

Access to Real Time Market Data

Stage 1 - Revisit the Data Fees Methodology
Data Fees Methodology Committee

July, 2025

Report of the CSA-DFM Committee

Authors and Committee Chairs: Katya Malinova and Andreas Park, APIA SCHOLAR Inc.

Committee Members

Eric Bryce	National Bank Financial
Kevin Carrai	Cboe Canada
Doug Clark	TSX
Andre Craig	CanDeal
Noah Dodek	Leede Financial Inc.
Peter Haynes	TD Securities
Albert Lau	Desjardins
Dave Lauer	Urvin Finance
Gabrielle Little	IRESS
Alex Perel	Scotiabank
Stuart Schady	CSE
Annie Sinigagliese	Canadian Independent Finance and Innovation Counsel Inc.
Jonathan Sylvestre	Tradelogiq Markets Inc.
Matt Thompson	Nasdaq

This report has been prepared by the Committee Chairs Katya Malinova and Andreas Park, and feedback and edits have been sought from all committee members.

The committee chairs want to thank all committee members for their earnest efforts in making altogether positive and constructive contributions to this Committee.

Summary of Recommendations Based on Committee Majority Views

The Committee addressed five key questions, further subdivided into specific topics where appropriate. The Committee's majority views (not necessarily unanimous) are summarized below. Further details, including dissenting opinions and alternative perspectives, are provided in the full report.

1. Should a DFM continue to be used to assess the Level 1 and Level 2 real-time market data fees charged by marketplaces to professional users?

- ***Continue using the DFM.***
- ***Publish the permissible fee ranges annually, including appropriate confidence intervals.***

2. Is the calculation of the reference points (i.e., benchmarks by listing market) appropriate?

- ***No uniform support for changing current benchmarks (including no consensus for adopting a cost-plus approach). Given committee members' conflicting economic interests, no consensus was expected.***
- ***Consider developing a unified benchmark for all listing markets, though additional data and analysis would be required to formulate a firm recommendation.***
- ***Establish a reasonable limit for annual benchmark updates (suggested adjustment: approximately half of CPI), subject to periodic review.***
- ***Treat non-charging marketplaces as charging entities when calculating annual benchmark adjustments within the DFM.***

Should the DFM continue to rely on domestic reference points, or are international reference points more appropriate?

- ***No support for adopting international benchmarks.***

3. Are the pre- and post-trade metrics currently used by the DFM appropriate given ongoing market developments?
 - ***Recommend excluding intentional crosses from post-trade metrics, with some committee members who support their inclusion open to size-based caps.***
 - ***Recommend including after-hours trades, opening and closing volumes, and odd-lot trades in post-trade metrics. Continue to exclude pre-trade metrics associated with these categories—such as after-hours and odd-lot quotes.***
4. Are the formulas currently used to rank marketplaces (i.e., based on their contribution to price discovery and trading activity) appropriate given ongoing market developments?
 - ***No support or meaningful interest in adjusting the current equal weighting between pre-trade and post-trade metrics.***
5. Should the CSA introduce different DFMs for senior and junior markets?
 - ***As noted above, recommend pursuing development of a unified benchmark.***
 - ***No special adjustments or considerations for listing markets.***
 - ***No separate treatment for junior versus senior markets.***
6. Additional questions
 - ***General support for working towards a reasonable alignment between international and domestic subscriber fees; further discussion needed regarding acknowledging exceptions justified by clear cost differences or other objective rationales.***
 - ***The Committee discussed non-display and similar fees and concluded they fall outside the DFM Committee's mandate, but noted they should be within the scope of future regulatory review.***

Introduction

Real-time market data (RTMD) is an important component for financial intermediaries that need a comprehensive, real-time view of market activity to fulfill their fiduciary obligations to clients. The sale of RTMD for equity trading occurs in a complex environment. Because the data is generated within each marketplace's closed system, the marketplace effectively acts as the sole provider of the data produced on its platform.

The generation and distribution of RTMD entail both costs and revenues for marketplaces. It is the view of many that marketplaces have a largely captive user base and that exclusive control over their data creates opportunities for rent extraction, potentially resulting in economic harm. Regulators worldwide recognize this issue and have implemented various controls. In Canada, since 2016, the Canadian Securities Administrators (CSA) have applied a Data Fee Methodology (DFM). Broadly, the DFM ranks marketplaces based on their contributions to pre- and post-trade price discovery and liquidity formation. This ranking is then used to establish a reasonable fee range relative to total market fees.

As evidenced by stakeholder responses to CSA Consultation Paper 21-403, there are substantial disagreements about the DFM's application and potential updates. In response, the CSA established an industry committee (the Committee) to review the DFM. The Committee, comprising key industry stakeholders, was given a mandate to evaluate the current Data Fee Methodology (DFM) applied to professional subscriber fees and, if warranted, propose alternatives or improvements. It was tasked with addressing five specific questions related to the continued use, fairness, inputs, benchmarks, and potential differentiation between senior and junior markets.

