronic use evolving replacing the old way of using data step by step (e.g. prominent example: Goldman Sachs replacing 600 terminal users by 1 NDIU license). With this shift the old data license structures of exchanges are becoming obsolete step by step and need to be replaced by equivalent new ones.

[5] Oxera, “The design of equity trading markets in Europe”, March 2019, as well as Oxera, “Pricing of market data services: an economic analysis”, Feb. 2014

[6] Burton Taylor, Financial Market Data/Analysis Global Share & Segment Sizing 2019

[7] Oxera, “The design of equity trading markets in Europe”, March 2019

[8] Carl Shapiro, Hal R. Varian, “Information Rules”, Harvard Business Press, 1998

The above emphasizes the importance of a holistic approach towards assessing prices and price developments of market data. Evaluating them based on individual fees for market participants, or a single or a few market participant(s) can result in a biased view, as individual fees for market data or market participants do not represent the development of overall costs of market data for all market participants and the whole value chain of the EU market data industry. We like to point out as well that market data revenues for DBAG cash equity data over the last years were rather stable as lined out as well in the Oxera reports. On top, ESMA has obtained a comprehensive information in this respect, too, as have our regulators.

With regard to the CTP:

Up to date a CT has not been established, which has various reasons in our view: lack of a clear regulatory use case, a lack of funding for an unclear use case, while Quasi CTPs in form of market data vendors already serve market participants with a rather comprehensive offering. What is lacking in such offerings, however, is the off-venue data which is still of questionable quality and therefore not fully consolidated. While a crowding out of Data Vendors is not a solution, the focus on improving data quality of off-venue data would be a necessary pre-requisite. Besides short-comings at the data sources themselves, (e.g. investment firms) there are problems as regards reliable reference data as well as timeliness of off-venue data. Timeliness differs between on-venue and off-venue data by regulation (e.g. microseconds after executed transaction for on-venue transactions vs up to one minute for off-venue transactions). This makes real-time provision and use rather not sensible as proper sequencing is impossible. Investing significantly into the real-time consolidation of 170 data sources, however, must have a proper regulatory use case set against it. Even then, the consolidation of 170 data sources with improper sequencing will not result in timely and reliable sets of data.

In a nutshell, the following points can be made:

CT with flawed and incorrect data is not beneficial for Capital Markets
Unless, off-venue data becomes more reliable, a CT would always represent an unreliable source of data itself. Mixing high quality data with low quality data overall results in unreliable data. Consequences finally could include: ill-informed investment decisions, inaccurate disclosures to regulators and investors, disingenuous marketing materials, and mis-selling claims.

CT without regulatory use case and mandatory funding
There are currently neither a regulatory use case nor a regulatory requirement to use the CT data – leading to a lack of funding of the CTP. Leaving the funding to the data sources (directly or indirectly), as proposed by various market participants, would neither be proportionate nor without unintended negative consequences for the EU capital markets, and especially for smaller and less diversified exchanges. The value of having a national exchange compared to not having one would need to be considered as well by regulators and should not be neglected in this debate.

DBAG supports the use of standards, including the protocol agnostic MMT
DBAG does not support, however, the introduction of a standard real-time format/protocol to be mandatorily used by exchanges/trading venues. The reason for this is that trading venues need to be able to compete on roundtrip times (time needed to send an order, get it executed and be informed about the trade price) as they are competing for executions. Here, often proprietary formats are tuned, in order to minimize latency of roundtrips and are used as an important means to compete for order flow across Europe. Requiring an “open source” format for trading venues electronic feeds would impact competition and therefore has not been imposed by MiFID II/MiFIR initially. Furthermore, it is important to note that exchange market

data is already consolidated by market data vendors, but what is missing is the off-venue data consolidation. A mandatory request by regulation to change to another protocol would be disproportionate especially under competition issues

Any CT should compensate data sources according to the value of data provided
CT models in the US and in Canada ensure fair compensation of contributing data sources. In case of regulatory use cases and mandatory use of data, a pass-through fee model is being applied in Canada, which ensures funding of exchanges. In the case where there are lower fees, like in the US, there is both a clear regulatory use case, as well as mandatory use of CT data by market participants. The use of the CT data is complementary to the use of exchange data in general. It should not go un-noted that the US market has significantly higher economies of scale, while being significantly less fragmented.

While a real-time CT seems to be both, too onerous as well as too expensive taking all shortcomings into account, DBAG strongly supports a Consolidated Tape of record.
A TOR would come at significantly less cost for the industry, would not require onerous and impossible sequencing of transaction data, while providing for a fully aggregated view over EU liquidity. However, in order for the TOR to be reliable, data quality needs to be improved fist as well.

Conclusion

With regards to RCB, price regulation is not justified as there is neither a market failure, nor would we expect any positive impact on investors, if Exchanges become further price regulated. With regards to the CTP, and in the absence of a regulatory use case similar to the one in the US (with mandatory use as well as mandatory funding by users), the current proposals resemble an indirect price regulation, which is questionable in itself. DBAG proposes instead a Tape of Record (TOR) which would be a significantly less complex and costly technical set-up, providing a comprehensive overview of overall liquidity within the EU on an instrument level. In either case, a pre-condition for a reliable CT is an improvement of off-venue data quality.
<ESMA_COMMENT_MDA_1>

Questions

Q1 : Have prices of market data increased or decreased since the application of MiFID II/MiFIR? Please provide quantitative evidence to support your answer and specify whether you are referring to equity and/or non-equity instruments.

<ESMA_QUESTION_MDA_1>

EU exchange market data represents only small part of the global and EU market data industry

In 2018, global revenues generated by global firms (incl. EU exchanges) in the area of real-time streaming data were approx. USD 12,5 bn, with the overall market data industry being above USD 30,5 bn[9]. As regards pre- and post-trade market data as defined under MiFID II/MiFIR, revenues of all EU trading venues (cash equity and others) should be well below EUR 1 bn of global market data revenues. In 2018, EU cash equity exchanges which are members of FESE earned approximately EUR 245 mn in cash equity market data[10]. As a consequence, EU cash equity market data constitute only approx. between 2,1% of the global "streaming market data", respectively 0,9% of the overall market data industry globally.

Revenues in the streaming real-time data for FESE cash equity exchanges seemingly have been rather stable over the last years and have increased on average by only around 1% per year in real terms, according to Oxera[11]. This is as well in line with Burton Taylor Reports[12] findings. Furthermore, for most exchanges, average increase in market data fees have been small in general (e.g. pre- and post-trade data Level 1 and Level 2 data, on average less than around 1.5% per year in real terms).[13] Data fee adaptions may include data fee reductions as well as data fee increases. In case of increases the regulatory context should be taken into account as well as lined out further below.

What is market data, or "cost of market data"?

We find, that there is generally a common misunderstanding in the market based on the unclear definition of the term "market data" with the risk of creating false impressions. Whereas, under MiFID II/MiFIR the definition encompasses pre- and post-trade data from the various venues regulated under MiFID II/MiFIR, other market participants often summarize under market data a much broader range of data, i.e. portfolio management & analysis data, pricing data, reference and valuation data, research, and news. In some cases, even IT costs for data (soft- and hardware), employees for administration or data cleansing in case of low quality data, data security issues and other items are added to "costs of market data". However, we observe that the majority of the increase happens outside of the "market data" according to MiFID II/MiFIR.

Where have "cost of market data" increased?

According to the last Burton Taylor report 2019 (looking at changes between 2018 vs 2017)[14], the strongest revenue growth during the last years was indeed in the portfolio management & analytics area, pricing, reference & valuation data, and research. At 12,2% pricing, reference

[9] Burton Taylor, Financial Market Data/Analysis Global Share & Segment Sizing 2019, p. 76
[10] Oxera, "The design of equity trading markets in Europe", March 2019, https://www.oxera.com/wp-content/uploads/2019/03/design-of-equity-trading-markets-1.pdf
[11] Oxera, "The design of equity trading markets in Europe", March 2019, as well as Oxera, "Pricing of market data services: an economic analysis", Feb. 2014
[12] Burton Taylor, Financial Market Data/Analysis Global Share & Segment Sizing 2019
[13] Oxera, "The design of equity trading markets in Europe", March 2019
[14] Burton Taylor, Financial Market Data/Analysis Global Share & Segment Sizing 2019

and valuation data (often focused on fixed income) continued to lead the industry in percentage growth in 2018, but portfolio & analytics and research products follow close behind with 8,9% and 7,6% growth, respectively. Exchanges are not the beneficiaries of these revenue increases and are neither the contracting partners for these data/services.

Where have "market data" cost rather not increased?

Exchanges make their main revenues in market data within the 15 minutes between real-time publication and delayed data submission for free to end users, meaning in the "steaming data business". According to Burton Taylor and Oxera, revenues from global data feeds (streaming data products including EU exchange real-time data) remained rather stable during the same period (2017 to 2018) and before. Moreover, changes in exchange market data revenues over the years have been small on average: As mentioned above, two Oxera reports[15] provide similar evidence – data revenues of exchanges were rather stable between 2012-2018 increasing on average in real terms no more than 1,0% per year[16]. Interestingly, in their last paper Copenhagen Economics (CE) finally concludes with Oxera that indeed exchange market data growth over the years 2012-2018 was rather moderate[17] – for "existing products". In this context, it is necessary to take into account that adaptions to new regulations by exchanges, e.g. to MiFIR/MIFID II, as well increase cost and investments on exchange site, which will be reflected as well in the pricing of pre- and post-trade data.

MiFIR Art 12 introduces new data license fees making price lists more comprehensive

Copenhagen Economics, however, concludes further that cost increases "are primarily driven by new fees and rigid auditing". As regards new fees Figure 1 in the CE[18] paper shows almost a doubling of "number of items in pricing list". This is an important difference as it demonstrates how regulation impacts the number and variety of data licenses directly. While we agree with CE that this is a major increase of product licenses, we like to point out, that this is mandated by Art. 12 MiFIR which requires the disaggregation of comprehensive data products into pre- and post-trade products. These licenses, however, further increase choice for market participants and provide for cost reduction potential as they allow to pay only for those data needed. In addition, from the perspective of a fair and equal treatment it should be out of question, that market data auditing is performed, and fees are collected from those parties using exchange market data without proper licensing.

Amidst MiFIR/MiFID II resulting in additional cost, market data license fees at DBAG have been adapted in different ways, including significant direct and indirect cost reductions as well

Public noise occurs only in case of exchange data fee increases. Exchange data fee reductions will usually go uncommented and unnoticed. However, exchanges are transparent. For various user groups and certain market data packages (e.g. Frankfurt Floor data for private investors) fees have been removed in full already in advance of the introduction of MiFID II/MiFIR. Price adaptions at DBAG which became applicable as of 1.1.2018 encompassed both, price increases as well as price reductions (direct and indirect). The transposition of regulatory requirements resulted in further price reductions – amidst higher cost for regulatory implementations – and provided for additional options for cost savings at customer side. In

[15] Oxera, "The design of equity trading markets in Europe", March 2019, as well as Oxera, "Pricing of market data services: an economic analysis", Feb. 2014

[16] Oxera, "The design of equity trading markets in Europe", March 2019

[17] Copenhagen Economics, "Response of Copenhagen Economics to the Report: The Design of Equity Trading Markets in Europe", June 2019, https://www.copenhageneconomics.com/dyn/resources/Publication/publicationPDF/7/497/1561037276/response-to-the-oxera-report.pdf

[18] Copenhagen Economics, "Response of Copenhagen Economics to the Report: The Design of Equity Trading Markets in Europe", June 2019, p.3

more detail: data fees for private investors have been reduced by 39% for Eurex data, and by 66% for Xetra data. PPU fees for professional users had been reduced by 8%. However, DBAG is not aware if price reductions have been passed on by intermediaries to end users, or not, as exchanges are not the last mile to the end-investor.

Besides those direct license fee reductions, indirect reductions have been made available as well. Market data products in line with Art. 12 MiFIR have been disaggregated according to the rules, which now provide for cost saving opportunities for data uses. On top, 15 minutes delayed data are free of charge to end users and offer valuable data for free as well. While cost reduction as well as cost reduction potential has been implemented by DBAG as a consequence as to MiFID II, there have been market data license fee adaptions as well, which indeed resulted in cost increases with some customers. These adaptions were and are a necessity due to the current structural changes the industry is experiencing, where terminal use is being replaced by electronic use within algorithms step by step. The resulting necessary adaptions are being explained in more detail in our answer to Q2.
<ESMA_QUESTION_MDA_1>

Q2 : If you are of the view that prices have increased, what are the underlying reasons for this development?

