MARKET DATA IN THE SECONDARY EQUITY MARKETS

Consultation Report

BOARD OF THE
INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS

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Foreword

The Board of the International Organization of Securities Commissions (IOSCO) has published this Consultation Report with the aim of gathering feedback on issues relating to access to market data in secondary equity markets

How to Submit Comments

Comments may be submitted by one of the three following methods **on or before 26 February 2021**. To help us process and review your comments more efficiently, please use only one method.

Important: All comments will be made available publicly unless anonymity is specifically requested. Comments will be converted to PDF format and posted on the IOSCO website. Personal identifying information will not be edited from submissions.

1. Email

- Send comments to consultation-03-2020@iosco.org
- The subject line of your message must indicate ' *a Public Comment on Market Data in The Secondary Equity Markets'*
- If you attach a document, indicate the software used (e.g., WordPerfect, Microsoft WORD, ASCII text, etc) to create the attachment.
- Do not submit attachments as HTML, PDF, GIFG, TIFF, PIF, ZIP or EXE files.

2. Facsimile Transmission

Send by facsimile transmission using the following fax number: + 34 (91) 555 93 68.

3. Paper

Send 3 copies of your paper comment letter to:

Giles Ward
International Organization of Securities Commissions (IOSCO)
Calle Oquendo 12
28006 Madrid
Spain

Your comment letter should indicate prominently that it is a '*Public Comment on Market Data in The Secondary Equity Markets'*

Contents

1. Executive Summary

Market data and access to market data are necessary to trade in the secondary markets. Market data is an essential element of efficient price discovery and helps to support fair and efficient markets. Market participants, including investors, need timely access to market data to make investment, order routing and trading decisions. Further, market data is necessary for market participants to comply with certain regulatory requirements, including risk management, best execution and order protection rules, where applicable.

As the markets have evolved to become largely electronic, the market data needs and means to access such data have likewise changed for many market participants. Market participants in many jurisdictions have raised concerns about the content, costs, accessibility, fairness and consolidation of market data. This Consultation Report describes several issues relating to market data in equity markets and asks for industry views on both the issues and possible solutions. These issues include:

- What market data is necessary to facilitate trading in today's markets (*i.e.*, what is considered "core" market data for use by market participants, including investors);
- Fair, equitable and timely access to market data;
- Fees for market data and how fees are determined and charged to subscribers;
- The need for and extent of data consolidation; and
- How other products or services that relate to accessing market data are provided by trading venues or other regulated data providers (RDPs), and the fees associated with such products and services.

IOSCO believes that this work will provide a useful source of information for jurisdictions considering their approach to market data and access to market data. Based on the analysis of the comments received, IOSCO will consider whether any policy work is needed.

2. Introduction

Market data typically refers to both pre- and post-trade information. Pre-trade data includes information about current orders and quotes (*i.e.*, prices and volume for buying and selling interest) and provides market participants with information about current trading opportunities. Post-trade data refers to trade information when or after a trade occurs. Access to such market data is essential for market participants, including investors, to trade on an informed basis, and for enhancing fairness and investor protection and promoting market efficiency. Specifically, market data is needed to enable:

- investors to make informed investment decisions;
- market participants to make order routing decisions that are informed and in compliance with regulatory requirements; and
- market participants, including investors, to make informed decisions regarding the trading of particular securities.

IOSCO has recognized the importance of market data and access to market data in Principle 35 of the IOSCO Objectives and Principles of Securities Regulation, which provides that "[r]egulation should promote transparency of trading." IOSCO has stated that transparency, defined as the degree to which pre-trade and post-trade information about trading is made publicly available, is "central to both the fairness and efficiency of a market, and in particular, to its liquidity and quality of price formation" and "strengthens users' confidence that they will trade at fair prices."[1]

In the last two decades, financial markets have experienced significant changes in trading strategies, market models, technology advances and regulatory reforms. In December 2013, IOSCO considered "transparency of trading"[2] in its report on *Regulatory Issues Raised by Changes in Market Structure*, which discussed changes brought about by technological advances and the impact of market fragmentation (Market Structure Report).[3] In this report, IOSCO focused on the then-current regulatory frameworks of IOSCO Committee 2 on Regulation of Secondary Markets (C2) member jurisdictions related to pre- and post-trade transparency as well as the consolidation of market data. The Market Structure Report included a recommendation (Recommendation 2) related to monitoring the impact of fragmentation on market data, which provides:

> *In an environment where trading is fragmented across multiple trading spaces, regulators should seek to ensure that proper arrangements are in place in order to facilitate the consolidation of information and dissemination of information as close to real-time as it is technically possible and reasonable.*

The Market Structure Report, however, did not consider the extent to which changes have created new market data demands both in the content of market data that is provided to market participants, including investors, and the means to access such data.