This document reports on the Committee's work and has been prepared by the lead consultants who chaired the Committee and guided its discussions.

Drawing on one-on-one consultations with individual members and full Committee meetings—and guided by the five key questions outlined in the mandate (Appendix A)—the Committee explored a range of potential modifications and procedural recommendations related to the Data Fee Methodology. This report summarizes the Committee's deliberations and presents its collective views, including areas of consensus positions as well as dissenting opinions on each question.

We note that many non-marketplace participants strongly favoured regulatory interventions aimed at substantially lowering current fee levels, whereas marketplace participants generally opposed such measures. These divergent perspectives were already evident in stakeholder comment letters. Any regulation of data fees carries economic consequences for market participants, effectively creating a zero-sum dynamic between fee payers and fee recipients. Consequently, a committee comprising representatives from both groups cannot

reasonably be expected to reach consensus on policies involving significant redistribution. It is therefore unrealistic to anticipate agreement or consensus recommendations on substantial changes to existing fee levels.

The Committee also discussed several issues related to professional subscriber fees that we ultimately deemed outside the scope of this committee. The Committee acknowledges the CSA's intention to convene subsequent committees specifically tasked with addressing many of these related concerns in more detail. As such, this report does not address them in depth. We list several frequently raised points:

- Some non-marketplace members noted that most non-marketplace participants on this committee came from the institutional or dealer side, which may not reflect the full range of concerns relevant to the broader professional subscriber community.
- The Data Fee Methodology (DFM) applies to professional subscribers, many of whom do not purchase data from all marketplaces (see CSA Consultation Paper 21-403).
- Members noted that the professional subscriber category is broad and includes all users of real-time market data in a professional or commercial capacity. Some suggested that to assess whether the DFM serves this group well, a better understanding of this group's composition is needed. Specifically, which segments have regulatory obligations to subscribe to all markets? What explains the limited uptake of data subscriptions across all marketplaces by professional subscribers?
- Concerns were raised that some market participants, particularly investment advisors, may under-subscribe, potentially to their clients' detriment. Several participants suggested that the "retail committee" should address issues concerning retail-adjacent providers, while others argued that they believe these issues are intertwined with the work of the DFM committee and should be handled jointly.
- Dealer representatives highlighted additional charges they face, such as connectivity, port, session, cross-connect, co-location, and membership or licensing fees, that are not part of professional subscriber fees. These broader fee structures were outside the committee's scope. Some members of the committee felt that the key questions and scope of the committee precluded a more comprehensive set of reforms.

A Recap of The Committee's Work

The Committee was tasked with addressing five key questions:

- 1. Should a DFM continue to be used to assess the Level 1 and Level 2 real-time market data fees charged by marketplaces to professional users?*
- 2. Is the calculation of the reference points (i.e., benchmarks by listing market) appropriate? Should the DFM continue to rely on domestic reference points, or are international reference points more appropriate?*
- 3. Are the pre- and post-trade metrics currently used by the DFM appropriate given ongoing market developments?*
- 4. Are the formulas currently used to rank marketplaces (i.e., based on their contribution to price discovery and trading activity) appropriate given ongoing market developments?*
- 5. Should the CSA introduce different DFMs for senior and junior markets?*

To answer these questions, the Committee proceeded as follows:

Step 1: Inaugural Committee Meeting, January 15, 2025

The inaugural meeting established the agenda for the Committee's work. Committee members discussed various components of the Data Fee Methodology (DFM) and potential areas for exploration. The consultants briefly reviewed the overarching objectives of any DFM, the elements of the current fee model, fee models employed in other markets, and the current methodology's effectiveness and robustness.

Step 2: Consultation Period

During this period, the consultants conducted individual meetings with committee members wishing to express their views on the DFM, totaling 12 meetings. These meetings were confidential to facilitate open discussions and aimed to identify strengths, weaknesses, and specific areas for improvement or consensus within the DFM. Although meetings covered similar themes, discussions were intentionally flexible, with topics and questions varying across sessions.

Following the consultation period, the committee chairs distributed a survey to committee members, requesting feedback on the most commonly discussed topics and ideas.

Step 3: Committee Meetings on April 15 and May 5

Based on insights from the individual meetings and survey responses, the Committee held two additional meetings to deliberate on recurring themes and proposed areas for improvement. Committee members were given opportunities to present their arguments.

This document summarizes those deliberations, including both consensus and dissenting views, which collectively underpin our recommendations.

Step 4: Discussion and Revision Period for the Committee Report

Following the meetings, the committee chairs circulated a draft report, allowing committee members to provide comments and suggestions for improvement.

Principles of a Successful Data Fee Methodology

At a high level, the Data Fee Methodology (DFM) should adhere to the following principles:

- a. **Useful and Reflective of Data Goals:** It should rely on data that accurately represents investor needs, particularly liquidity availability and price formation.
- b. **Robust and Fair:** The fee ceilings should not be overly sensitive to small changes in metric weightings.
- c. **Resistant to Manipulation:** Marketplaces should not be able to incentivize subsets of market participants—individually or collusively—to manipulate evaluation criteria unless genuine benefits, as outlined in principle (a), result. Moreover, any manipulative behavior should be detectable, measurable, and adjusted for in the methodology.