<ESMA_QUESTION_MDA_2>
In general: prices for "market data" might have increased within the data industry beyond any market data provided by exchanges
Some market participants refer to regulatory needs of using "market data". DBAG - in line with ESMA's own observations made in the CP - cannot follow this argumentation, when looking at MiFIR/MiFID II requirements. In the current discussion, however, it is necessary to be precise and look at facts. As already discussed in the answer to question 1, it is not possible to conduct a comprehensive assessment of price developments without looking at the entire value chain of market data and beyond, as exchanges are usually not the "last mile to the customer" and have no control over add-ons to exchange data fees by intermediaries. We deduct that the majority of "potential cost increases" is coming from areas beyond market data provided by exchanges, which includes data products not offered by exchanges but falsely / accidentally attributed to exchanges. Revenues, in particular for valuation of financial instruments, portfolio evaluation, research and services like KYC seem to have been increased significantly as lined out by the last Burton Taylor reports.[19] The following comments below, however, are focused on market data in the sense of MiFIR (e.g. meaning pre- and post-trade market data by trading venues, as well as SIs, and APA).

Various reasons for exchange price increases possible in general
When price adaptions occur, they usually reflect the changes in costs attributable to market data production (joint product[20] with trade execution / joints cost with trade execution[21]) and distribution. Whereas prices related to market data generated by exchanges overall have remained rather stable in recent years as laid down in our response to question 1, price increases may legitimately (in line with MiFIR) occur for multiple reasons: increase in cost base (e.g. higher cost of compliance, new regulatory requirements, etc.), new services or data

[19] Burton Taylor, Financial Market Data/Analysis Global Share & Segment Sizing 2019
[20] Ruben Lee, "What is an exchange", 1998, Oxford, University Press; Oxera, ""Resonable Commercial terms for market data services", 04. September 2014
[21] Exchanges deliver both trading and price formation. Given the general structure of electronic order books and electronic order matching on exchange systems, it is not possible to provide trade execution without producing market data and vice versa. Thus, economics literature refers to it at joint product. This means that "with joint products, the production costs of the outputs (market data and trading) cannot be fully separated – i.e. some, if not all, costs are joint costs.

content (higher value of the data package), or for the adaption to structural changes, such as the move from terminal use to increased electronic use of data and consequently declining terminal user numbers, which requires adapting license structures as well. The latter has affected price adaptions by DBAG in the area of non-display as lined out further below.

Exchanges are affected by higher cost due to regulatory requirements which are reflected in data prices as well

Not only market participants face higher cost due to higher regulatory requirements, exchanges as well do. This is true, both when sourcing in data products from data vendors (e.g. reference data) or making investments into cyber security and other regulatory requirements. MiFID II/MiFIR has resulted in price adjustments for market data at DBAG, with some price increases but also significant decreases plus further potential for cost savings as pointed out in detail in our reply to question 1. In no case, however, can selected price increases or price increases for one or a few customers be considered as anti-competitive behaviour or (mis-) use of “an assumed dominant position”.

Due to MiFID II/MiFIR exchanges have had to transpose regulatory requirements affecting the provision of market data which led to a reflection in price adaptions, i.e. by investing in the provision of data disaggregation (acc. to Art. 12 MiFIR) or clock synchronisation just to mention a few. MiFID II/MiFIR requires that all trading venues provide pre- and post-trade market data in a disaggregated fashion. As such, they are required to disaggregate the data by a number of criteria as laid down in RTS 14, including, the data needs to be broken down by asset class, country of issue, currency and trading mode on request by customers. Providing these disaggregated data products or being in the position to provide them on request significantly increases the technical and administrative costs as well at exchanges.

Financial markets are undergoing significant structural changes – changing the use of exchange data

It is no secret that structural shifts are taking place within financial markets. Terminal use by humans is being replaced more and more by comprehensive electronic use (cases) of exchange data within electronic applications and is currently in a transitory phase. This structural change requires an adaption of the license models / fee structures for exchange data in order to reflect the new reality. The industry is currently in a transition period from a human driven world (terminal use of data) into a more digital driven world (electronic use of data). With this shift the old data license structures of exchanges are becoming obsolete step by step, and need to be replaced by equivalent new ones, with an increasing focus on electronic use. Fees for electronic use are covered by the non-display license fees. Usually non-display licenses are legal entity wide applicable (this way as well reducing on administration cost), compared to terminal use by one person. As a public example: Goldman Sachs has publicly described the transformation to an electronic setting: 600 equity traders (terminal users) in the US market have been replaced by 200 software developers and 2 equity traders only. While the data is being used by Goldman Sachs for the same/similar use cases but in a different user form (non-display), exchanges – including DBAG - need to adapt their license structures accordingly. In the case of Goldman Sachs, e.g. the equivalence of approx. 600 terminals has been replaced by one non-display license for trading[22].

Taking structural changes into account, DBAG as well had to adapt their data licensing structure in 2017, becoming effective in 2018. DBAG adapted its model to a global standard changing from “internal use” and an “external NDIU use” only, to a more nuanced NDIU model, which takes note of the nuanced usage of the data by customers while ensuring a fairer pricing

[22] https://www.technologyreview.com/s/603431/as-goldman-embraces-automation-even-the-masters-of-the-universe-are-threatened/

according to the use[23]. While since 2008, DBAG only differentiated between internal as well as external use, the adaptions defined in 2017 now differentiates further in “Trading Activities”, “Index Calculation” and “Usage in other applications”. As a consequence of the adaption, 1/3 of DBAG customers (with less use of the data) using non-display experienced a cost reduction, while 2/3 (with higher use) experienced a cost increase.

The above emphasizes the importance of a holistic approach towards assessing prices of market data. Evaluating them based on individual fees for market participants, or a single or a few market participant(s) can result in a biased view, as individual fees for market data or market participants do not represent the development of overall costs of market data for all market participants. We like to point out as well that market data revenues for DBAG cash equity data over the last years were rather stable as lined out as well in the Oxera reports. On top, ESMA has obtained a comprehensive information in this respect, too, as have our regulators.
<ESMA_QUESTION_MDA_2>

Q3 : Following the application of MiFID II/MiFIR, are there any market data services for which new fees have been introduced (i.e. either data services that were free of charge until the application of MiFID II or any new types of market data services)?

<ESMA_QUESTION_MDA_3>
Any changes to data fees at DBAG reflect either regulatory or structural changes
As a consequence of MiFID II/ MiFIR, APA data have been newly introduced at DBAG. However, the APA data are hardly used and not even recovering their cost currently. On top, APAs as well as trading venues had to introduce pre- and post-trade data in a disaggregated fashion (Art. 12 MiFIR). While CE identifies the latter as a doubling of license fees which drives cost increases for users, these new licenses are optional in nature (substitutes for the aggregated products of trading venues) and de facto allow for potential cost reductions for users. These “new disaggregated products” in fact had been requested by investors associations ahead of MiFID II, however, are currently not used a lot.

While the adaptions to the outdated NDIU license structure of DBAG are not introducing “new data fees” of previously uncharged data use, but an adaption with a more usage-oriented focus for a fairer pricing, some users may claim so nevertheless. For the sake of being fully transparent, we would like to refer to our comments to NMDIU as made under question 2.

New market data services outside of realms of exchanges
In the context of the debate, and the blurred use of the terminology “market data” we would pro-actively like to refer to the following “market data services” which indeed were/are new: research is newly to be paid for, and indeed has been identified by Burton Taylor for recent revenue growth – requiring evaluation data provided mainly by third party data vendors, and KYC seems to have been another area driving spending.
<ESMA_QUESTION_MDA_3>

Q4 : Do you observe other practices that may directly or indirectly impact the price for market data (e.g. complex market data policies, use of non-disclosure agreements)? Please explain and provide evidence.

<ESMA_QUESTION_MDA_4>

[23] Carl Shapiro, Hal R. Varian, “Information Rules”, Harvard Business Press, 1998

DBAG appreciates ESMA asking for explicit observations and related evidence. This is necessary in a debate at which end there could be far-reaching consequences not only for exchanges but as well for the EU capital market.

There may be a need to look at the full value chain of market data first

The key question is whether criticism regarding exchange market data fees are valid or whether there are other market data cost driving the debate, such as user in-house cost or third-party provider cost which indeed seems to be fully excluded in the current debate. As explained in our response to question 1, it is important to mention again as well, that exchanges are not "the last mile" to the customer. However, exchange market data fees are now fully transparent (Transparency plus model) and displayed on exchanges homepages in line with MiFID II/MiFIR requirements. Ideally, there is a check as regards the contracting party and the price referred to, when submitting evidence to ESMA.

Market data license structures provided by exchanges support fair pricing and broadly available data

Exchange market data licensing structures reflect the complex market structure itself and are aiming towards a fair, usage orientated pricing[24]. A private investor checking the overall value of his portfolio obviously derives less value for the use of the data, compared to an index provider calculating indices on basis of exchange market data and as such establishing a valuable business on exchange data for the benefit of investors, or a start-up MTF using Xetra real-time market data starting at EUR 4280,-- p.m. to effectively compete with one of the largest exchanges in the EU. Those licensing structures are fully in line with economics literature[25] as well as regulatory requirements under MiFIR as lined out in Article 8 of Delegated Regulation 2017/567, which allows market operators to distinguish between different categories of customers and to take the value into account which the market data has for the respective customers. In contrast, flat fee models might not be in line with the requirements stipulated by the above mentioned Article 8 and would significantly disadvantage smaller users (such as private investors) to the benefit of larger users (e.g. professionals) and either lead to less transparency (in case of private investors to pay the same as professional investors), or to significant shortfalls in exchange revenues (in case professional investors, or index providers would pay the same as private investors). In addition, the current structural changes in particular in the trading area, are shifting the usage of market data from physical users to an increasing number of automated solutions, often replacing physical users almost completely. Adaptations to licenses and license structures therefore often just reflect the changing usage patterns in the industry.

Complex administration across exchanges / across industry?

There are complaints as regards exchanges market data contracts. Exchanges adhere to common standards as defined by regulation, which is a good approach as it ensures comparability while leaving room for further competition based on contractual freedom. There is no obvious reason/empiric evidence to deviate from this approach. Furthermore, we note that administration of contracts is a general issue when contracting with multiple parties, be it exchanges, data vendors, or other service providers.

Multiple license fees and long price lists – rather a benefit than a problem

There are complaints about long price lists and multiple data license fees. While we agree that standardized products usually result in less cost as well on the administrative side (e.g. one data product per trading venue encompassing both pre- and post-trade), disaggregated products indeed are more onerous to administer for all: users, intermediaries and exchanges

[24] Carl Shapiro, Hal R. Varian, "Information Rules", Harvard Business Press, 1998

[25] Carl Shapiro, Hal R. Varian, "Information Rules", Harvard Business Press, 1998, and Hal R. Varian: 'Pricing Information Goods', 1995

alike. When investor associations pressured regulators and exchanges alike for disaggregation even to the point of a single ISIN. We are grateful to regulators for their decision to go for mandatory pre-trade and post-trade disaggregation only, with further disaggregation data products only on request. Today, we do not experience a lot of demand for disaggregated products.

Furthermore, data licenses are being provided for different user groups as well (e.g. investment firms, private investors, news agencies). This is not only in line with regulation, it is as well in line with scientific literature (Varian[26]) and allows to widely spread transparency, e.g. to private investors, large institutions and third-party business entities alike, while taking note of the value the data carries for each of these customer groups/use cases.

Last, but not least, in the case of DBAG we act as a service provider to third party exchanges, EU and third country exchanges, for market data distribution. This increases choice for our customers and adds to efficiency as there is only one contract for multiple exchanges' data products, but of course results in a more comprehensive (long) price list.

Auditing customers
Out of own experience DBAG understands that auditing is an onerous task - for all parties involved. However, we recognize as well, that especially data is easy to copy and to pass or share against existing contractual arrangements, with a large detrimental effect to the data provider, including exchanges. It is therefore, that DBAG audits data users. This happens in line with transparent audit rules which are publicly displayed on our homepage. DBAG also believes that auditing is still, given the overall significant findings – necessary to maintain fair and equal conditions for all users of the data.