Over the past few years, market participants from many jurisdictions have raised concerns about the components of "core" market data, access to market data including fees charged and the means of access and availability of consolidated information. These are important issues given the necessity of timely access to reliable market data in order to participate efficiently and competitively in the markets and to comply with applicable regulatory requirements.

Market data and access to market data are intrinsically tied to secondary market issues that are of interest to IOSCO, including investor protection and market integrity. These issues relate to topics including:

- the market data that is necessary to facilitate trading in today's markets (*i.e.*, what is considered "core" data for use by investors and market participants);
- fair, equitable and timely access to market data;
- interchangeability of market data;

1 *See* IOSCO Methodology for Assessing Implementation of the IOSCO Objectives and Principles of Securities Regulation (May 2017) at 236.

2 Principle 35 of the IOSCO Principles of Securities Regulation states "[r]egulation should promote transparency of trading."

3 *See* Regulatory Issues Raised by Changes in Market Structure, IOSCO Final Report (December 2013), *available at http://www.iosco.org/library/pubdocs/pdf/IOSCOPD431.pdf.*

- fees for market data and how fees are determined and charged to subscribers;
- the need for and extent of data consolidation; and
- how other products or services that relate to accessing market data are provided by trading venues or other RDPs and the fees associated with such products and services.

This Consultation Report explores these issues with the goal of obtaining feedback and providing information for jurisdictions considering their approaches to managing these issues. In terms of scope, it covers listed equity market data in secondary markets (*i.e.,* data generated by quotes or orders and trades occurring on trading venues or over-the-counter (OTC)). Access to benchmarks and indices is outside the scope of this Consultation Report.

C2 member jurisdictions completed surveys on issues related to equity market data specific to their jurisdiction and this information was used to develop this Consultation Report.

3. Defining Core Market Data

One of the starting points of understanding and resolving the issues relating to market data is identifying the basic data, or "core" market data (Core Market Data) that is necessary to participate effectively and competitively in the secondary markets and make investment, order routing and trading decisions.

Most jurisdictions do not specifically define Core Market Data.[4] However, many have set out expectations regarding what information trading venues and RDPs should make available to market participants, including investors.[5] The two main components of Core Market Data are pre-trade data (*i.e.*, information about orders or quotations) and post-trade data (*i.e.*, information about executions).

Pre-trade Core Market Data typically includes information about quotes or orders. In most cases, this information includes the identifier of the security, bid and offer prices, and quantity available at either the best bid and offer or at multiple price levels. In some jurisdictions, the level of pre-trade information depends on the structure of the trading venue[6] or type of trading system (*e.g.*, central limit order book, auction etc.) operated by a trading venue.[7] In some

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4 The U.S. SEC recently proposed to expand the content of the information that would be required to be collected, consolidated and disseminated under the national market system (NMS). The U.S. SEC has proposed to define "core data" under Regulation NMS to include data that is currently provided on a consolidated basis as well as additional information, including certain depth of book information, information about smaller quotations in high priced stocks and auction information.

5 In the European Union (EU) and the United Kingdom (UK), the Markets in Financial Instruments Directive or MiFID 2 defines pre- and post-trade transparency information that trading venues must publish. The scope of such information varies depending on the execution protocol operated by a trading venue. For example, trading venues operating an order book must publish at least the five best bids and offers and volumes at each price level; for periodic auctions, trading venues must disclose the equilibrium price and executable volumes. In China, according to Securities Law and Trading Rules of Shanghai and Shenzhen Stock Exchanges, exchanges shall make real-time market information available to the public.

6 In Canada, pre-trade transparency does not apply if a marketplace displays orders to only its employees or persons or companies retained by the marketplace to assist in the operation of the marketplace

7 EU and UK jurisdictions.

jurisdictions, pre-trade information in a central limit order book is available only for the top-of-book (*i.e.*, the best prices available to buy or sell a security and the quantity available at such prices) but in others, this information may include full or partial depth-of-book quotes or orders (*i.e.*, prices and quantities available at multiple price levels in the order book).