The original CSA Staff Notice 21-319 Data Fees Methodology received various comment letters highlighting concerns related to principles (b) and (c), prompting subsequent amendments. An essential part of the Committee’s mandate has been to offer further recommendations for improvement.

Extensive discussions have taken place regarding the currently used measures and their effectiveness, beginning with the original CSA Staff Notice 21-319 Data Fees Methodology and continuing with CSA Consultation Paper 21-403 – Access to Real-Time Market Data. Securities markets fulfill two primary roles: facilitating the matching of counterparties and enabling price discovery through public quotes and executed trades. Metrics selected for the DFM should reflect these dual purposes.

The Existing DFM Framework

The current DFM follows a three-step procedure:

1. Computation of Measures:

The DFM calculates a set of metrics for pre- and post-trade activities. Pre-trade metrics focus on contributions to liquidity, primarily measured by the duration that a marketplace maintains the best available price. Post-trade metrics capture trading activity, specifically dollar volume, share volume, and trade count. Currently, these metrics are calculated daily for each marketplace.

2. Aggregation into a Model:

The DFM aggregates these individual metrics to produce a market-wide ranking of marketplaces, using annual averages for each platform, normalized to values between 0 and 1.

3. Determination of Fee Limits:

A marketplace's ranking determines its allowable share of the total "wallet"—the aggregate level 1 and level 2 data fees charged by all protected marketplaces. Permissible fees are calculated by multiplying the normalized ranking by the size of the applicable wallet.

The DFM determines acceptable charges for real-time market data (RTMD) for professional subscribers who purchase RTMD feeds or subscriptions from all marketplaces protected under the Order Protection Rule (OPR). Currently, wallets are computed separately for each of the four listing markets and for both level 1 (top-of-book) and level 2 (full-depth-of-book) data, resulting in eight distinct wallets.

For each marketplace, the methodology calculates two weights or shares, using slightly different models—referred to as "SIP" and "Model 3" in CSA Staff Notice 21-319 Data Fees Methodology. Both models incorporate pre-trade (quote-based) and post-trade (trade-based) elements. In practice, marketplaces must set their data fees below the higher of the two maximums produced by these two models.

Overview of the Remainder of the Document

In what follows, we present the Committee’s deliberations on the five key questions, along with specific points that inform its recommendations. For each question, the primary arguments are presented according to whether they were made by marketplace-affiliated or non-marketplace-affiliated members, reflecting their typically opposing economic interests. Where relevant, differences of opinion within these groups are also noted. When the committee chairs raised specific concerns during meetings, these are presented alongside the member perspectives. Each section concludes with either the Committee’s consensus view or, if consensus was not achieved, the majority view accompanied by any dissenting opinions. Views expressed by the Committee chairs are not included in either the majority or dissenting views.

The committee chairs sought to identify a majority view for each question. The strength of arguments varied, and some dissenting minority views held substantial merit. As the Committee’s purpose is informational, this report reflects the key perspectives raised during deliberations.

Question 1: Should a DFM continue to be used to assess the Level 1 and Level 2 real-time market data fees charged by marketplaces to professional users?

There was no support for alternative approaches, nor any backing for eliminating fee regulation entirely—regardless of stakeholder affiliation. Consequently, the Committee’s consensus recommendation is to continue applying a DFM.

A closely related topic, extensively discussed both within the Committee and during consultations, is transparency. Currently, regulators do not publicly disclose the permissible ranges for market data fees, nor do they report any regulatory actions taken in response to fees outside those ranges. Each marketplace is informed annually of their own permissible fee range, with no visibility into their competitors' allowances. Many committee members expressed strong, though not unanimous, support for the public disclosure of these permissible ranges by the regulator.

Main Arguments

Marketplace Participants: Several marketplace participants expressed concerns that publishing detailed DFM ranges might incentivize marketplaces to set prices at the upper bounds. They highlighted potential competitive distortions and argued for flexibility to adjust fees strategically, for example, to attract liquidity providers.

Non-marketplace Participants: Most, though not all, non-marketplace participants supported increased transparency, advocating for public disclosure of DFM ranges. They argued transparency would promote accountability, reduce errors, and improve clarity in regulatory oversight and approval processes. Furthermore, they believed transparency would enhance fairness and predictability in fee adjustments. Public disclosure of fee range violations could further encourage regulatory enforcement.

The committee chairs: The committee chairs cautioned that publishing point estimates requires care, as the ranges derive from averages of inherently noisy data. Any published data should convey the degree of variability. The chairs noted that additional transparency—such as including confidence intervals—could improve clarity and interpretation.

Committee Majority Opinion: The majority of the Committee—comprising nearly all non-marketplace participants— supported an annual publication of fee ranges with associated confidence intervals as a balanced solution. This was seen as addressing marketplaces' concerns about fees being set at the upper bounds while supporting transparency and regulatory oversight.