DBAG does not apply non-disclosure agreements
DBAG can confirm that customers are not required to sign any non-disclosure agreements. Only in case of Audits, when DBAG gets potentially access to more data -both parties often enter into a non-disclosure agreement to protect the audited party.
<ESMA_QUESTION_MDA_4>

Q5 : Do you agree that trading venues/APAs/SIs comply with the requirement of making available the information with respect to the RCB provisions? If not, please explain which information is missing in your view and for what type of entity.

<ESMA_QUESTION_MDA_5>
DBAG adheres to the regulatory requirements both, for market data of trading venues as well as for its APA business. In 2018, one external audit has already taken place without any findings in this area. DBAG has submitted broad information to its supervisors, as well as to ESMA. As regards the transposition within the industry we agree that the Transparency Plus requirement has been mostly transposed, resulting in public transparency as regards the data license structures, fees and timings of potential adaptions – which is a very positive step and demonstrates the clear merits of the Transparency Plus approach.
<ESMA_QUESTION_MDA_5>

Q6 : Do you share ESMA's assessment on the quality of the RCB information disclosed by trading venues, APAs and SIs? If there are areas in which you disagree with ESMA's assessment, please explain.

[26] Carl Shapiro, Hal R. Varian, "Information Rules", Harvard Business Press, 1998

<ESMA_QUESTION_MDA_6>

DBAG like other exchanges has transposed the regulatory requirements as regards RCB

As explained in our answer to question 5, DBAG is of the view that exchanges generally provide a high level of RCB disclosure as well as high quality of RCB information. Significant efforts have been made and continue to be made to install and maintain the necessary mechanisms to disclose information in compliance with the legislative requirements.

ESMA refers to comments that pricing practices across trading venues and APAs differ significantly, thus making it difficult for users to compare the information. In this context we need to point out that EU exchanges' license structures are already strongly aligned to a large degree through MiFID II/MiFIR Transparency Plus requirements. However, there will of course be differences as regards certain products on offer or the line out of licenses themselves for respective market data. More diversified exchanges e.g. aim to provide for additional products and services besides trading and their own market data. Additional data products could encompass e.g. predictive analytics or providing transparency services for other third parties. To conclude, exchanges develop and produce diverse and competitive data offerings and products which explain differences in offerings across venues and on comparability of all related information to a large extent. The structure of market data to some extent also reflects the underlying market models. Complete harmonization of market data would have the adverse and likely unintended consequence of levelling out competition.

DBAG provides access to market data at non-discriminatory terms

DBAG makes market data available at the same price to all customers falling within the same category in accordance with published objective criteria. Any differentials in prices charged to different categories of customers are proportionate to the value which the market data represents to those customers in line with Article 8 of Commission Delegated Regulation 2017/567. As keen defender of transparency DBAGs approaches of categorising customers aims to ensure broad access to market data (especially including private investors) at a reasonable and fair price considering the value the market data represents to those customers. This is in line with the regulation and as well with economics literature on the provision of data services as described in Varian[27].

Information on how the price of data is being set

DBAG has been transparent and is transparent on how prices are set[28]. Detailed information has not only been provided to ESMA twice via our national regulators, but details have also been discussed with regulators, and have been audited already once by an external auditor without any findings. In this setting we view the current RCB requirements a proper balance between the various different interests: whereas there is seemingly a public control and oversight interest, exchanges are in competition and require therefore - as often publicly listed companies do- confidentiality for their business secrets. The related information goes to the heart of competition between exchanges for both transactions and market data – full disclosure would open exchanges entire business model and restrain competition between them. The current solution requires general public transparency by descriptions of methodologies and detailed transparency towards the national competent authorities (NCAs).

Market data are a joint product of trading and price formation

In this context we like to point out that market data is produced in a dynamic price formation process. Exchanges deliver both trading and price formation. Given the general structure of electronic order books and electronic order matching on exchange systems, it is not possible to provide trade execution without producing market data and vice versa. Thus, economics

[27] Carl Shapiro, Hal R. Varian, "Information Rules", Harvard Business Press, 1998

[28] https://www.mds.deutsche-boerse.com/mds-en/data-services/real-time-market-data/agreements

literature refers to it at joint product[29]. This means that "with joint products, the production costs of the outputs (market data and trading) cannot be fully separated – i.e. some, if not all, costs are joint costs. Indeed, joint costs are incurred when production facilities simultaneously produce two or more products, this is clearly the case of trade execution and market data services where there are fixed costs that have to be incurred to produce either product. Secondly, this means that whether the recovery of costs by a trading venue is appropriate or not cannot be assessed effectively by the independent analysis of either trade execution services or market data services."[30] This is as well in line with regulators view within MiFIR. Thus, economic literature concludes that in such cases it is efficient to generate revenues through fees from both products[31] – and this is what exchanges including DBAG do in practice. This approach is fully in line with Art. 7. 2. of Commission Delegated Act Regulation 2017/567, which clearly states that "the costs of producing and disseminating market data include an appropriate share of point costs for other services provided by market operators".
<ESMA_QUESTION_MDA_6>

Q7 : Do you agree that the usability and comparability of the RCB information disclosed could be improved by issuing supervisory guidance? If yes, please specify in which areas you would consider further guidance most useful, including possible solutions to improve the usability and comparability of the information.

<ESMA_QUESTION_MDA_7>
DBAG does not see need for further detailed guidance
Please refer as well to our answer to question 6. The current legal framework already sets out a comprehensive set of rules to ensure that prices are transparent, reasonable, commercial and non-discriminatory, amplified by key principles for the provision of market data and the disclosure of RCB information. DBAG is convinced that the current regulation is providing comprehensive rules, which on one hand side provide for a common structure of commercial terms (plus of course further requirements on RCB), while leaving necessary flexibility to competing businesses. User base and customer structure (customer categorization) may vary across trading venues (including SI), which obviously results in a different use of data as well (demand structure) and therewith a different pricing / licensing model. Hence, in a competitive market, market data offerings may not be necessarily fully comparable since the various products are not identical. Indeed, exchanges develop and produce diverse products in order to develop innovative and unique market data offerings. It is important that any future development regarding standardization should not hinder the development of new products and innovation in this area.

Moreover, we all are facing structural changes as well in capital markets. Taking away flexibility of exchanges to react accordingly (and in both ways, resulting in reductions and/or increases) would not be beneficial to the EU capital market. In order to sustain in a competitive environment – where as of today already an US Exchange is on Top 1 as regards equity turnover in the EU – a certain flexibility of pricing structure needs to be left to exchanges. We would therefore not promote any further or more intrusive changes to the already existing requirements, especially not so short after their introduction.
<ESMA_QUESTION_MDA_7>

Q8 : Do you think that the current RCB approach (transparency plus) can deliver on the objective to reduce the price of market data or should it be replaced by an alternative approach such as

[29] Ruben Lee, "What is an exchange", 1998, Oxford University Press
[30] Oxera (2019), "The design of equity trading markets in Europe", 21 March 2019
[31] Oxera (2019), "The design of equity trading markets in Europe", 21 March 2019

a revenue cap or LRIC+ model? Please justify your position and provide examples of possible alternatives.

<ESMA_QUESTION_MDA_8>

Transparency Plus approach has delivered and should neither be adapted nor be replaced

For further details please also see our response to questions 1, 2, 5 and 6. In such a context, it does not deem necessary to clarify nor to go beyond the current RCB approach. DBAG considers that complying with Transparency Plus requirements has effectively resulted in cost containment and allowed to provide transparency as regards dynamics of cost developments.

Aggregate cash equity market data revenues (of exchanges that are members of FESE) amounted to approximately €245m in 2018 and increased in recent years by around only 1% per year in real terms[32]. Thus, the overall cost of exchanges' securities market data for market participants remained more or less stable. Empirical analysis further finds that average increases in securities market data fees have been reasonable overall (e.g. pre- and post-trade data Level 1 and Level 2 data, on average less than around 1.5% per year in real terms; and non-display fees for pre- and post-trade Level 1 and Level 2 data on average less than around 4.5% in real terms).[33] This is a positive scenario given that exchanges were facing as well costly regulatory adaptions through MiFIR and MiFID II besides other regulations as well, which shows its toll. As pointed out before, DBAG has adapted prices between 2017 and 2018. This included as well various direct data fee reductions (e.g. especially for retail customers, PPU) as well for indirect fee reductions (e.g. data disaggregation).

Proportionate regulation required

DBAG would like to point out again that the issue of price regulation in financial markets and of exchanges is globally unique. There is no evidence of any market failure within the EU and competition of third parties with exchanges for the same order flow is easier than ever before based on very reasonably priced high-quality exchange market data and ever cheaper IT. In contrast, we would rather question as how much competition would be beneficial for the EU market in the eyes of the regulators, as we are convinced that competing on price only is not what ensures stable and safe Capital Markets in the end.

In its comments, ESMA correctly points out that the time for review since introduction of MiFID II/MiFIR may not have been long enough. Exchanges have transposed the regulatory requirements, even if there may be room for improvement in some cases, as lined out as well in our answer to question 6. We are convinced, however, that supervisors are involved. In the current setting DBAG would not consider any further tightening of the existing regulation as proportionate.

No market failure – No last mile – No significant impact to investors

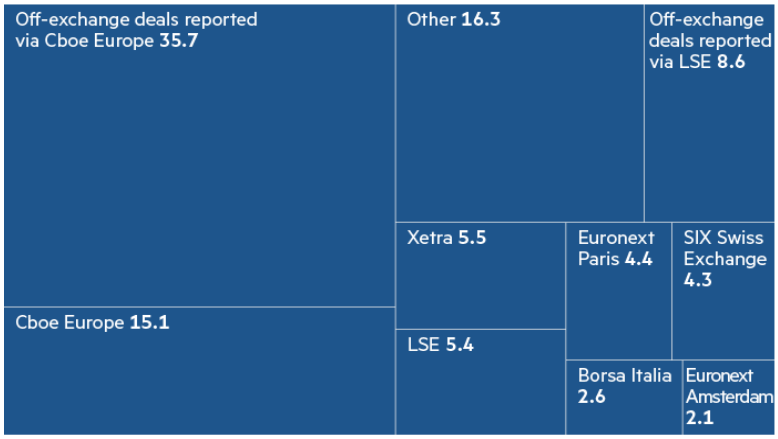
Price regulation in financial markets is new and its application is generally difficult in many ways, especially as it is unclear which negative side effects it may create. That is the reason, why legislators generally apply such strict measures only in the case of a clear and obvious market failure. However, there are no signs of market failure as regards exchange data within EU capital markets, while accusations are either outright wrong or flawed (for details please see our response to question 1), while exchanges are even not the "last mile" to the end user. In the meantime, third country competitors of EU exchanges are able to strongly grow on the back of EU exchange market data and cheap technology (e.g. by pegging their execution to exchange data) to a level where they have finally achieved to become Top 1 of cash equity

[32] Oxera (2019), 'The design of equity trading markets in Europe', March 2019
[33] Oxera (2019), 'The design of equity trading markets in Europe', March 2019

turnover venue in the EU. Using competitor data in combination with ever cheaper technology obviously pays off – at least for the competitors to those who provide high quality trading data in the first place.

Share of EU equity market

For March 2019, by turnover (%)



Source: Refinitiv
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From a public policy perspective there is no reason for a further tightening of regulatory requirements on RCB

From a public policy perspective, the key question to ask is whether the current practice of recovering costs through a combination of trade execution and market data fees as outlined above has negative implications for the functioning of equity markets and their end-users - i.e. investors and companies that are raising capital. In this context, we would like to point out as well, that exchanges are not the last mile in relation to distribution of data to the customer/end investor. Any price regulation will only be effective in case it would encompass the whole value chain and ideally create benefits for end users only, not for intermediaries increasing their profitability. Between customers and exchanges, there are usually either market data vendors, investment firms (be it direct brokers, or asset managers), or other third parties. E.g. according to Oxera the "current charging structures for market data [of exchanges] are unlikely to have significant detrimental effects on market outcomes for investors. Fees charged by fund managers to end-investors typically range between 0,3 to 1,5% of assets under management whereas the portion of such fees attributed to market data only represent 0,001 to 0,005%. Fees ultimately charged by large brokers to end investors represent 2bp of value of trading, market data fees represent 1,2% of such fees charges to end investors"[34] .