In some jurisdictions, certain information about orders participating in auctions is considered to be Core Market Data[8], while in other jurisdictions it is only the auction execution price and executable volumes that must be disclosed in periodic auction systems.[9] While a Request for Quote (RFQ) system is a common protocol to execute orders in non-equity instruments, in some jurisdictions such as the United Kingdom, trading venues use RFQs to execute transactions in equities. In some cases, it is the actionable quote and the corresponding volume that is made pre-trade transparent, and in that context, would be considered Core Market Data.

In some jurisdictions[10], OTC firms that, on an organized, frequent, systematic and substantial basis, deal on own account by executing client orders in liquid shares and other equity instruments outside trading venues must publish firm quotes when they deal in sizes up to standard market size. These quotes would be considered Core Market Data.

Post-trade Core Market Data provides details of trade executions. This information typically includes the identifier of the security, quantity traded, the price at which the trade occurred and the time of execution. Post-trade information is published by trading venues where a trade was executed. In some jurisdictions, where listed securities are traded over-the-counter, these trades are reported to an entity and consolidated for publication. The information may or may not be consolidated with other post-trade information from other trading venues. In some jurisdictions, OTC firms must report post-trade information about trades executed outside trading venues for publication.[11]

Changes in markets, whether due to technology, regulation or market structure, have led market participants in some jurisdictions to suggest that additional or different data is necessary to participate effectively and competitively in today's markets than in years past. As a result, what was previously considered Core Market Data may no longer suit the needs of market participants and their trading technologies and models today. Furthermore, different types of market participants have different market data needs – what one market participant considers Core Market Data may not necessarily be the same for another. For example, the needs of institutional investors may not be the same as the needs of retail investors. Moreover, differences between types of intermediaries and their various business models may create

[8] Some C2 jurisdictions stated that certain auction information is disseminated in "core" market data**.** *See e.g.,* Abu Dhabi, and Turkey.

[9] EU and UK jurisdictions.

[10] In the EU and in the UK, transactions executed outside a trading venue must be reported to an Approved Publication Arrangement (APA), an entity authorised to publish data feeds of executed trades. In the United States (US), all post-trade information for NMS stocks (i.e., listed securities), including exchange and about over-the-counter (OTC) trades of listed securities are reported to FINRA and then are sent to an exclusive securities information processor (exclusive SIP), which collects, consolidates and disseminates NMS information via the consolidated tapes. Information about OTC trades in NMS stocks is collected by FINRA, who sends the information to the exclusive SIPs, the SIP to be consolidate with information about trades executed on trading venues.

[11] *Ibid*, note 10.

different needs in terms of data content, and the terms and means of obtaining this data. In addition, different business units within an intermediary, which cater to different types of clients, may rely on different data.

Trading venues make data available in addition to Core Market Data, either because it is required by regulation or because they have made a business decision to do so. For example, in some jurisdictions trading venues are required to disseminate additional trading information[12] such as:

- venue information, including whether a transaction occurred on or off exchange[13];
- derived data; and
- historical data.

In addition, trading venues frequently make top-of-book data available on the venue's website on a delayed basis. [14] They also continue to develop new or enhanced products based on market data and offer new services associated with market data for which additional fees are charged.

IOSCO is requesting feedback on what elements of market data are, or should be, considered Core Market Data.

Q1: *Please identify the data elements that are necessary for investors and/or market participants to participate effectively and competitively and make informed trading decisions in today's markets. In your response, please consider:*

- *The type of investor (e.g. retail or institutional) that uses the data;*
- *How orders are sent to a trading venue (e.g. electronic, manual, direct access by clients; and*
- *How orders are routed*

Please provide the reasons why each element is necessary.

Q2: *Are there other data elements that, while not necessary to all market participants, may be necessary for some market participants or business models? Please provide the reasons for your answer.*

[12] All but three C2 jurisdictions (Abu Dhabi, Japan, Switzerland,) responded that information in addition to pre- and post- trade transparency is required to be disseminated.

[13] *See* Australia, Abu Dhabi, Dubai, EU jurisdictions and US.

[14] In the EU and in the UK, real-time information must be made available free of charge 15 minutes after a trading venue or APA has published it.