Dissenting Opinion (predominantly marketplace participants): A significant minority, primarily marketplace-affiliated members, preferred the status quo, emphasizing the risk that greater transparency could encourage higher, uniform pricing rather than competitive differentiation. One non-marketplace member noted that it was difficult to form an opinion on the annual publication without more transparency into current permissible fee ranges and where pricing was set within those ranges.

An additional concern arises from the simultaneous use of two models: if each marketplace annually adjusts its fees to the maximum allowed under either model, the overall market fees will mechanically increase over time—particularly if the wallet benchmark is recalculated based on the aggregate fees actually charged.

To illustrate this issue, consider two marketplaces, A and B, each charging Level 1 fees of \$50 in year 1, resulting in a total Level 1 wallet \$100. Suppose that after year 1, market A is assigned permissible fee ranges of \$55 and \$60 under models 1 and 2, respectively, while market B is assigned \$45 and \$40. If both markets adopt the highest allowed fee, market A charges \$60 allowed by model 2 and market B \$45 allowed by model 1, increasing the combined total to \$105 in year 2. This effect may compound if the wallet for year 3 is benchmarked to this higher total.

Question 2a: Is the calculation of the reference points (i.e., benchmarks by listing market) appropriate?

The Committee's discussion on this topic covered six interrelated sub-questions, labeled (i) through (vi) below. These included both structural considerations—such as whether there should be one wallet or multiple—and core issues around how the benchmark (i.e., the wallet size) is set, updated, and applied.

The most extensive discussion focused on the benchmark level itself. This included how the initial benchmark is determined, how it evolves over time, and how to account for marketplaces that charge substantially below their permitted ranges. As previously noted, marketplace and non-marketplace participants hold fundamentally opposed economic interests on this issue, and consensus on a single recommended approach was not achievable.

The sub-questions were:

- (i) Should there be one wallet or four (one for each listing market, TSX, CSE, TSXV, Cboe)?
- (ii) Should the fee range be computed at the level of each marketplace family with a single corporate owner of marketplace?
- (iii) Should there be separate bills by listing markets?
- (iv) How is the level of the benchmark (i.e., the wallet size) determined?
- (v) How is the benchmark updated over time?
- (vi) How should the benchmark account for marketplaces that charge significantly below the permitted level?

Q(i): Should there be one wallet or four (one for each listing market: TSX, CSE, TSXV, Cboe)?

Main Arguments

Marketplace Participants: Several, though not all, marketplace representatives favoured retaining separate benchmarks by listing market. They emphasized meaningful differences in market characteristics, liquidity profiles, regulatory obligations, and operational complexities. They argued that separate benchmarks better reflect these differences, ensuring fair cost allocation and appropriate recognition of each marketplace's distinct regulatory burden.

Non-marketplace Participants: strongly supported a unified "single wallet" approach, stressing its simplicity, clarity, and fairness across all marketplaces. They argued that a unified benchmark would better represent a cohesive national market, reduce fee structure complexity, and enhance transparency. Some participants also suggested that a unified wallet would better accommodate fair redistribution as market dynamics and listing preferences evolve.

The committee chairs: The committee chairs raised four specific issues regarding the implementation of a unified approach: First, adopting a single wallet would require developing a new, robust, and possibly more complex methodology for determining its appropriate size, and a careful assessment of possible unintended consequences, all of which lies beyond the current Committee's scope.

Second, Model 3 of the DFM relies on share volume, while investment decisions are typically based on dollar value rather than share count, which can be affected by stock splits. This has implications for markets such as the TSXV and CSE, where low-priced stocks often generate high share volumes but low dollar volumes. Although the two models currently yield similar results when applied separately, a unified approach could increase discrepancies and may warrant reassessing Model 3's appropriateness.

Third, listing markets differ in terms of listing standards and pricing conventions (e.g., sub-penny prices), attracting distinct investor and dealer communities. A unified benchmark may not fully reflect these differences and could implicitly impose an overly rigid, one-size-fits-all approach.

Fourth, while it may be appropriate to include a new marketplace trading existing listings within the current framework, a single benchmark could deter entry by new business models. New marketplaces face various competitive pressures, such as attracting dealer connections, promoting new listings, or supporting novel financial instruments. Applying a uniform data fee regime to these diverse business models could restrict their ability to recover costs and ultimately weaken market competition.

Committee Majority Opinion: The majority of the Committee supported pursuing a unified benchmark ("single wallet") approach but acknowledged that transitional measures may be needed to support implementation and address marketplace concerns. In the absence of a defined methodology for calculating a unified wallet, the Committee does not make a definitive recommendation at this time.

Dissenting Opinion (Marketplace Participants): Most marketplace representatives preferred maintaining separate benchmarks. They emphasized significant operational, liquidity, and regulatory differences that, in their view, would not be adequately captured by a unified wallet approach.