As outlined above there is seemingly no market failure warranting severe regulatory intervention. Given the rather small impact that an exchange price regulation is expected to have on data users[35] more generally and even less so on end investors, a cost-based definition of 'reasonable commercial basis' is a disproportionately complex and invasive solution and thus not in line with the principle of proportionality. Indeed, it would require substantial effort on the parts of both regulators and regulated entities. Implementing such a regulation requires, e.g. establishing common cost accounting guidelines, subjecting them to market consultations, building and finally auditing cost allocation models.

[34] Oxera (2019), 'The design of equity trading markets in Europe', March 2019
[35] Oxera, "The design of equity trading markets in Europe", March 2019, as well as Oxera, "Pricing of market data services: an economic analysis", Feb. 2014

LRIC+ not possible – prices for digital goods such as data cannot be set at marginal cost

DBAG considers that applying price regulation according to LRIC+ is impossible for digital products such as data. Information goods like software, music, movies, and market data are characterized by high fixed costs and low-to-zero marginal costs of production. As far back as 20 years ago, economic theory[36] realized this implied that prices for these goods cannot be set at marginal cost. Producers would simply go out of business if this were the case, unable to cover their fixed expenditures. A third reason is that LRIC+ is often combined with regular price reviews. As experience from the telecommunications industry shows, such price reviews in combination with declining asset prices prevent companies from recovering their actual investments[37].

Additionally, the LRIC+ approach also faces several methodological challenges

First of all, this approach is highly assumption-driven. Small modifications to input factors produce huge swings in the price calculated by LRIC+ models. For example, a change of the assumed WACC by 10 pp might change LRIC+ prices by 99% (own analysis based on LRIC+ model published by Ofcom). This would make it very hard to maintain a level playing field across Europe. Second, the complexity and lack of balance of LRIC+ creates a severe downside risk for unintended consequences. There is a real possibility that LRIC+ will prevent exchanges from recovering their actual costs. This would deter exchanges from actively expanding their technological capacities, which is a necessity in a time of ever increasing data volumes, as well as from being a reliable service provider for market participants even in extraordinary situations like those experienced in 2008. It would also stifle innovation, growth, and investment in the European exchange sector.

The risk of cost under-recovery arises for two reasons. One of them is the proposal to determine costs by modelling a hypothetical efficient data provider ('bottom-up modelling'). This will lead to cost under-recovery if hypothetical costs are below actual costs exchanges face. This would result in fewer services which could be provided to customers going forward. Secondly, the experience in the European telecommunications industry, in which LRIC+ has been applied extensively, is also not an overall positive one. Important infrastructure investments thus have not been conducted, to the disadvantage of the EU which is well behind its Digital Agenda compared to the US and Asia[38].

Negative side effects have emerged to the disadvantage of the EU in competition with US and Asia

Stringent cost-based price regulation has seemingly impacted investments in this key industry and significantly damaged the competitiveness of Europe. The EU is now severely lagging in 5G penetration when compared to the US or Asia. Accordingly, the European agenda for telecommunications is now being rethought, as focus shifts from price regulation towards rekindling growth and investment. Likewise, exchanges are a crucial part of Europe's financial markets infrastructure. They provide funding for companies, transparency and integrity in regulated markets as well as stability for trade execution. This becomes especially evident in turbulent times like the recent financial crisis, when the exchanges' CCPs (central counterparties) have proven their capabilities in mitigating counterparty risk and reducing contagion and uncertainty. Furthermore, exchanges were able to cope with unprecedented

[36] Hal R. Varian: 'Pricing Information Goods', 1995, and Carl Shapiro, Hal R. Varian, "Information Rules", Harvard Business Press, 1998

[37] Mandy/Sharkey: 'Dynamic Pricing and Investment from Static Proxy Models', 2003

[38] https://www.ft.com/content/650d3bf8-1e32-11e9-b2f7-97e4dbd3580d, Jan 2019, "Stéphane Richard, chief executive of France's Orange, says Europe's telecom companies are valued at a 15-year low which not only reflects concerns about low returns on investment and over-regulation but also Europe's growth prospects compared with the US and Asia".

data volumes providing for reliable data services even in those times. Furthermore, the funding function of regulated markets is especially vital to SMEs, which currently experience tight credit markets. Weakening exchanges by imposing cost-based price regulation on them could be detrimental for European financial markets infrastructure as a whole. Importantly, unlike telecommunication companies, exchanges also do not represent the so called 'last mile' to the customer. In fact, over 90% of market data is provided to the customer through third parties and not directly by exchanges. Exchanges therefore do not have full control over end-user prices. It would thus be inappropriate to impose LRIC+ on them.

<ESMA_QUESTION_MDA_8>

Q9 : Do you consider that a revenue cap model as presented above might be a feasible approach to reduce the cost of market data? Which elements would be key for successfully implementing such a model?

<ESMA_QUESTION_MDA_9>

DBAG urges regulators and policymakers to take a holistic view to assess the development of prices for market data, considering the scale and nature of the entire market data value chain and recognizing the importance of the price formation process by exchanges for overall transparency of EU capital markets. Price regulation in financial markets is new and difficult in many ways, especially as it is unclear which negative side effects it may create. That is the reason, why legislators generally apply such strict measures only in the case of a clear and obvious market failure. However, there are no signs of market failure as regards exchange data within EU capital markets, while accusations are either outright wrong or flawed (for details please see our response to question 1 as well.

Market data revenue cap for exchanges not proportionate at all

DBAG considers any divergence from the currently applied Transparency Plus model as disproportionate and unjustified, and urges regulators to stick to the current model, or leave decisions as regards exchange market data outright to DG COMP under Competition law directly.

DBAG would like to reiterate to maintain the current RCB approach, which one and a half years of application is right on its way to delivering on its objectives. Taking into account the lack of clear and fact-based evidence for any market failure as laid down in detail in our comments to the questions of this CP, we do not consider the introduction of a revenue cap as being proportionate at all. There is furthermore clear empirical evidence, that cash equity market data revenues of FESE exchanges have remained rather stable during the last years.

Market data revenue cap is untested – unintended side effects are a risk to EU Capital Markets

DBAG considers that this option is not a meaningful approach towards ensuring a 'reasonable commercial basis' for market data licensing for several reasons. First of all, the introduction of a revenue cap would be infinitely complicated to apply in practice and is unlikely to be effective in context of market data pricing. Exchanges are very heterogeneous regarding the share of revenues they earn from market data licensing. This is due to exchanges' strategic differentiation and different product and customer focus. Defining a rigid upper limit on the market data share of revenues would thus unduly limit both, strategic freedom and growth opportunities of exchanges and their fundamental freedom to conduct a business in the EU and hit players that are focusing on differentiating their business models disproportionally hard. Furthermore, the share of data revenues can change over time even if market data fees are not adjusted in line with the economic and investment cycle. A usual investment cycle covers different times for investments in different asset classes in line with the interest rate as well as economic cycle: money market, fixed income and equity. In times where investment in equities

is the right strategy, cash equity exchanges will experience most likely healthy transactional business, which may change once investments into the other asset classes become more rewarding. However, the high fix cost blocks remain to be funded. Revenues of market data tend to provide a stabilizing effect in such times, even, if they remain stable only. Especially smaller exchanges often earn an essential share of their revenues in their market data businesses. They require these revenues to recover their substantial fixed costs and could be put into trouble if a revenue-share limit were to stop them from doing this. Accordingly, a very stringent limit would be especially detrimental for smaller exchanges.

And finally, we need to point out again, that exchanges are not "the last mile" as regards market data distribution. A price regulation of exchanges only, would be even less proportionate and for sure not effective to benefit the end investor.
<ESMA_QUESTION_MDA_9>

Q10 : Did data disaggregation result in lower costs for market data for data users? If not, please explain why?

<ESMA_QUESTION_MDA_10>
Data disaggregation provides for means to reduce data cost - extremely low demand though
DBAG has transposed regulation as well in the area of market data disaggregation. While we offer pre- and post-trade data products separately, further disaggregation may be requested in line with regulatory requirements. On top we continue to provide our previous data products on an aggregated basis as explicitly demanded by market participants and customers. While data disaggregation provides for cost reduction potential on user side, overall, however, the demand for the disaggregated data is so far limited. While the discussion between market participants (esp. asset managers), regulators and exchanges was rather difficult at the time, with the risk of disaggregation down to ISIN level to be provided by exchanges (which would have resulted in unmanageable administration for the whole industry), we are thankful to regulators to have decided in a rather sensible and manageable way resulting in today's regulation. However, since disaggregation was debated fiercely, we wonder that demand has not evolved as one should have expected after such a discussion.

Regarding price adaptions in relation to data disaggregation, please also refer to our response to questions 1 and 2.
<ESMA_QUESTION_MDA_10>

Q11 : Why has there been only little demand in disaggregated data?

<ESMA_QUESTION_MDA_11>
Please see our answer to question 10.
<ESMA_QUESTION_MDA_11>

Q12 : Do trading venues and APAs comply with the requirement to make available data free of charge 15 minutes after publication? If not, please explain in which areas you have identified deficiencies

<ESMA_QUESTION_MDA_12>
In line with the published price list DBAG did and does not charge any license fees for delayed market data to end users. DBAG makes available its market data free of charge 15 minutes after publication. As the initial requirements have been rather opaque, the solution actually

comes along in two distinct offerings, satisfying the competing requirements of “easily understandable” and “machine readable”. DBAG does offer both directly accessible minute-by-minute files in Jason format optimized for automated processing https://www.mds.deutsche-boerse.com/mds-en/data-services/mifid-ii-data/mifid-ii-delayed-data as well as a view solution with filter and search functionalities. Furthermore, APA data is accessible via https://mifid2-apa-data.deutsche-boerse.com/DAPA-posttrade/ and https://mifid2-apa-data.deutsche-boerse.com/DAPA-pretrade/.
<ESMA_QUESTION_MDA_12>

Q13 : Do you consider it necessary to provide further supervisory guidance in this area (for instance by reviewing Q&As 9 and/or 10) Please justify your position and explain in which area further guidance may be needed? Please differentiate between pre- and post-trade data.

<ESMA_QUESTION_MDA_13>
As lined out in our answer to question 12, DBAG considers itself complying with the requirements as requested by ESMA and we do not see the need for further guidance, unless in relation to identification of users.

Q&A 10 states that the data published is supposed to ensure that the information published by APAs and trading venues “can be effectively and efficiently used by the public”. This wording targets the average investor rather than professionals – who are well served already via their market data vendors accesses to delayed exchange data free of data license fees. Furthermore, the Q&A also states that APAs, CTPs and trading venues should provide the data “in a format that can be understood by an average reader”. This wording also reflects the fact that the Q&A targets delayed data intended for the general public. We understand that the scope of the Q&A is limited to the provision of delayed data that is intended for non-commercial use. Furthermore, something aimed at a non-professional and for non-commercial use could still be used for professional use. We need to point out that while providing delayed data for free on our homepage to end users, we consider it important to identify users accessing these data, at least in order to identify those who may be redistributing the data for their own commercial purposes. This is as well a necessity in order to ensure a level playing field between those generating data and those redistributing data for commercial purposes in general. Thus, we suggest ESMA to provide clarification in relation to Q&A 10 to ensure the capability of exchanges to monitor, track and control users accessing exchange data to verify that they do not redistribute the data for commercial purposes against the spirit of the political objective.
<ESMA_QUESTION_MDA_13>

Q14 : Do you agree that the identified reasons, in particular the regulatory framework and competition by non-regulated entities, make it unattractive to operate an equity CT?

<ESMA_QUESTION_MDA_14>
DBAG generally agrees with ESMA’s analysis, however, we do not agree with ESMA’s conclusion that data vendors should either become a CTP or not be allowed to display/market post-trade data anymore. We would consider this to be a disruptive event for the EU capital markets with unintended consequences. As lined out earlier in our feed-back here, exchanges are not the “last mile” to the data customer regarding data distribution. Usually, there are intermediaries, such as data vendors, or investment firms. As an example, retail brokers (usually being data vendors to private investors) and their customers could be affected by such a decision when displaying exchange data to private investors for investment decisions.

The CT as currently designed does not provide commercial incentives for a CTP nor does it solve Europe's fundamental issues with data quality and consistency

The main reasons for the lack of an commercial CTP so far in our view are a) the lack of a clearly defined regulatory use case for a real-time CT in the EU (and consequently the lack of an appropriate business), b) the lack of a mandatory usage by market participants (like in the US, which provides both, for funding as well as for revenues to be distributed amongst the data sources) and consequently the lack of an appropriate business case, plus c) the different qualities of the data to be aggregated (which makes the CT unreliable in itself as reliable data is mixed with unreliable data). In a nutshell: in order to provide for a real-time CT there are high investments to be considered, while overall data quality, demand and funding are still unclear.