Q3: *Please share your view on defining Core Market Data and how such a definition can be used (for example, for compliance purposes or as a mechanism to make routing decisions, etc.).*

4. Uses of Market Data

The uses of market data vary among different market participants and for different functions. Investors typically use market data to make investment decisions. Retail investors or their brokers or advisers typically consume market data visually (*e.g.*, humans looking at quotes on a screen) to make investment decisions. Depending on regulatory requirements, to do so, these investors may only need to access the best quotes from all relevant trading venues or OTC firms or one or two trading venues that represent "indicative prices" for particular securities. However, these or other investors may require market data from all relevant trading venues and use more complex data, such as depth-of-book from all or a subset of trading venues, for making their investment decisions.

Market makers or other liquidity providers use market data to implement transactions. Accordingly, these sophisticated market participants typically use more content, such as odd-lots and depth-of-book, from all trading venues and receive data in lower latencies. Their trading systems consume real-time market data electronically for purposes of making trading and order routing decisions (*e.g.*, algorithmic trading systems or smart order routers (SORs)). The market participants that use algorithmic trading and SORs typically consume low latency proprietary data feeds. Further, these market participants typically also use information on related products (*e.g.* equity options).

Some market participants use market data for portfolio valuation or risk management. For these purposes, market participants typically need last sale information.

Market data is also used for regulatory compliance. For example, many jurisdictions noted that best execution requirements generally require that a market participant assess execution venues to determine where to send a client's order for execution.[15] Typically, a market participant cannot make this assessment without access to trading venues' or OTC market data. Other regulatory uses of market data include risk management, mark-to-market, suitability and compliance with order protection rules. Accordingly, market data is an essential tool that assists market participants in meeting their regulatory obligations.

The different needs of market participants and investors mean that they use market data in different ways. As a result, they will have different views on what Core Market Data should be provided and how it should be accessed. In addition, depending on the structure of the market, fragmentation and regulatory requirements, some jurisdictions have considered whether market data from every trading venue or RDP is necessary or whether 'indicative' pricing is sufficient to make investing or trading decisions or to comply with certain regulatory requirements.

[15] *See e.g.*, EU jurisdictions, Mexico, US, and UK.

Q4: How is market data used by different types of investors or different functions of your firm? Consider, for example:

- *Type of investor (e.g. retail or institutional)*
- *Trading Desks (proprietary or client-servicing including retail and institutional), Institutional, proprietary)*
- *Compliance*
- *Risk-Management*
- *Back office functions*

Q5: What impact does different uses have on the need to access data? How can these impacts be managed or addressed?

5. Access to Market Data

Fair, Equitable and Timely Access

In addition to considering what market data is provided to market participants and how it is used, it is also important to understand how market participants access market data. Fair, equitable and timely access to market data is necessary to enable market participants, including investors, to make informed decisions regarding investments, order routing and trading. Fair, equitable and timely access also helps to ensure that no participant has an unreasonable advantage over another, and that no market participant is competitively disadvantaged. Fair, equitable and timely access to market data enhances market confidence and efficiency. In addition, barriers to access to market data may undermine competition.

Decisions made by trading venues or RDPs regarding their offerings and services may impact access to market data. In addition, many market participants access market data from third party vendors or utilize third party software for data access. Trading venues may provide different forms of access, such as low latency feeds, co-location or other transmission methods, such as microwave transmission, and other connectivity services. Trading venues and RDPs may also provide different forms of access to different market data products. For example, some market data products may be provided using lower latency forms of access than those for Core Market Data. Variations in these offerings and services can include:

- *Differences in product type* – a trading venue may create different products that convey similar information or use different format protocols and all products may not be accessible by some participants.
- *Differences in means of distribution* – a trading venue may distribute market data products through different means (*e.g.*, by fiber or microwave transmission), which may result in latency differences for the same data product.

- *Complexity of access* - different technological requirements for accessing some market data may be challenging for some market participants and some participants may not be able to manage these differences and access the data.
- *Fees charged for market data* – fees charged by trading venues for different products may make accessing the data not feasible for some participants.
- *Geography* – the location of the market data may be closer to some participants which means that they may get faster or better access.

Some forms of access offered by trading venues may be essential to, or considered to be essential by, market participants. Access and the related fees are subject to regulation in many jurisdictions. Specifically, where Core Market Data is being disseminated, regulators may require that the access be fair, or that there are no barriers to access or unreasonable discrimination between market participants or investors. For example, if some market participants do not have access or if it is not be feasible for them to access all the available lower latency options, this may create an unlevel playing field.