Some marketplace representatives noted that a unified benchmark for Canada's capital markets may oversimplify distinct market tiers. A key concern was the use of share volume. Junior markets often exhibit high share volume but low dollar volume. While comparing share volume within junior or senior markets may be appropriate, doing so across tiers risks distorting the relative economic value of trading activity in favor of junior markets. However, removing share volume entirely may understate the role of junior markets and undermine

their contribution to the broader capital market ecosystem. Participants emphasized that, although a unified benchmark may appear simpler on the surface, its implementation could be complex and risk unintended negative effects on market structure.

Q(ii): Should the fee range be computed by corporate owner of marketplace?

The Committee considered whether the DFM should be applied at the individual platform level or at the corporate group (ownership) level—for example, TMX, NASDAQ, Cboe, Tradelogiq versus individual marketplaces such as Alpha/TSX, CXC/CX2, Omega/Lynx, etc. Those favouring platform-level application argued that each trading platform operates with distinct features, technologies, and market impacts, justifying separate consideration. Proponents of owner-level application emphasized that it could simplify regulatory oversight and potentially limit overall marketplace fees, given that some corporate entities own multiple platforms.

Committee Consensus: The Committee strongly favoured retaining the current platform-level application of the DFM. There was broad agreement on this point, with minimal support for shifting to owner-based application.

No dissenting opinions were recorded.

Q(iii): Should there be separate bills by listing markets?

The Committee also considered whether marketplaces should retain the flexibility to bundle or package data products, or whether regulatory intervention should address such practices. Currently, some marketplaces separate charges by listing market, while others consolidate them into a single charge. The primary arguments for maintaining existing flexibility were market efficiency, innovation, and simplicity. However, bundling was noted to reduce transparency and complicate the calculation of DFM ranges, potentially making it difficult for market participants to accurately evaluate fees. Although tied selling is currently not observed, the Committee noted potential future concerns if such practices were to emerge.

Committee Consensus: The Committee favoured maintaining current bundling practices while improving transparency. Specifically, it recommended clearer disclosure of how bundled products affect the DFM calculations to support more accurate fee assessments and strengthen regulatory oversight.

No dissenting opinions were recorded.

Q(iv): How is the level of the benchmark (i.e., the wallet size) determined?

Main Arguments:

Marketplace Participants: Marketplace representatives strongly opposed adopting a cost-plus approach, citing significant practical challenges such as accurately allocating shared

infrastructure and operational costs, potential inconsistencies among marketplaces, and the risk of cost manipulation. They favoured retaining current benchmarks with incremental adjustments, highlighting their greater transparency, practical feasibility, and difficulties experienced in jurisdictions that attempted a cost-plus approach.

Non-marketplace Participants: Some non-marketplace participants expressed substantial support for a cost-plus model, arguing that it would objectively address concerns about excessive margins and rent extraction from market data fees. They emphasized the potential for enhanced transparency and fairness. While acknowledging implementation challenges, they viewed these issues as manageable and justified by potential benefits. One participant cited a publication by the U.S.-based trading platform IEX, which suggests that data revenues relative to costs in the U.S. market are likely substantial, based on their own cost structure as a benchmark. Participants also noted that other regulated industries, such as utilities, have successfully implemented cost-based pricing models. Some non-marketplace participants also expressed concern that a cost-plus model could disincentivize cost reduction efforts by marketplaces, resulting in higher costs to subscribers.

Several committee members and comment letters raised additional concerns about the self-referential nature of the wallet calculation. If marketplaces were to collectively raise their fees, their relative rankings would remain unchanged. This absence of an external reference point, also noted by CSA staff, represents a potential issue requiring careful future monitoring, though it has not arisen in practice.

Committee Majority Opinion: Despite differing perspectives, the Committee majority acknowledged significant practical and accounting challenges associated with implementing a cost-plus model. Consequently, the majority favoured retaining current benchmark levels with controlled, incremental adjustments as the more feasible and practical solution.

Dissenting Opinion (Predominantly Non-marketplace Participants): A minority, primarily non-marketplace participants, continued to advocate for adopting a cost-plus approach, emphasizing its transparency benefits and potential to reduce fees, despite recognizing its complexities. Some argued that although the introduction of the DFM in 2016 effectively limited subsequent fee increases, it did not address substantial fee increases from the period between the start of multi-market trading in 2006/7 and 2016, which significantly outpaced inflation. For context, CSA Consultation Paper 21-403 notes that total Level 1 charges rose from \$73 in 2006 to \$118 in 2016, whereas the CPI-adjusted equivalent of the 2006 charge in 2016 would have been approximately \$88.

Q(v): How is the benchmark updated over time?

Main Arguments:

Marketplace Participants: Marketplace representatives advocated for CPI-based adjustments, emphasizing significant personnel and operational costs not adequately captured by technology-specific indices. They highlighted that a narrowly defined technology CPI (tech-CPI) overlooks broader operational expenses and changing client demands. For example, while the price of a constant-capability server might decline, growing market requirements necessitate technology upgrades and expansions, potentially increasing or stabilizing overall technology expenditures despite falling tech-specific prices.