Missing business case and missing funding due to a lack of regulatory requirements (use and use cases)

DBAG fully agrees with ESMA that there is a missing business case for data vendors to resume the role of a CTP. Although several market data vendors already consolidate a large part of the market (predominantly exchange data which are of high quality and fully reliable) in a profitable environment, and thus should be in a good position to easily complement with additional OTC/APA sources, the CTP regime itself would add costs and risks.

At the same time there is, however, neither a clear regulatory use case in MiFID II/MiFIR (e.g. mandatory use for best execution requirements like in the US) nor a regulatory requirement to use the consolidated data and pay for it. On top, approx. 50% of the data to be included in the tape is still of inferior quality and as such rather a burden than a benefit and would flaw the overall consolidated data. The risk/reward profile as such looks not attractive. For example: while 103 market data vendors display Xetra cash equity data, only 8 market data vendors show an interest in off-exchange APA data.

In this context we need to point out again, that even in the current market debate, not one clear regulatory use case for a CT has been presented, while there is a clear push from market participants to receive CTP data ideally for free. ESMA refers to 15 minutes where a CTP could actually incur their (main) revenues on data. We agree partly and point out that this is the case as well for exchanges. However, as the CTP would be in the position to provide an aggregated EU view, the CTP would be in the position to generate revenues in the end-of-day business, for position valuations and portfolio evaluations - (interestingly, market data users tend to attribute those market data cost as well to exchanges, which are not the beneficiaries of their payments, however). This segment seemingly grew significantly during the last years, due to new regulatory requirements.

Data sources need to be compensated - especially for real-time data

The debate with market participants currently culminates in a scenario where trading venues and APAs are supposed to bear all the cost for submitting their data to a CTP, while the real-time CT should be operated at cost, and data sources not be compensated at all (against very clear references to RCB in MiFID II/MiFIR). At the same time the CT data would be used for all sorts of business-driven use cases – not one regulatory use case to be very clear here - including onward dissemination/sale by users for their own monetary benefit as we have learned from discussions in the market. However, MiFIR is clear on the fact that data are to be made available at reasonable commercial terms in real-time, and not for free. Unless there is a clear political will to transfer revenues from exchanges to other market participants/intermediaries, while accepting negative side effects for EU capital markets, such a scenario should be clearly dismissed by regulators.

Neither in the US – where there are by the way three CTPs to be paid for mandatorily at the same time (approx. in sum at least 210,-- USD mandatory p.m. for consolidation over 35 venues, as compared to 170 in the EU) in addition to "proprietary" exchange data, nor in

Canada, where trading venues are being paid their normal data fees as well under the CT – is there a situation where data sources are not being paid, or they receive less revenues than without a CT. Weakening EU exchanges further, compared to their global competitors may find soon EU economy / (ies) being dependant on third country exchanges. Already today, there is an US exchange at the top of the list of EU cash equity market share (see picture from Refinitiv in our answer to question 8) – however, obviously only active in the most liquid instruments which are the most lucrative one to trade but not in SMEs and neither supporting new start-ups in questions of funding like DBAG does.

Artificial delay of exchange data would damage competition and efficiency in equity markets

In this light, but as well due to technical reasons, we cannot agree with ESMA that exchanges should delay their data publication until the CTP has finally published the aggregated data. Exchanges compete amongst each other but as well with their customers and third parties for transaction. Competition takes place as well as regards roundtrip times (speed of execution: e.g. time elapsed between sending the order and receiving the execution confirmation). Today, this is even more important than before MiFID II. Holding back on execution confirmations until a CT has published consolidated data, would not only be technically impossibly, but as well be clearly detrimental to competition as well as market efficiency and stability. Any such ambition should clearly be rejected therefore.

<ESMA_QUESTION_MDA_14>

Q15 : Do you consider that further elements hinder the establishment of an equity CT? If yes, please explain which elements are missing and why they matter.

<ESMA_QUESTION_MDA_15>

Regulation needs to be proportionate – pure revenue reallocation between intermediaries to be avoided

ESMA refers to market demand for a Tape. A CT as well as data provided by Market Data vendors may a) act as a marketing tool for new products (e.g. by displaying the liquidity of new products), it may act as a marketing tool for a new start-up or competitor of an exchange (such as new start-ups), and some are expecting to receive data ideally for free on the expense of those producing it. However, none of those perceived benefits are targeted at the investor or at investor protection or are satisfying any regulatory requirement, but indeed are plain business interests of their promoters. The benefits and risks of a regulatory decision should always be carefully evaluated, and they must be proportionate to all affected parties, including exchanges.

CTP to reflect 100% of activity per asset class

The largest part of EU capital markets are traded outside of transparent exchanges. E.g. asset classes such as ETFs or Fixed Income are predominantly traded off-venue. In order to get a full picture on the market and the liquidity of such instruments, there is a need to include all data sources active in that asset class into a CTP. As regards ETFs, DBAG has counted approx. 46 data sources, compared to 150 data sources for cash equities as counted by ESMA. At least half of those data sources are off-venue data.

Data quality of off-venues data needs to be improved first to avoid incomplete and unreliable EU CTP data

The main reason why a 100% consolidated view, or a CT has not yet evolved must be attributed to the lack of data quality of off-venue data. In the current equity market landscape, neither an APA nor a CT nor a data vendor already aggregating data is in a position to solve data quality, reliability and consistency issues stemming from inconsistent trade reporting behaviours at the source – both concerning timeliness and content of data and inconsistent

approaches in flagging trades. Compared to exchange data, off-venue data is generally of lower quality, due to several reasons. While still being in line with regulatory requirements, off-venue data tends to be available less timely plus often delayed while completely being in line with MiFID II/MiFIR requirements. On top, NCAs may decide to apply different delay rules for selected assets (e.g. FI). All of this makes a consolidated view less helpful and more prone to errors. Besides, these regulatory allowed differences additional short-comings lead to less reliable data. Reference data may be flawed, leading to a wrong classification of an instrument and a different delay period, reporting rules are leaving options but are difficult to follow. E.g. unless ESMA provides a daily list of SIs per instrument there will be uncertainty as regards who reports a trade (e.g. in case two SIs trade with each other). This may result in no or even double/no reporting from the sources and without any chance for an APA or CTP to correct this.

Another publicly discussed issue is the issue of addressable and non-addressable liquidity. L2 regulation falls short of clarifying this issue, leaving room for speculation and interpretation. Regulators should pay attention that this topic is not being used to create loopholes for avoiding off-venue transparency to the detriment of EU capital markets. Besides a clarification by regulators of what really qualifies as addressable liquidity and what not, an accurate flagging by the data sources is of essence, in order for easier consolidation, classification and integration of all these transactions into a comprehensive CT, providing for the comprehensive view currently lacking. In this context we like to note that DBAG is a keen promoter of the fully protocol agnostic MMT standard, but it must be understood that MMT is a standard for identifying the same trade executions supporting easier consolidation of the same data but would not be in the position to outright define what is addressable and non-addressable liquidity, unless this has been decided and defined by the regulator himself upfront.

Please note as well, that unless, off-venue data becomes more reliable, a CT would always be an incomplete and unreliable source of data itself. Mixing high quality data with low quality data overall results in unreliable data. Consequences finally could include: ill-informed investment decisions, inaccurate disclosures to regulators and investors, disingenuous marketing materials, and mis-selling claims.

Benefit of exchange market data

Exchange market data provide highly valuable data – due to their timeliness and 100% reliability. Exchange market data are not only used by market participants trading equities, but as well by third parties building their own lucrative businesses on. One example is the index business, where exchange data is providing for the basis of tradable indices, which again allow for highly cost effective passive investments to the benefit of investors as well as the EU economy. In case of bad and unreliable data (such as in the LIBOR affair) reliable passive investments would not be possible. Passive investment has been growing significantly during the last decade to the benefit of investors and economies alike. Cost savings on average are 1/3 compared to active funds[39]. In order to cater for such reliable data, exchanges are investing on an ongoing basis, while being strictly regulated. Market data revenues are an important source of funding, and for less diversified exchanges only one of two or three revenue sources overall. Regulators should consider the case of having a national exchange compared to not having one, before making any strict decisions here. But as well direct exchange competitors use exchange market data in combination with ever cheaper IT to compete for the same order flow but at a significant lower cost base – instead of investing in price formation themselves they per orders to exchange data. While we are aware that in other asset classes real-time

[39] Davydoff/Klages (IODS): Study on the performance and efficiency of the EU asset management industry, August 2014, p. 57, noting that “there are wide discrepancies among each category”. (http://ec.europa.eu/finance/finservices-retail/docs/fsug/papers/1410-eu-asset-management-industry_en.pdf)

market data is being made available to customers outside of any regulation, direct competitors are not granted access to such data. This is for a reason of course, as it would be easy to use the data for competing for the same order flow with the data provider (e.g. like is the case with exchange transparency).

Free of charge real-time CTP risks unintended negative side effects

A major point of discussion at the EU COM work-shop for an EU CTP[40] was cost of a CTP in the EU. Various parties indicated that the data of a CTP should be made available for free by exchanges and other data sources while CT operators should be able to recover cost only. Such a model is nothing else than a strict price regulation at the cost of exchanges, especially, when we start to speak about a real-time CT for free or at very low cost. We would also like to point out that while all exchanges generally incur high fix cost blocks, the US market is significantly larger[41] and as such provides for significantly higher economies of scale. Taking into account that market data revenues represent a rather stable income for exchanges (especially, when considering the fluctuations during the different phases of investment cycles either favouring cash equities, money market or Fixed Income) and for some exchanges represent almost a quarter of revenues if not above, a strict regulation of exchange market data fees would likely lead to unintended negative side effects, such as the potential loss of some national exchanges or less investment into the quality of exchange market data.

<ESMA_QUESTION_MDA_15>

Q16 : Please explain what CTP would best meet the needs of users and the market?

<ESMA_QUESTION_MDA_16>

As explained in our answers to questions 14 and 15, as a pre-requisite a CTP would need to take clearly into account the specifics of the EU market structure and would need to provide a holistic view of trade execution across all venues within the EU – from transactions executed at regulated markets to OTC transactions and SI executions.

Any real-time CT would require a regulatory use case including mandatory use, or follow the Canadian model

Any streaming CT (real-time as well as 15 minutes delayed) is significantly more complex and costly, while there is a lack of a regulatory use case and the correspondent funding by users. The additional benefit expected, compared to Market Data Vendors solutions, still remains unclear, but needs to be clarified first in our view alongside the regulatory use case and funding. Leaving the funding to the expenses of exchanges is certainly not in the interest of the EU and its member states, and neither would it be proportionate. It is our understanding that there is still a need to have stable and reliable EU exchanges catering to their member states and the EU markets alike, providing transparent price formation amongst other benefits to the EU economies. As we understand the Canadian model, it consolidates data, while it passes on the relevant data fees per data source to the user of the tape (“pass-through” fee model), similar to the model of a market data vendor consolidating data. Under the current circumstances lined out above, the Canadian model would be the model which would be suitable in case a real-time CT should be implemented even without a regulatory use case. As a consequence, data fees would be passed through to users without subsidization. However, there is more to be considered.

Focus on data quality first – pre-requisite to avoid errors/mistakes based on wrong CT data

[40] EU COM work-shop, 2019, Centre de Conférences Albert Borschette, 28 June, 2019
[41] Oxera, “Pricing of market data services: an economic analysis”, Feb. 2014

Regulators as well as market participants including exchanges agree on the fact that data quality of off-venue data (e.g. SI and OTC) is not reliable. In the case of equities, this is approximately 50% of the market, while in the case of ETFs, e.g. we speak about 70% of off-venue turnover. Mixing reliable data with unreliable data in any consolidated data, be it a (single) CTP or a Market Data Vendor solution (competing tapes), would result in an overall unreliable consolidated view. Taking into account, that a CT would currently not be reliable and could result in unintended consequences such as ill-informed investment decisions, inaccurate disclosures to regulators and investors, disingenuous marketing materials, and mis-selling claims, DBAG strongly recommends concentrating on achieving data quality first in any case. Once the data quality issue has been solved satisfactorily, we would assume that a more comprehensive consolidation – including off-venue data – would be attractive for Data Vendors too.