However, the latency needs of different market participants may vary. For example, a latency sensitive market maker may have different latency needs than an agency broker. Questions related to fair access around different market data products have been raised in some jurisdictions. Retail investors, non-professional investors, and wealth managers that access market data or only request specific quotes on specific securities may not have, and may not need, access to more comprehensive data offerings, such as real-time market data feeds or the depth-of-book data from each trading venue. These market participants may use the services of data vendors or their respective broker-dealers or may access only indicative data (*i.e.*, data from one or a subset of trading venues that can be considered 'indicative' of where the market is for a particular security). Professional investors or traders that employ algorithmic trading strategies, on the other hand, typically use direct feeds from trading venues and may need to access all market data products offered.

Even where data is made public, questions about access may arise. While many trading venues publish some market data on their websites, the amount of market data publicly available differs across trading venues and is often published on a delayed basis. This delayed or limited access to data may not be sufficient to allow market participants to interact competitively in today's technologically driven markets on a fully informed basis.

Fair and equitable access to market data may also be impacted by the vagueness of contractual arrangements or terms of use applied by trading venues or RDPs. This may affect market participants' ability to compare data offerings and risks creating imbalance in the parties' rights and obligations to the detriment of market participants.

Q6: What factors should be considered in the context of evaluating "fair, equitable and timely access"? How should these factors be considered?

Q7: What types of access do trading venues and RDPs provide? Are some forms of access provided only to specific market participants?

Q8: Please identify the type of access necessary for different investors and/or market participants to participate and make informed trading decisions in today's markets and the rationale for the type of access and identified differences. In your response, please consider:

- *Type of investor (e.g. retail or institutional)*
- *Trading Desk (Proprietary or client-servicing including retail and institutional)*
- *How orders are sent to a trading venue (e.g. electronic, manual, direct access by clients)*
- *Order routing*
- *Business models*
- *Compliance and regulatory issues*

Q9: What issues or concerns arise in the context of fair, equitable and timely access to market data?

Interchangeability

When liquidity for listed equity securities is fragmented across trading venues or market participants, an issue may be raised regarding whether the market data about securities traded on a particular venue can be substituted by, or is "interchangeable" with, market data about the same securities traded on another venue. Some argue that market data from each trading venue cannot be substituted and that in essence each trading venue has a monopoly of its market data even if multiple trading venues compete for order flow. This monopoly may also have an impact even when there is a single trading venue in a jurisdiction.

As a result, the trading venue or the RDP may have an incentive to impose conditions on accessing its data. This concern has largely been raised in the context of fees – that trading venues may charge high fees for data because market participants must pay those fees to gain access to the data, due to regulatory requirements or the essential nature of the data.

Others argue that in some cases, investment decisions can be made using market data from one or a subset of entities as indicative data and therefore, there is interchangeability of market data. In other words, the prices and volumes of a subset of trading venues are such that they can be relied upon to be indicative of the state of the market as a whole and as a result, market data from every source is not necessary. However, others argue that it is important for market participants to be able to source market data from all trading venues so that they can make informed decisions about where to execute orders, and therefore indicative pricing is not sufficient. Further, the best execution obligation in some jurisdictions[16] requires brokers to consider a range of factors other than just price. These factors can include costs, speed of execution, likelihood of execution, size, nature or any other consideration relevant to the execution of the order. This typically means that, to meet the best execution obligation, brokers should be able to assess the market data for a security across multiple venues, taking into

[16] See e.g., Canada, EU, and in the UK, and US

account the above-mentioned factors. This is feasible only if they have access to data from the venues that make that instrument available to trade and accessing this data may be expensive where high fees are charged.

Q10:	*Please share your view on interchangeability of market data between trading venues. If concerns are identified, please provide suggested mechanisms to address them.*

Fees Associated with Market Data

Trading venues and some RDPs make market data available for a fee and these fees may be based on the:

- type of products – top-of-book vs depth-of-book, historical data;
- means of delivery/access – mode of transmission (*e.g.*, microwave, fiber); or
- nature of use – redistribution, displayed, non-displayed.