Non-marketplace Participants: Non-marketplace participants criticized standard CPI adjustments, arguing they do not accurately represent declining technology costs inherent in market data production. They strongly favoured using a tech-CPI, or at minimum, a reduced CPI-based adjustment better aligned with actual industry trends, referencing efficiency improvements such as those described by Moore's Law.

Committee Majority Opinion: Recognizing merit in both perspectives, the Committee proposed a compromise: adopting a moderated CPI adjustment (approximately half the standard CPI) to balance declining technology-related costs against ongoing personnel and operational expenses. This approach should be reviewed periodically.

Dissenting Opinion (Primarily Non-marketplace Participants): A minority, largely non-marketplace participants, strongly advocated adopting an exclusive tech-CPI adjustment, citing consistent and significant reductions in technology costs. The committee chairs noted, however, that Statistics Canada currently does not publish a specific tech-CPI measure.

Q(vi): How should the benchmark account for marketplaces that charge significantly below the permitted level?

Main Arguments:

This issue pertains to benchmark adjustments over time. Currently, the benchmark in year t equals the sum of market charges from year $t-1$ (subject to permitted adjustments for cost increases). The Committee examined whether non-charging marketplaces might distort the DFM by lowering the benchmark and thereby reducing the permissible fees for charging marketplaces. For example, if a marketplace enters in year $t-1$, gains market share, but does not charge for data, the benchmark for year t will decline. Concerns were raised about potential anti-competitive practices by non-charging markets deliberately limiting competitors' revenues. Conversely, some members argued that non-charging markets, especially smaller ones, posed limited competitive threats and could enhance market efficiency.

Committee Consensus: The Committee reached consensus on adopting provisions to treat non-charging markets as if they were charging markets, for the purposes of benchmark calculation and DFM allocation. This approach is intended to stabilize the benchmark and mitigate potential anti-competitive effects.

No significant dissenting views were recorded.

Question 2b: Should the DFM continue to rely on domestic reference points, or are international reference points more appropriate?

All committee members were keenly aware of discussions in other jurisdictions, which similarly struggle with identifying the appropriate approach to market data fees. However, there was no support for using international benchmarks.

Committee Consensus: The Committee agreed that significant differences in economic and regulatory circumstances across jurisdictions make meaningful comparisons with foreign markets challenging.

The Committee also discussed the U.S. SEC's forthcoming policy mandating statutory wholesale access for competing consolidators ([SEC 2020 "Market-Data Infrastructure" rule](#)). Several members, including those from the dealer community, expressed skepticism about whether the SEC's approach would lead to meaningful cost reductions. The Committee concluded that the anticipated emergence of multiple data resellers remains uncertain, and that pricing could remain high, similar to current SIP fee levels.

Question 3: Are the pre- and post-trade metrics currently used by the DFM appropriate given ongoing market developments?

In comment letters and consultations, four specific types of trading activity were identified for potential inclusion in the DFM metrics: intentional crosses, opening/closing volume, after-hours volume, and odd-lot volume. Currently, intentional crosses and opening/closing volumes are included in post-trade statistics, whereas after-hours and odd-lot volumes are not.

Marketplace participants expressed differing views on whether these measures should be included, reflecting business model variations and uncertainty about how adjustments to the DFM computation might impact fee ranges and strategy. Non-marketplace participants generally expressed less concern regarding the inclusion or exclusion of specific measures.

Separately, marketplace participants raised concerns regarding the specific weights used to compute the DFM metrics. Beyond the earlier debate on notional value versus share volume, questions were raised about weighting highly liquid versus less liquid listings, incorporating opening and closing imbalance information (currently excluded), and adjusting the time-weighted calculation of NBBO contributions. The Committee concluded that while such refinements may warrant consideration in future iterations, they fall outside the scope of the current mandate due to the substantial data analysis required for informed decision-making.

The Committee unanimously agreed that achieving "perfect" measurement is unlikely. It emphasized that the methodology should be periodically reviewed to mitigate potential distortions or manipulation.

Intentional Crosses (excluding MOC and open)

Main Arguments:

Marketplace Participants: Most marketplace representatives opposed including intentional crosses in post-trade metrics. They argued intentional crosses are pre-negotiated, off-market transactions, and raised concerns about potential gaming. Gaming concerns are intensified because share-volume significantly impacts one of the DFM models. Marketplaces also contended intentional crosses do not contribute meaningfully to the NBBO or price discovery.

Non-marketplace Participants: Non-marketplace participants expressed mixed views. Some advocated for the inclusion of intentional crosses due to their informational significance, particularly for large trades that influence market perception and indirectly affect price discovery. Others argued that although intentional crosses contribute to price discovery, they are pre-negotiated, off-market transactions with limited marketplaces' contribution, raising concerns regarding potential manipulation and market share distortions.