A Tape of Record as a sensible solution amidst lack of regulatory driven use case and funding

Taking into account, that there is currently not one regulatory use case for a real-time CT in the EU, neither a mandatory usage being required under MiFID II / MiFIR, and while a pure funding by data sources would be surely disproportionate, DBAG considers that a Tape of Record would be a sensible solution. Once data quality has been improved to provide as well high quality and consistency in data from SI and OTC transactions, it would deliver a reliable and consolidated view on the overall liquidity within Europe and on its venues and APAs.

The Tape of Record would have multiple benefits: providing insight to liquidity in EU markets, both to users inside and outside the EU, support the project of the Capital Markets Union as good as a real-time CT, while data may be used for evaluation purposes, and analysis, plus many more. In contrast, and taking into account the well-formulated desire to minimise additional costs in the industry, a real-time CT would be much more costly due to the significant investments necessary to sufficiently install all pre-conditions and to technically implement the CT.

<ESMA_QUESTION_MDA_16>

Q17 : Do you agree that real-time post-trade data is available from both trading venues and APAs as well as data vendors and that the data is currently not covering 100% of the market, i.e. including all equity trading venues in the EU and all APAs reporting transactions in equity instruments? If not, please explain.

<ESMA_QUESTION_MDA_17>

Yes, we agree. DBAG makes data available to a broad customer base, directly and indirectly and for multiple products such as cash equity trading venue data as well as APA data. Data is made available on the basis of free choice by customers. As regards post-trade data, there is currently clearly more demand for our cash equity exchange data than for our APA data, both from market data vendors as well as from end users. For example: while 103 market data vendors contract Xetra cash equity data, only 8 market data vendors licensed off-exchange APA data. This may be due to the lower quality of off-venue data, as well as lower regulatory requirements in the context of timely availability of off-venue data (e.g. off-venue equity transaction has to be reported within one minute, while on-venue data is available within micro seconds).

While data sources, such as DBAG's trading venues as well as it's APA make data available either via direct feeds, or via third parties who consolidate / aggregate the data with other data sources as well as complementary further services, it is due to those aggregators private

decisions, which data sources they integrate into their consolidation. A CTP by nature would have to cover 100% of the market - even those data sources which are not sought after.

Importantly, we would like to reiterate the lacking quality of off-venue data. In this respect, please also refer to our responses to the previous questions.
<ESMA_QUESTION_MDA_17>

Q18 : Do you agree that post-trade data is provided on a timely basis and meets the requirements set out in MiFID II/MiFIR and in the level 2 provisions? If not, please explain.

<ESMA_QUESTION_MDA_18>
DBAG agrees with ESMA that post-trade data is available, and usually as well within the time limit as required by regulation. Still, as there are diverging regulatory requirements as regards timeliness (e.g. microseconds for trading venues, while OTC data maybe reported within one minute). This creates general issues for consolidating (sequencing, especially as there are as well different data requirements for Trading Venues as well as off-venue transparency under RTS 25 Annex) and having a full view of the entire market. The structural issues around the reliability (and timeliness) of trade reporting should be solved first, enabling and requiring SIs and OTC to report in a timely manner (while adapting as well RTS 25 Annex), before addressing a real-time CT. Data quality can only be achieved at the source. A downstream consolidated tape cannot perform data cleansing because it will not have the necessary insight over the order-transaction lifecycle.

ESMA mentions that market data vendors do not fall under the regulatory requirement to make real-time data available as quickly as technically possible. While this is true, it is in the vendor's own business interest to do so, once they make a data source available, so DBAG does not see a problem here. However, it needs to be understood, that even if publication delays are allowed for particular trades in line with the regulation, such delays make a consolidated view less usable as they provide fresh and old price points together in a streaming fashion (e.g. DBAG equity last sale price in milliseconds from an exchange, the next price is stalled as has been delayed by 60 minutes or 120 minutes or longer, while overriding the last real-time price). This issue would be less problematic in a Tape of Record, though. But even in case of a real-time Tape, however, we would strongly argue for abolishing overly long or complex delay mechanisms. This is especially the case as well as regards non-equity transparency, as the current delay regime does not provide for sensible transparency e.g. in FI markets. In case FI data would be published at the same quality and timeliness as exchange data, it would foster similar competition as can be experienced in the equities markets as of today. In such a case, exchanges could use real-time FI data and peg executions on exchange on those data serving its own members as well in other asset classes.
<ESMA_QUESTION_MDA_18>

Q19 : Do you agree with the issues on the content of data and the use different data standards identified or do you consider that important issues are missing and/or not correctly presented?

<ESMA_QUESTION_MDA_19>
DBAG agrees with ESMAs concerns on off-venue data quality issues – risks to be avoided
DBAG fully agrees with ESMA that reliable data quality is a pre-requisite for establishing a CT in the first place. Please also refer to our responses to the previous questions regarding data quality, reliability and consistency issues stemming from inconsistent trade reporting

behaviours at the source – both concerning timeliness and content of data and inconsistent approaches in flagging OTC trades.
Having an incomplete and hence unreliable CT may pose risk to EU financial markets, depending on how the CT data would be used. (Again: please note that there is currently not one regulatory use case while it seems that users aim for using a CT for their general business use cases, circumventing paying exchange data fees, or only limited fees. Please note as well, though, that this would be disproportionate and not in line with regulation). Looking at the shortcomings as regards data quality as described by ESMA, we would like to point out that many of them may incur in case an instrument has been classified wrongly within its reference data. Let us assume a bond has been classified as equity or vice versa the whole process of publication will be affected detrimentally. Why is this the case? The nature of the underlying instrument initially decides on the transparency requirements itself (data fields to be filled, delay period to be applied) and those again decide on the validations applied by an APA. In the worst case the data is being published wrongly. This may be the case for wrong delays, missing data fields, and even for wrong classifications of SIs. Applying ANNA for the right CFI code[42] may heal some of those shortcomings, in our opinion.

Multiple other reasons lead to quality short-comings of off-venue trade data
While many of the errors ESMA mentioned may be attributable to the process started with wrong classification of the underlying instrument, there are of course other challenges to be considered as well. DBAG considers the very flexible reporting logic – which already has been established under MiFID I, and now has become even a bit more complex – as a risk as well for over- and / or underreporting.

Regulators – instead of industry - to define what is addressable and non-addressable liquidity
As regards the issue of non-price forming trades, we would like to refer to our comments made above earlier, that while MMT would be a good tool to be applied for identifying addressable/non-addressable liquidity, the nature of such flow needs to be defined by regulators. Leaving the definition of what represents addressable and what not-addressable liquidity to the industry, may have a significant detrimental impact on the original aim of MiFID II/MiFIR, namely transparency of EU markets.

Data standards used by trading venues
There is a debate to request trading venues to adhere to more standardized formats/ protocols than already provided for in MiFIR (RTS 1 and RTS 2). To be clear, exchanges already provide their data in machine readable format (digital feed) as of today and data format is a means of competition between trading venues. This has also been recognized within ESMAs Q+As[43]. Requiring standardized formats here would pose a significant burden on exchanges, who are competing for order flow with many other venues in the EU and even outside of the EU. While competition is hard, roundtrip times, resp. latency is a significant issue in this respect. Roundtrip time is defined as the time span between sending and order to the exchange and receiving the confirmation of execution. Data message load in trading is increasing since years and in fact does so especially during fast markets and markets stress. In order to provide a

[42] FESE, “FESE input on the functioning of the ESMA database”, July, 2019: “FESE members’ experience is that CFI codes are not attributed consistently across instruments and different National Numbering Agencies (NNAs) classify differently the same instrument. For instance, one NNA may classify a given instrument as a bond whereas another classifies the same type of instrument as a structured product. Often the CFI assigned does not correspond with the exchange’s classification of the security.”
[43] ESMA Q+A on MiFIR and MiFID II Transparency Topics, see Q+A 2, https://www.esma.europa.eu/sites/default/files/library/esma70-872942901-35_qas_transparency_issues.pdf

high throughput (since 2011 message throughput through DBAG's data feed more than doubled, reaching peaks of up to 3,7 bn messages per day) and efficient and fast execution (round-trip times) exchanges fine tune their feeds and therefore the best format/protocols are being used, which sometimes may be proprietary formats. (Please note that MMT is protocol/format agnostic and may be used in any format). These formats are well known in the market and obviously properly consolidated already as of today, as exchange data is literally the best available and consolidated market data globally. Especially, for those trading venues, which are farther away from the main markets / customers, the requirement to adapt to more standards would bear a significant risk. It is of essence to compete as well with smart tuning of data feeds involved in the execution of transactions on exchange. Once this possibility would be taken from exchanges, in would impact competition to the detriment of those venues which are farther away from the usual financial centres.
<ESMA_QUESTION_MDA_19>

Q20 : Do you agree that the observed deficiencies make it challenging to consolidate data in a real-time data feed? If yes, how could those deficiencies best be tackled in your view?

<ESMA_QUESTION_MDA_20>
Yes, as laid down in our responses to the previous questions, we find that market structural deficiencies make it challenging to consolidate overall post-trade data in a real-time data feed. No meaningful, reliable CT can be achieved with the current transparency issues around SIs and OTC transactions. As regards exchange data, though, already today a broad range of market data vendors consolidate market data feeds from global exchanges. Given that friction-free experience, we oppose the view that different feeds provide a high hurdle to consolidate.
<ESMA_QUESTION_MDA_20>

Q21 : What are the risks of not having a CTP and the benefits of having one?

<ESMA_QUESTION_MDA_21>
DBAG appreciates this question, however, while referring to risks and benefits of having a tape or not, the question is not going far enough and is rather one-sided. We have therefore added further points to complement those raised by ESMA, in order to complete the picture.

Exchanges provide transparency – off-venue information needs improvement
All markets where exchanges are active - such as cash equities or ETDs - are transparent already and transparency is widely available as well as consolidated by Market Data Vendors. In other asset classes there is no similar public transparency available as of now. The last financial crisis evolved in completely in-transparent CDS markets. While as of today those markets continue to be in-transparent as still no reliable (publicly accessible) data is available, the only focus of the industry is seemingly to work on making transparent exchange driven markets even more transparent, while leaving the other markets more or less in the dark. DBAG would appreciate to see some progress as well in the less transparent markets at some point in time, e.g. in bond markets and of course under the same conditions and rules as exchange driven markets.

Off-venue data needs to be improved first
Of course, we agree that even in equity or equity-like markets there may be an improvement of overall transparency possible, namely by including the off-venue transactions which are still somehow in the dark. As an example: in the case of ETFs there is more than 70% of volume traded outside regulated markets (off venues, and as such with data quality shortcomings) with the consequence that the major part of this liquidity is not visible to investors, both within the EU or outside the EU. This currently results in a lack of transparency on overall liquidity in

otherwise attractive investment tools for investors. While liquidity is a major point for third country investors, most of the liquidity in EU ETFs is seemingly currently in the dark. A Tape of Record would be a good way of healing this short-coming, once off-venue data quality has been improved.

Estimates by Blackrock[44]

Standards already introduced by MiFIR/MiFIDII

Under point 159. ESMA states: "requiring trading venues and APAs to provide post-trade data in a more standardised format (e.g. providing the information in the same currency and currency unit or using the same standards and technology) and/or having more detailed and clearer reporting rules." DBAG would like to point out that already as of today, MiFIR requires the application of standards, such a MIC codes, ISINs, and standard ISO formats, including standard currency units. However, as with any standard, it may be the case that for a particular practical issue a standard must be adapted or developed further, e.g. as in the case of currencies such a "GPB" or "pence". That does not mean, however, that a standard is not working and needs complementation or replacement. DBAG considers the applied standards to date as sufficient, however, supports the fully protocol agnostic MMT which as of today may provide for proper post-trade classification of securities, such as equities and equity likes, as well as Fixed Income transactions. Exchanges as well as market data vendors have pro-actively already implemented MMT (in synch with MiFIR). Comprehensive adoption across the industry would be beneficial.