While price regulation typically lies outside the remit of most IOSCO members, the fees that trading venues charge for market data are addressed by regulation in some jurisdictions. These regulatory approaches often address barriers to access and/or whether the fees charged are reasonable or are unreasonably discriminatory. Some regulators consider whether the fees are "reasonably" based on the cost to produce the market data.

Market participants in some jurisdictions have argued that the fees for market data have increased significantly in recent years. They argue that the fees charged are not commensurate with the cost of producing the data or that the fees do not reflect the value of the data, but rather are based on the trading venue's market share or the contribution of their pre-trade data to price discovery. In their view, these trading venues are taking advantage of the fact that market data from a particular trading venue is not interchangeable with data from others giving them the market power to charge higher fees.

Trading venues counter that the arguments about high data fees do not take into account the value of the data or the changing business models or operations of market participants that result in data being used in different ways. For example, they argue that the use of market data has changed over the past decade because intermediaries and investors, both retail and institutional, increasingly rely on technology which has boosted the value of this data.

Nonetheless, high market data fees may limit the ability of some participants to get the market data that is necessary to fairly and competitively participate in today's markets. This may affect market fairness and efficiency and may impact a market participant's willingness to trade in a particular market or jurisdiction.

Jurisdictions that review market data fees of trading venues adopt different approaches and/or standards. These standards include that:

- market data is made available on a "reasonable commercial basis";
- the fees do not impose an unreasonable condition to accessing the data;

- the fees do not permit unreasonable discrimination among clients, issuers and marketplace participants;
- the fees do not impose a burden on competition that is not reasonably necessary and appropriate; and/or
- the fees are reasonably related to the costs of producing the data.

However, these standards may be difficult to define or to apply. It could be difficult to determine what is *"commercially reasonable"* where different products are offered to different participants. Trading venue market data products are not easily valued or compared across venues or jurisdictions as some trading venues tend to bundle their products, which limits the ability of market participants to compare market data fees. In addition, trading venues' costs of producing market data may not be widely available or consistently calculated or allocated, which potentially limits the ability of regulators and market participants to fully analyze how a trading venue determines the price of its market data products.

Q11:	*How should market data fees be assessed? How could this be implemented in practice? What factors should be considered and how can they be defined or applied?*

Connected Services

In some circumstances, trading venues or RDPs provide other products or services that affect access to market data. Where these services are offered, questions arise about whether the additional fees for these services are fair if they must be paid to obtain access to the data. Examples of these fees include port fees and connectivity fees.

Q12:	*Please provide details of other products or services related to market data that are provided by trading venues or other RDPs.*
Q13:	*Please share your views on the fees for connected services that are necessary to access essential market data. If concerns are raised, please identify mechanisms to address them.*

6. Data Consolidation

Data consolidation addresses the fragmentation of liquidity that occurs when multiple trading venues or OTC firms make the same securities available for trading.[17] In jurisdictions where fragmentation exists, access to consolidated data assists market participants in making informed trading decisions by providing a consolidated view of multiple sources of liquidity,

[17] In jurisdictions where there is only a single trading venue, data consolidation is not necessary because that venue will likely be the only entity producing market data and making it available to the public.

which may include OTC data as well.[18] Market participants generally need consolidated Core Market Data from trading venues to make order routing and trading decisions. They may also need this data for compliance with several regulatory requirements.

Consolidated data feeds typically contain Core Market Data as described above (*i.e.*, pre- and post-trade information). In most jurisdictions, only top-of-book information is included, but in others, depth-of-book information is disseminated.[19] Some include a subset of data that is necessary to meet regulatory requirements. Consolidated market data feeds may be mandated by statutory or regulatory requirements[20], made commercially available by vendors or both[21] while a few other jurisdictions allow consolidation to be performed by multiple competing entities.[22]

While consolidation may address concerns about market data fragmentation and provide a minimum level of Core Market Data to all market participants, stakeholders have raised concerns in recent years about the:

- latency inherent in consolidating and transmitting consolidated market data and whether such latencies render existing consolidated data models inadequate for trading competitively in today's markets.
- cost of the consolidation, particularly where the fees for the consolidated feed represent the aggregate of the fees charged by each contributing trading venue and any administrative fee charged by the consolidator.
- accuracy and integrity of the consolidation.
- integrity and reliability of the systems of the consolidator.

[18] For example, in the US, all required pre and post-trade data from the exchanges and OTC is consolidated and made available by the exclusive SIPs via the consolidated tapes.