Committee Majority Opinion: The Committee identified exclusion of intentional crosses from post-trade metrics in the DFM as the most reasonable approach. Additionally, the Committee recommended considering size-based caps on intentional crosses, linked to standard trading units or dollar-value thresholds.

Dissenting Opinion: A minority—including both marketplace and non-marketplace participants—supported continued inclusion of intentional crosses. They emphasized these trades' informational value and argued that inclusion enhances comprehensive market

transparency. One non-marketplace participant expressed that one should not differentiate between pre-arranged blocks that trade at the close from blocks that cross intraday.

Open and Closing Volume

Main Arguments:

Marketplace Participants: Several marketplace committee members strongly supported including opening and closing volumes in post-trade metrics, emphasizing their significant contribution to price discovery, market transparency, and establishing accurate reference prices. They highlighted that these volumes reliably represent genuine market activity.

Non-marketplace Participants: Generally agreed with marketplace views, recognizing the critical informational value of opening and closing volumes. Although minor concerns were raised about potential distortions from large individual trades, for instance those resulting from large derivative transactions, participants considered these risks manageable.

Consensus Opinion: The Committee strongly supported continuing to include opening and closing volumes in post-trade metrics due to their crucial informational role.

No significant dissenting views were recorded.

Pre-Open and After-hours Trading

Main Arguments:

Marketplace Participants: Marketplace participants supported including pre-open and after-hours trading volumes in DFM metrics, recognizing these trades as legitimate market activities with informational value, particularly for large transactions executed outside regular trading hours. However, they advised caution regarding potential gaming or distortion through intentional crosses or non-standard trading practices.

Non-marketplace Participants: Non-marketplace participants similarly supported including pre-open and after-hours trading volumes, citing improved transparency and completeness of market information. They echoed concerns about potential gaming and emphasized the need for safeguards to ensure only genuine trading activity is captured.

Committee Consensus: The Committee agreed to include pre-open and after-hours trades in DFM metrics but to exclude after-hours intentional crosses. There was no support for incorporating pre-open and after-hours pre-trade information.

Dissenting Opinion: One non-marketplace committee member favours the inclusion of after-hours intentional crosses. The stated reason is that alternative MOC facilities will be launched in Canada that will print MOC trades after the closing auction.

Odd Lots

Main Arguments:

Marketplace Participants: Generally supported including odd-lot trades in post-trade metrics, noting their growing importance, particularly for securities heavily traded by retail investors. They acknowledged the informational value of these trades in capturing complete market activity but advised caution given differences in market mechanisms for odd-lot execution and the potential for gaming.

Non-marketplace Participants: Broadly agreed, advocating for inclusion of odd-lot trades as essential for comprehensive market transparency. They emphasized that odd lots reflect meaningful retail investor activity, and argued that excluding them could omit significant trading data.

Committee Majority Opinion: The Committee supported including odd-lot trading volumes in post-trade metrics, recognizing their importance in accurately reflecting market activity.

Dissenting Opinion: It was noted that the Committee’s recommendation not to include odd-lot quotes is, in part, driven by how odd-lot books and trading are currently structured. There was a view that the inclusion of odd-lot quotes in pre-trade metrics should be revisited in the future, depending on how marketplace models evolve.

Question 4: Are the formulas currently used to rank marketplaces (i.e., based on their contribution to price discovery and trading activity) appropriate given ongoing market developments?

The current approach to ranking marketplaces—using a 50/50 weighting of contributions to price discovery and trading activity—prioritizes simplicity and transparency. The formulas rely on intuitive measures such as “time at the best” during the regular trading day and volume-based metrics, which are straightforward to implement and interpret across a wide range of securities.

Alternative Measures of Price Discovery. Well-established alternatives exist in the academic literature—such as the Hasbrouck Information Share (IS) and Gonzalo-Granger models, which estimate each marketplace’s contribution to price formation. These models are widely regarded and extensively used in market microstructure research. However, they rely on advanced statistical techniques and are sensitive to modeling assumptions and data choices. This limits their robustness and comparability across venues, particularly for thinly traded securities, and makes them less practical for regulatory use. While they offer

significant analytical value, their complexity and sensitivity make them difficult to operationalize in settings that prioritize consistency, transparency, and ease of interpretation.

Given these trade-offs, the committee chairs advise against expanding the current set of price discovery measures at this time.

The Committee also acknowledged that the CSA had already conducted extensive research into weighting schemes and alternative models prior to implementing the DFM. Committee members, including marketplace representatives, did not express strong views in favour of altering the current 50:50 weighting between price discovery and trading activity. While no clear economic rationale for an alternative weighting emerged from the Committee's discussions, it was noted that greater emphasis on post-trade metrics tends to favour high-volume marketplaces, whereas increased weighting of pre-trade metrics could benefit smaller venues by potentially supporting higher fee levels.

Committee Majority Opinion: The Committee did not support, nor express meaningful interest in, changing the current 50:50 weighting scheme.

Question 5: Should the CSA introduce different DFMs for senior and junior markets?