What DBAG does not support, however, is the introduction of a standard format/protocol to be mandatorily used by exchanges/trading venues. The reason for this is that trading venues need to be able to compete on roundtrip times (time needed to send an order, get it executed and be informed about the trade price) as they are competing for executions. Here, often proprietary formats are tuned, in order to minimize latency of roundtrips and are used as an important means to compete for order flow across Europe. Requiring an "open source" format for trading venues electronic feeds would impact competition and therefore has not been

[44] https://www.etfstrategy.com/six-months-into-mifid-ii-what-has-changed-for-etfs-so-far-65487/

imposed by MiFID II/MiFIR initially. Furthermore, it is important to note that exchange market data is already consolidated by market data vendors, but what is missing is the off-venue data consolidation. A mandatory request by regulation to change to another protocol would be disproportionate especially under competition issues

Benefits of having a CT or Tape of Record – having one overall view on market liquidity
Do we agree with some of the more general proposals like a CT would be the solution for the CMU, or the support of a strengthened Eurozone? Yes, we do – but only to a minor degree and provided some important issues in the current CT design would be addressed first. ESMA's assumption that a CTP would provide for better quality of data is not shared by DBAG. The reasons for data quality shortcomings mainly lie at the source itself (reporting party), wrong or unreliable reference data, and human errors. A CTP will not be in the position to heal this.

A CT or a Tape of Record would bring additional transparency – but only once the data quality issues of off-venue trades have been solved. Especially, in markets which are broker dominated this would be significant step in the right direction. This would be the same most likely with established market data vendors, once data quality was improved. Knowing that markets are liquid may attract new investments in the EU. In order to provide such information, indeed a Tape of Record making available aggregated data at the end of the day may be the right and valuable step forward initially. Such a Tape would as well function as a marketing tool for new products as a marketing tool for new markets, amidst the lack of a clear regulatory use case or lack of funding for a CT. Mandatory use of such a Tape or even funding may become negligible, and unintended negative side effects such as problems with sequencing of real-time data would not have to be expected. Further benefits include: significantly lower building and maintenance cost. In the absence of clear regulatory use cases we consider this to be a good solution. In this context please see as well our answer to question 24.

The risks of getting it wrong should not be neglected either

1) CT with flawed and incorrect data

   Unless, off-venue data becomes more reliable, a CT would always represent an unreliable source of data itself. Mixing high quality data with low quality data overall results in unreliable data. Consequences finally could include: ill-informed investment decisions, inaccurate disclosures to regulators and investors, disingenuous marketing materials, and mis-selling claims.

2) CT without use and funding

   There are currently neither a regulatory use case nor a requirement to use the consolidated data – leading to a lack of funding of the CTP. Leaving the funding to the data sources (directly or indirectly), as proposed by various market participants, would neither be proportionate nor without unintended negative consequences for the EU capital markets, and especially for smaller and less diversified exchanges. The value of having a national exchange compared to not having one would need to be considered as well by regulators and should not be neglected in this debate.

3) CT only at low cost – and to the detriment of overall data quality in EU equity markets

   Exchanges invest significantly in order to make markets efficient and transparent and to ensure investor protection. During the last financial crisis DBAG's systems kept up with the extraordinary high volumes at any time. To be prepared for such events - at all times - and to provide for stability in difficult times, high fixed cost blocks of exchanges need to remain funded at all times.

4) Global as well as local view should not be neglected

High fix cost blocks are the same for US as well as EU exchanges. At the same time market data revenues of exchanges in the EU are significantly lower than in the US, where there are significantly higher economies of scale[45]. As of today, an American exchange is at the top of exchanges in the EU in terms of turnover[46] – facilitated by low IT costs and very fairly priced market data for direct competitors by exchanges. However, third country exchanges do focus on the most liquid assets usually and leave SMEs for the EU exchanges to look after. Fostering EU national economies, such as DBAG does, is neither on the agenda of such competitors.

<ESMA_QUESTION_MDA_21>

Q22 : Would you be supportive of an industry-led initiative to further improve data quality and the use of harmonised standards or would you prefer ESMA guidance? Please explain.

<ESMA_QUESTION_MDA_22>

DBAG agrees with ESMA that the consistency and comparability of data coming from different sources is a pre-requisite for reliable data consolidation. Therefore, off venue data needs to improve in quality first. We welcome ESMAs offer to engage with the industry in order to make off-venue reporting more reliable and we stand ready to participate.

DBAG has always been very supportive of industry-led initiatives to further improve data quality and to harmonize standards. We were one of the founding members of MMT together with other exchanges and market data vendors. Both, exchanges (and as well MTFs), together with market data vendors have developed MMT and have transposed it into data feeds already, while several market data vendors apply and display it as of today already[47]. While MMT has been transferred to FIX Protocol some years ago, in order to foster broader market acceptance for the benefit of EU capital markets, MMT is fully protocol agnostic, meaning it can be used in any protocol and format, even in proprietary formats.

While DBAG would welcome MMTs extension to a full range of market participants in order to deliver greater levels of data consistency overall, we would, however, caution on expectations: MMT is an operational solution that effectively supports trade flagging requirements in relation to RTS 1 and 2. As such it can help to enhance SI and OTC data quality. However, while MMT is an efficient tool in itself to make consolidation more efficient, regulation is required to define “addressable” and “non-addressable liquidity” first, before MMT may be applied. Thus, we would welcome more ESMA guidance on standards in this area too as well as regulatory clarification of addressable and non-addressable liquidity, rather than leaving this to the industry.

DBAG supports further industry initiatives but only under the lead and supervision of ESMA and the above-mentioned conditions. While the industry has broad understanding and detailed knowledge on the necessary issues at hand, however, the lessons learned during the development of MiFID II/MiFIR in our view require a regulatory body to be involved in order to

[45] Oxera, “Pricing of market data services: an economic analysis”, Feb. 2014, p.ii:
“It is often argued that European market data is far too expensive. The analysis shows that, at first sight, Europe indeed looks more expensive than the USA. However, a more detailed analysis shows that this is driven by large differences in economies of scale, and a number of other factors such as the complexity of the European markets, the specifics of the regulatory requirements around Reg NMS, and the consolidated tape. It is well known that trading fees in the USA are lower than in Europe and that this is driven partly by differences in economies of scale (see section 2.1.1 in Appendix 2)—similarly, data fees are lower in the USA, and this is also driven partly by the same differences in economies of scale.”

[46] Please see picture from Refinitiv in our answer to Q8 of this consultation

[47] https://www.fixtrading.org/mmt-adopters/

come to fair and reasonable steps for overall improvements to the benefits of EU investors and EU financial markets.
<ESMA_QUESTION_MDA_22>

Q23 : In addition to the standardisation of the reporting and format, as described before, did you identify any further relevant data quality issue to be considered for the successful establishment of CTPs?

<ESMA_QUESTION_MDA_23>
Please also see our responses to the previous questions emphasizing the current deficiencies off-venue transparency impairing data quality and consistency. It is key to be able to guarantee high quality, reliability and consistent flagging of SI and OTC trades in order to deliver a CTP that can be considered meaningful.

Moreover, exchanges already provide their data in machine readable format (digital feed), as of today. In fact, they even did before the implementation of MiFID I. ESMA is well aware about the fact that as regards data availability and consolidation by vendors, exchange data is not the problem. There are no challenges to consolidate exchange data, as this is the only data which is comprehensively available and consolidated across many market data vendors already. Again, our example: while 103 Market Data Vendors contract Xetra cash equity data, only 8 Market Data Vendors contract off-exchange APA data[48]. DBAG considers this to be a clear evidence that exchange market data is not the problem, and already provided in machine readable format.

The request that trading venues should adhere to more standardized formats/protocols than already provided for in MiFIR would pose a significant burden on exchanges, who are competing for order flow with many other venues in the EU. While competition is hard, roundtrip times, resp. latency is a significant issue. Roundtrip time is defined as the time span between sending and order to the exchange and receiving the confirmation of execution. Especially, for trading venues, which are farther away from the main markets (e.g. Frankfurt to London) the requirement to adapt to more standards would be a significant risk. It is of essence to compete as well with smart tuning of data feeds involved in the execution of transactions on exchange. Once this possibility would be taken from exchanges, in would impact competition to the detriment of those venues which are farther away from the large financial centres.
<ESMA_QUESTION_MDA_23>

Q24 : Do you agree that the mandatory contribution from trading venues and APAs to a CTP would favour the establishment of CT?

<ESMA_QUESTION_MDA_24>
There is currently neither a clear regulatory use case nor a requirement to use the consolidated data and pay for it within MiFID II/MiFIR – which results in a lack of a sensible business case for a CT. Leaving funding of the CT to the data sources (especially exchanges), however, would neither be proportionate nor without unintended negative consequences, especially for smaller and less diversified exchanges. Contributions by trading venues and APAs would have to be compensated fairly under a proportionate regulatory set-up. DBAG sees three potential models for a CT in the EU to be discussed:

Version A: Introduction of a clear use case and mandatory consumption similar to US regulation

[48] https://www.mds.deutsche-boerse.com/mds-en/data-services/real-time-market-data/vendorlist

Mandatory contribution and mandatory use in the US: While in the US there is mandatory contribution by data sources, there is as well mandatory requirement to subscribe and pay for the CTP data, guaranteeing funding of the CTs as well as data revenues to US trading venues and plan participants.

Less fragmentation and higher economies of scale in the US: However, there are further differences to be considered. Compared to 35 venues consolidated in the US, there are 170 venues within the EU. While each single data source adds to cost of a Tape (DBAGs data feed alone produces 3,7 bn data messages p.d. during peak times) as well as to complexity (e.g. sequencing of bns of data messages from 170 data sources), latency would be significant further problem within a r/t CT. Cost of an EU real-time CT would as such be significantly higher compared to the US CT. Furthermore, the US market is significantly larger creating higher economies of scale, while being less fragmented. This results in differences as well as regards the funding of the CT. Annual distributed CTP revenues alone resulted in USD 348 mn in 2017, which came on top of the data revenues of the direct sale outside the CTPs) in the US resemble more than the overall equity market data revenues p.a. of FESE Exchanges[49] in total. Exchanges are not bearing the cost for the industry, but fairly compensated.

Best execution at the venue with the best price on the Tape:
Furthermore, there are requirements for transparent pre-trade data in the US as well. In this case, however, RegNMS requires as well routing orders to the venue with the best price on the tape. So, competition is expanded to all venues on the CT, which of course requires investment in a standard routing infrastructure. Compared to the US, in the EU the requirements as regards best execution are different too, execution may happen according to pre-selected single venues, even only at one SI.

Version B: Application of Canadian model
The Canadian model resembles the current EU model the most, although there are differences. It seems that unlike in the US there is neither a regulatory use case nor a mandatory funding by market participants within Canada. The mandatory contribution by exchanges to one exchange in the role of a CTP, however, is rewarded with a “pass-through fee model” ensuring full funding of exchanges for their market data. The main focus of this model obviously is to have one defined consolidated source of data, while other service providers may consolidate as well. One significant benefit of this model is of course, that the data quality is homogenous as no off-venue data has to be consolidated. So, a real-time streaming set of data would at least be of the same quality (e.g. microseconds).

Version C: Provision of an “EU Tape of Record”, which would provide for a full aggregated liquidity view
Knowing that markets are liquid may attract new investments. In order to provide such information, indeed a Tape of Record making available aggregated data at the end of the day may be the right step forward initially. Such a tape could as well function as a marketing tool for new products and for new venues. Mandatory use of such a tape or even funding may become negligible, and unintended negative side effects would not to be expected. In the

[49] https://www.nyse.com/article/understanding-the-market-for-us-equity-market-data?utm_source=ICEhomepage&utm_medium=banner, as well as https://business.nasdaq.com/marketinsite/2018/GIS/Revenues-Trend-Down-for-US-Stock-Market-Data-Backbone.html

absence of clear regulatory use cases, as well as mandatory usage requirements we consider this to be a good solution.
<ESMA_QUESTION_MDA_24>

Q25 : Do you have preferences between the option of (i) requiring trading venues and APAs to contribute data to the CT, or, in alternative (ii) setting forth criteria to determine the price that CTPs should pay to TVs and APAs for the data? If so, please explain why.

<ESMA_QUESTION_MDA_25>
DBAG wonders about the proportionality of such a request, looking at the current EU regulation as well as the regulations applied globally. Either are clear regulatory use cases for a CT defined, as well as the mandatory usage of streaming r/t data, or where this is not the case a "pass-through-model" has been applied. In none of the countries where official CTP are active, are exchanges required to fund the CT at their expense including the risk of not being compensated at all. Requiring trading venues and APAs to contribute data to the CT free of charge, below cost, or at significantly reduces revenues, risks seriously undermining exchanges role in the market, i.e. the investments in and the provision of reference prices thus negatively impacting the price formation process in the EU, to the detriment of investors.