[19] Some jurisdictions have discussed whether indicative pricing from multiple trading venues is sufficient for consolidation.

[20] *See* US, Canada, and Hong Kong.

[21] *See e.g.* US and Canada. In the US, under Section 11A of the Securities Exchange Act of 1934 and Regulation National Market System (Regulation NMS), the self-regulatory organizations (SROs) act jointly to collect and submit real-time NMS stock information to an exclusive SIP. The exclusive SIP then consolidates this NMS information and makes it available to market participants.

In Canada, National Instrument 21-101 Marketplace Operation provides for the reporting to an Information Processor of order and trade information by marketplaces for all exchange-traded securities.

In the EU and in the UK, while Directive 2014/65/EU (MIFID II) provides for specific rules on consolidated tape providers (CTPs), there is no requirement for consolidating trade information. The key task of the CTP is to collect trade reports for MIFID financial instruments from trading venues and consolidate them into continuous electronic live data. CTPs are subject to a set of requirements on data dissemination that aim to facilitate consolidation. However, no CTPs have been authorized in the EU so far, but there are multiple data vendors - not subject to regulation - that consolidate trade information. However, their geographical coverage is limited as opposed to a CTP that would be required to consolidate data from 100% of the EU or the UK equities markets and offer data on a reasonable commercial basis.

[22] *See e.g.*, Australia, EU and UK.

Q14: Please provide your view on the need for consolidated data where there are securities trading on multiple trading venues. What should be the primary objectives of consolidated data and what outcomes should it lead to? How should these objectives and outcomes inform the nature of the consolidated data made available?

Q15: Is a consolidated data feed the most efficient mechanism to achieve these objectives and outcomes? If not, what are the alternatives that could help achieve these objectives and outcomes? How do these alternatives affect the cost of and access to market data? How can they be addressed?

7. Conclusion

Market participants in some jurisdictions argue that they need additional market data with lower latencies to participate efficiently and competitively in today's markets. More generally, the composition of Core Market Data may no longer fulfil the needs of many market participants, trading technologies and models. Some trading venues have met these new demands by providing low latency access to additional elements of market data, as well as additional data analytic services, but for additional fees.

Many different types of market participants also have raised concerns about fair and equitable access to market data, and fair and reasonable fees for such access, even in jurisdictions where only one trading venue exists.[23] Several jurisdictions have also reported concerns about the ancillary services provided with market data and the associated fees, potential complexities, and competitive advantages associated with these services.[24]

In light of the evolving nature of trading and market data needs, several jurisdictions are contemplating whether regulatory changes are necessary. For example, Australia has proposed a requirement that market operators provide access to their market and services on reasonable commercial terms and on a non-discriminatory basis. This proposal is intended to mitigate the risks of technological innovations in markets being made available in an unfair way.[25] In December 2019, ESMA published a MiFID report[26] recommending a real-time consolidated tape for equities. In the US, the SEC has proposed to expand what is commonly referred to in the US as Core Market Data to include certain odd-lot, depth-of-book and auction information and to amend the mechanism in which such data is consolidated and disseminated.[27] While

23 *See* Brazil and Turkey.

24 *See* EU jurisdictions.

25 *See* proposed rule 8A.2.1 in ASIC consultation paper 314: Market Integrity Rules for Technological and Operational Resilience, available at https://asic.gov.au/regulatory-resources/find-a-document/consultation-papers/cp-314-market-integrity-rules-for-technological-and-operational-resilience/

26 *See* MIFID II/MIFIR Review Report No. 1,

available at https://www.esma.europa.eu/press-news/esma-news/esma-recommends-real-time-consolidated-tape-equity.

27 EU jurisdictions, Mexico, US, and UK. notes 4 and 14.

advances in technology, market fragmentation, and trading strategies have increased market data demands, regulatory authorities continue to assess their regulation in response to each jurisdiction's unique needs.

IOSCO believes that examining the issues relating to market data and the responses to the questions asked in this Consultation Paper will provide useful information for jurisdictions considering their supervisory and regulatory approach to market data. It will also assist wider IOSCO policy work. Based on the analysis of the feedback received, IOSCO will consider whether any policy work is needed.

Q16: Please describe any issues or concerns not raised by IOSCO in this Consultation Paper and describe any suggested mechanisms to address them.