The discussion on this question is closely related to the earlier consideration in Question 2a regarding the determination of benchmarks (or "wallets"). It was noted that a formal distinction between "junior" and "senior" markets exists only for TSX and TSXV. By contrast, CBOE and CSE each operate a single listing market and have not positioned themselves as "junior" markets.

In the context of this question, the Committee additionally considered whether listing markets should receive special consideration in the computation of DFM weights.

Should listing markets receive special consideration in the DFM?

Main Arguments:

Marketplace Participants: Marketplace representatives strongly supported acknowledging the additional regulatory, compliance, and operational costs borne by listing markets (e.g., TSX, TSXV, CSE, Cboe). They emphasized that responsibilities related to issuer management and corporate actions benefit the entire market ecosystem, justifying special consideration or adjustments within the DFM framework.

Non-marketplace Participants: Non-marketplace participants generally opposed DFM adjustments specifically for listing-market costs. They cautioned against cross-subsidization and argued that listing-related costs should be recovered directly through listing fees rather than data fees. This approach, in their view, would help maintain transparency and fairness across market segments.

The committee chairs: highlight that the discussion around different treatments of junior and senior markets relates to the discussion regarding the implementation of a unified benchmark and the issues raised there: that junior markets operate with lower-priced (and higher-volume) listings, that listing markets differ in terms of listing standards, attracting distinct investor and dealer communities, and that the economics of an emerging listing market may require a larger degree of cross-subsidization of trading, data, and listing costs compared to an established market, in particular one that “graduates” listings from a junior market.

Committee Majority Opinion: The majority of Committee members, particularly non-marketplace participants, opposed introducing special adjustments or considerations for listing markets within the DFM. They concluded that additional costs incurred by listing markets should be addressed separately.

Dissenting Opinion: A significant minority—primarily from listing marketplace participants—favoured explicitly recognizing within the DFM the extra costs faced by listing markets. They advocated for moderate cross-subsidization, citing the central role listing markets play in supporting overall market functioning. However, proposing a specific implementation was not pursued, as such refinements were outside the scope of the Committee’s mandate and unlikely to gain broader support.

Additional Questions

The Committee’s mandate also highlighted two additional topics: charges to international subscribers and the inclusion of non-display fees within the DFM framework. Both topics were discussed, resulting in the following feedback:

International Subscribers

Main Arguments:

Marketplace Participants: Emphasized the higher administrative, distribution, and compliance costs associated with serving international clients compared to domestic clients. They also noted complexities related to billing preferences—particularly from U.S. subscribers who often prefer invoicing in USD—which can challenge the implementation of standardized fee structures.

Non-marketplace Participants: Strongly supported closer alignment between international and domestic subscriber fees, emphasizing fairness, competitiveness, and overall transparency. They argued significant disparities in fees could damage international perceptions and undermine market competitiveness.

Committee Chairs: Upon reviewing feedback on the first draft of this report, the committee chairs note that this topic may require further consideration beyond the discussions of the Committee. Additional data on the charges and cost differences would be useful to obtain a better understanding and increase transparency on the specific issues involved.

Committee Majority Opinion: The Committee generally supported working towards reasonable alignment of international subscriber fees with domestic fees, allowing for exceptions where demonstrable cost differences or other reasonable, objective justifications exist.

Dissenting Opinion: A minority, primarily marketplace participants, strongly favoured maintaining differentiated fees, citing the need for flexibility to account for different costs inherent in serving international clients, including, tariffs and digital services taxes, and other inherent costs. They caution that equalizing rates may cause fee increases for all subscribers to offset these costs. One dissenting opinion also cautioned that some regulatory justifications for the DFM such as "fair access" may not apply to subscribers who reside outside the Canadian jurisdiction.

Non-Display Fees

Main Arguments:

Marketplace Participants: Strongly opposed the inclusion of non-display fees in the DFM framework, emphasizing significant regulatory complexity, administrative burdens, and difficulties associated with developing appropriate benchmarks specifically for non-display data usage. They argued that the potential complications would outweigh any transparency benefits and unnecessarily complicate the current regulatory structure. One marketplace participant highlighted that other fees are still subject to review.

Non-marketplace Participants: Highlighted rising costs associated with a variety of fees, including non-display fees. They expressed concern about limited competitive substitutes and the broader market impact of such charges, suggesting that future regulatory oversight may be warranted. However, they also acknowledged that by definition the DFM only applies to professional subscribers, placing non-display fees outside the Committee's scope.

Committee Consensus: The Committee agreed—primarily reflecting marketplace viewpoints—that non-display fees should remain excluded from the DFM framework at this

time. However, there was acknowledgment of their growing importance and the potential need for future regulatory review. Non-marketplace participants acknowledged their growing importance and highlighted the need for future regulatory review.

Dissenting Opinion: Some non-marketplace participants noted that dealers' total data-related costs include multiple components including non-display fees, such as connectivity fees, port fees, session fees, cross-connects, co-location fees, and marketplace membership and licensing fees. One participant suggested implementing a future regulatory framework to oversee and further standardize these charges.