We therefore like to refer again to our answer we provided to questions 21 and 24.
<ESMA_QUESTION_MDA_25>

Q26 : Do you agree that the mandatory consumption could favour the establishment of a CT? If not, please explain your concerns associated with the mandatory consumption.

<ESMA_QUESTION_MDA_26>
DBAG considers that the provision of a real-time CT clearly would be enabled through mandatory consumption and mandatory funding by all market participants in the EU. However, as lined out already in our answer to question 24, cost would be higher in the EU compared to the US, due to lower economies of scale (less market participants consuming the data) and higher fragmentation (35 venues in the US, compared to 170 in the EU), which would significantly increase cost, both for setting up a real-time CT as well as for operating it. Any comparison with data fees being paid for the US CT, therefore, must be dismissed by regulators as it would raise wrong expectations. Investing in such an undertaking of course requires a clear regulatory use case in order to be proportionate with the regulation.

Alternatively, we would argue in favour of Version C/Provision of an "EU Tape of Record", which would provide for a full aggregated liquidity view at comparably low cost, (both lined out under our answer to question 24) could be valid alternatives in our view. If there is to be mandatory consumption of the CT, we argue that it is absolutely necessary as well that it is based on a regulatory use case.
<ESMA_QUESTION_MDA_26>

Q27 : Would mandatory consumption impact other rules in MiFID II and if yes, how?

<ESMA_QUESTION_MDA_27>
A mandatory consumption of CT data would need to go hand in hand with a clear regulatory use case in order to pay-off for market participants. In the US the CT it is accompanied by a mandatory execution at the venue with the best price on the CT.
<ESMA_QUESTION_MDA_27>

Q28 : Do you consider it necessary that the CT covers all trading venues and APAs and the whole scope of equity instruments or would you be supportive of limiting the coverage of the CT? Please provide reasons for your preference and explain your preferred approach.

<ESMA_QUESTION_MDA_28>
DBAG supports full coverage of CTPs
DBAG supports a full coverage of all venues on a CT, both for equity as well as non-equity CTs. This is necessary for covering both trading on venues and SI and OTC trades, particularly given the surge of SI and dark trading activities since the application of MiFID II/MiFIR. For further details please also refer to our answers to the previous questions.

We are neither in favour for reducing the percentage of covered transaction nor reducing the scope of covered financial instruments. Already as of today, exchange market data is consolidated by many market data vendors. This is not the case, however, for off-venue data, as the data lacks sufficient quality due to the reasons lined out in our answers above. Speaking to various market participants we understand that full transparency on turnover in a specific asset class would be significantly beneficial. E.g. in the case of ETFs over 70% of turnover happens off-exchange as illustrated in our response to question 21. It is this part of the market which needs to become transparent in order to deliver on the initial aim of MiFID II/MiFIR of making markets more transparent.

Non-equity tapes of special interest
While we understand that ESMA in its current Consultation Paper is focussing on equity and equity-like instruments, we need to point out that the transparency issue is by far a larger issue in asset classes other than equities. In particular, given the size of the market, fixed income lacks significantly of proper transparency. Provision of timely as well as comprehensive transparency would generate in our view a much higher benefit to the market compared to equity markets, where already a high transparency is existing. Having reliable and timely FI data available, without the current lengthy delays, could support passive investments as well in the non-equity space for the benefit of investors and EU economies alike.
<ESMA_QUESTION_MDA_28>

Q29 : Do you agree with ESMA's preferred model of real-time CT? If you consider that, on the contrary, the delayed or tape of record CT are preferable, please indicate the reasons of your preference.

<ESMA_QUESTION_MDA_29>
DBAG does not agree with ESMA's opinion that a real-time CT would be the preferred model. Please also refer to our responses provided to questions 16 and 24 on the issues related to a real-time CT vs the benefits of a Tape of Record. Taking into account, that there is no regulatory use case, DBAG strongly supports a Tape of Record for the reasons ESMA has summarized in detail under point 186. of its Consultation Paper. Knowing that markets are liquid may attract new investments. In order to provide such information, a Tape of Record making available (aggregated) data at the end of the day may be the right step forward initially. Such a Tape would as well function as a marketing tool for new products as a marketing tool for new venues. Mandatory use of such a Tape or even funding may become negligible (extremely less cost-intensive than real-time consolidation), and unintended negative side effects would not to be expected (sequencing and latency issues). In the absence of clear regulatory use cases, as well as a lack of mandatory usage requirements, we consider this to be a good solution which would as well deliver relevant data to investors inside and outside

the EU, plus provide for valuable price and volume data which may lead to further savings of the Tape of Record users, e.g. in case of valuation requirements and so forth.
<ESMA_QUESTION_MDA_29>

Q30 : Are there any measures (either technical or regulatory) that can be taken in order to mitigate the latency impacts?

<ESMA_QUESTION_MDA_30>
Depending on the regulatory use case a real-time Tape will face significant challenges. This is both, as regards the issue of latency, as well as the amount of data and data sources within the EU to be consolidated. On top, we need to point out that the problem of proper sequencing of the data will further be aggravated by the different quality of data sources in terms of timeliness of data publication (real-time vs 1 minute). In line with the regulation, on-venue data has to be published in a granularity of “microseconds or better”, while off-venue data have to be published in a granularity of “seconds or better” (see MiFIR, RTS 25, Annex).

However, DBAG strictly opposes any suggestion to introduce artificial latency or delays on exchange data feeds. Especially, given that there is no regulatory driven use case for a CT, we deem the requirement on introducing artificial latency not based on a clear rationale. Proposals by several market participants to require trading venues to delay their direct feed publication until the CT has published the data are neither technically feasible nor proportionate. It is unclear for which reason trading venues should be artificially restricted in their competition with other trading venues and SIs which takes place as well on the level of short-round trip times. Short round-trip times are furthermore efficient as well as stabilizing for capital markets as they reduce risk of uncertainty of executions. Any such requirements indeed would be disproportionate, and detrimental to the EU Capital Market.
<ESMA_QUESTION_MDA_30>

Q31 : Do you agree that the CT should be operated on an exclusive basis? To what extent should other entities (e.g. APA or data vendors) be allowed to compete with the CTP?

<ESMA_QUESTION_MDA_31>
DBAG has no strong hesitations for the introduction of a single CTP (once the regulatory use case and the funding has been identified) but would strongly argue against implementing any crowding out effects for market data vendors. As pointed out in our previous answers, market data vendors include investment firms as well, who are displaying consolidated views for private investors. Market data vendors such as Bloomberg on top provide highly valuable services as well, which are based on trading venues data, and which would cease to exist in case other consolidators (without a CT label) would be crowded out. It should not be forgotten that a tape would be rather complementary to data vendor services, but not replace them as market participants would like to keep accessing data vendor products in addition to a tape, e.g. for data analytics and other services that go beyond data aggregation.
<ESMA_QUESTION_MDA_31>

Q32 : Should the contract duration of an appointed CTP be limited? If yes, to how many years?

<ESMA_QUESTION_MDA_32>
DBAG agrees with ESMA that there is a benefit to limit the contract duration of a CTP. We would deem 5 years as a good time span, with an initial period to allow for early corrections after 3 years.

<ESMA_QUESTION_MDA_32>

Q33 : Please indicate what would be, in your view and on the basis of your experience with TVs and data vendors, a fair monthly or annual fee to be charged by a CTP for the real-time consolidation per user?

<ESMA_QUESTION_MDA_33>
A feasible and workable CT model would have to charge for the provision of consolidated data and redistribute revenues to the contributing entities, reference price forming venues especially. As pointed out in our answers to the questions above already DBAG considers the Canadian model (for details please refer to our answer to question 24) to be the right one in the current context (in both cases – EU and Canada - there are no regulatory use cases applied) that means that a "pass-through fee model" should be applied.

Contributors cannot be asked to contribute data for no or limited fees, as this would be clearly disproportionate under the current regulation and in absence of a clear regulatory use case. Any fair monthly (or annual) fee to be charged by a CTP for the consolidation would have to be similar per exchange to the market data license fees applied by exchanges and to be passed-through so as not to significantly harm exchanges and the price formation process. DBAG does not consider it to be correct to reduce funding of exchanges by introducing artificial revenue sharing models for a CT, while there is no clear use case defined by the regulation. The proposed model would lead to a mere redistribution of revenues between intermediaries, while risking the price formation processes on exchanges, especially smaller ones. Reduced funding will likely result in reduced abilities to support EU issuers be it SMEs or new start-ups on their way of funding.

Mandatory tape fees should therefore reflect the number of data sources and the data fees of the respective data sources. It is important to understand that the CTP fees payed in the US cannot be used for comparison: a) while in the EU there are 170 data sources to be consolidated, compared to 35 in the US, b) economies of scale in the US are significantly higher compared to the EU.

We would like to point out that in the US there are 35 data sources active on three tapes, in a market with significantly higher economies of scale[50]. In the EU, however, ESMA counts 170 venues to consolidate amidst significantly less economies of scale. In the light of this calculation and taking into account the missing use case for the CT, we would like to set the focus again on the EU Tape of Record.
<ESMA_QUESTION_MDA_33>

Q34 : Would you agree with the abovementioned model for the CT to charge for the provision of consolidated date and redistribute part of the revenues to contributing entities? If not please explain.

<ESMA_QUESTION_MDA_34>
The model proposed by ESMA is a cut-out of the RegNMS model applied in the US. However, there are significant differences between regulation and market structures in the EU and the one in the US. In the US there are 35 data sources active on three tapes, in a market with significantly higher economies of scale[51]. In the EU, however, ESMA counts 170 venues to consolidate amidst significantly less economies of scale. DBAG considers the Canadian model

[50] Oxera, "Pricing of market data services: an economic analysis", Feb. 2014
[51] Oxera, "Pricing of market data services: an economic analysis", Feb. 2014

to be the right one in this context (in both cases there are no regulatory use cases applied) in order to be concrete, that means that a “pass-through fee model” would need to be applied. For further details please also see our answers to questions 24 and 33.

When reflecting upon the funding model for the CT, any requirements addressed to exchanges should be proportionate. It is necessary in this context to assess how to best ensure that data quality is preserved and enhanced and not opt for solutions that would lead to a “wealth transfer” with no impact on market quality for investors. DBAG does not consider it to be correct to reduce funding of exchanges by introducing artificial revenue sharing models for a CT, while there is no clear use case defined by the regulation. The proposed model would lead to a mere redistribution of revenues between intermediaries, while risking the price formation processes at exchanges, especially smaller ones. Reduced funding will likely result in reduced abilities to support EU issuers be it SMEs or new start-ups on their way of funding.
<ESMA_QUESTION_MDA_34>

Q35 : How would Brexit impact the establishment of a CT? Would an EU27 CTP consolidating only EU27 transactions be of added value or would a CT that lacks UK data not be perceived as attractive?

<ESMA_QUESTION_MDA_35>
A CT EU-27 without the UK, will of course be less comprehensive in terms of included transactions. However, the question would still be for which regulatory purpose is the CT created. With the UK leaving the EU, it will apply its own regulation. While the regulation in the UK may initially resemble the one in the EU, this may not continue. Therefore, we consider that a CT including the UK would not be sensible, plus create potential additional data problems as regards double reporting. We would as well question the reason to include a third country market in an EU CTP. Which other third countries’ venues should be included as well? As of today, we already have 170 venues to consolidate in the EU market. With Brexit, this number will be reduced by 35 venues. Alternatively, we would propose that any trades executed by EU27 Investment firms in EU-27 instruments on an UK trading venue, should be reported via APA in the EU instead. As such, those executions would be transparent within the EU market without including UK data sources in the EU-27 CT.
<ESMA_QUESTION_MDA_35>

Q36 : In your view, how would an EU27 CT impact the level playing field between the EU27 and the UK? Please explain.

<ESMA_QUESTION_MDA_36>
The DRSP regulation does not foresee any equivalence regime or even a combined CT including third country data. With the UK leaving the EU, it will apply its own regulation. While the regulation in the UK may initially resemble the one in the EU, this may not continue. In this context DBAG strongly suggests, to have a clear cut, when it comes to the issue of including third country data sources into an EU CT. An EU27 CT has the potential to impact the level playing field between the EU27 and the UK, however, as it would without a doubt increase EU venues’ compliance-related costs and potentially have an impact on their revenues whereas venues in the UK would not have to bear such costs. Furthermore, an EU27 CT would be powerless to enhance the quality and consistency of OTC and SI trades in the UK.
<ESMA_QUESTION_MDA_36>