

CSA Notice of Publication
Regulation to amend Regulation 23-101 respecting Trading Rules
Amendments to Policy Statement to Regulation 23-101 respecting Trading Rules

April 7, 2016

Introduction

The Canadian Securities Administrators (the CSA or we) have approved amendments to *Regulation 23-101 respecting Trading Rules* (the Regulation, or Regulation 23-101) and its related Policy Statement (Policy Statement 23-101) (together, the Amendments) and are finalizing a methodology for the regulatory oversight of market data fees (the Data Fees Methodology).

We are publishing the text of the Amendments with this notice, together with certain other relevant information. The text of the Amendments will also be available on the websites of the CSA jurisdictions, including:

www.lautorite.qc.ca
www.albertasecurities.com
www.bcsc.bc.ca
www.gov.ns.ca/nssc
www.fcnb.ca
www.osc.gov.on.ca
www.fcaa.gov.sk.ca
www.msc.gov.mb.ca

Provided all necessary ministerial approvals are obtained, the Amendments will come into force on July 6, 2016, except as related to the market share threshold. The Amendments related to the market share threshold will come into force on October 1, 2016.

Substance and Purpose

The substance and purpose of the Amendments is to update Regulation 23-101 and Policy Statement 23-101 in relation to the application of the order protection rule (OPR), and in response to recent market developments. The Amendments adjust the rule framework in a manner that maintains the core principles of OPR, but address some of the inefficiencies and costs that have resulted from its implementation. Further, the Amendments add OPR-related guidance to Policy Statement 23-101 to address circumstances where a marketplace has introduced an intentional order processing delay.

Background

Following a CSA review of OPR, we published proposed amendments to Regulation 23-101 and Policy Statement 23-101 on May 15, 2014 (the 2014 Notice)¹. After considering the comments received in response to the initial publication, we have made non-material changes to certain aspects of the proposals. For additional background on the substance and purpose of the proposed amendments, please refer to the 2014 Notice.

In addition, on June 12, 2015 we published proposed amendments to Policy Statement 23-101 to address changes introduced to the functionality of certain marketplaces (the 2015 Notice)². These marketplace functionality changes impose delays on the entry of orders into the trading engine of the marketplace that would, for a period of time, prevent the immediate execution of orders that are submitted to execute against displayed volume. The introduction of these delays, referred to as 'speed bumps', raised the question of whether OPR should apply to displayed orders on such marketplaces. In response to comments received to the 2015 Notice, we have made non-material changes to the language originally proposed. For additional background, please refer to the 2015 Notice.

Summary of Written Comments Received by the CSA

In response to the 2014 Notice and the 2015 Notice, we received submissions from 27 commenters and 14 commenters, respectively. We have considered the comments received and thank all of the commenters for their input. A list of those who submitted comments and a summary of the comments and our responses are attached at Annexes B and C to this notice. Copies of the comment letters are available at www.lautorite.qc.ca.

Summary of the Amendments and Notable Changes

See Annex A for a summary of the Amendments, and a description of notable changes that have been made to the amendments proposed in the 2014 Notice and the 2015 Notice.

Local Matters

Certain jurisdictions are publishing other information required by local securities legislation with this notice.

Annexes

A. Summary of the Amendments and Notable Changes;

¹ Published in the *Bulletin de l'Autorité des marchés financiers*, volume 11, No. 19 of May 15, 2014.

² Published in the *Bulletin de l'Autorité des marchés financiers*, volume 12, No. 24 of June 18, 2015.

- B. List of commenters who provided submissions on the proposed amendments published on May 15, 2014 and the proposed amendments published on June 12, 2015;
- C. Summary of comments received on the 2014 Notice and the 2015 Notice, together with the CSA's response to the comments; and
- D. Data Fees Methodology.

Questions

Please refer your questions to any of the following:

<p>Serge Boisvert Senior Policy Advisor Direction des bourses et des OAR Autorité des marchés financiers serge.boisvert@lautorite.qc.ca</p>	<p>Roland Geiling Derivatives Product Analyst Direction des bourses et des OAR Autorité des marchés financiers roland.geiling@lautorite.qc.ca</p>
<p>Tracey Stern Manager, Market Regulation Ontario Securities Commission tstern@osc.gov.on.ca</p>	<p>Timothy Baikie Senior Legal Counsel, Market Regulation Ontario Securities Commission tbaikie@osc.gov.on.ca</p>
<p>Alina Bazavan Senior Analyst, Market Regulation Ontario Securities Commission abazavan@osc.gov.on.ca</p>	<p>Louis-Philippe Pellegrini Legal Counsel, Market Regulation Ontario Securities Commission lpellegrini@osc.gov.on.ca</p>
<p>Paul Redman Principal Economist, Strategy & Operations Ontario Securities Commission predman@osc.gov.on.ca</p>	<p>Lynn Tsutsumi Director, Market Regulation Alberta Securities Commission lynn.tsutsumi@asc.ca</p>
<p>Sasha Cekerevac Regulatory Analyst, Market Regulation Alberta Securities Commission sasha.cekerevac@asc.ca</p>	<p>Bruce Sinclair Securities Market Specialist British Columbia Securities Commission bsinclair@bcsc.bc.ca</p>

ANNEX A

Summary of the Amendments and Notable Changes

This Annex summarizes the Amendments and describes the notable changes from the proposed amendments published in both the 2014 Notice and the 2015 Notice. Further, it provides details regarding additional matters relating to the Amendments. The information in this Annex is set out in the following sections:

1. Market Share Threshold
2. Locked or Crossed Orders
3. Trading Fees
4. Intentional Order Processing Delays
5. Data Fees Methodology
6. Best Execution Obligations and Disclosure
7. Pilot Study on Prohibition on Payment of Rebates by Marketplaces

For purposes of this Annex, we refer to marketplaces that will display orders that are protected pursuant to OPR, as 'protected marketplaces', and other marketplaces not displaying protected orders as 'unprotected marketplaces'.

1. Market Share Threshold

We continue to believe that OPR is a valuable part of the regulatory framework, but recognize that the current application of OPR has introduced inefficiencies and costs. Further, we believe the rule acts as a form of regulatory support for marketplaces by requiring that marketplace participants access either directly or indirectly, all protected marketplaces, and pay associated costs in doing so. The Amendments will provide flexibility to marketplace participants in determining if and when to access trading on certain marketplaces by limiting the application of OPR to orders displayed on marketplaces that meet a market share threshold determined by the CSA.

The comments received in relation to the publication of the 2014 Notice provided mixed views with respect to the market share threshold. Supporters of the threshold approach were not unanimous in support of the specific level of the threshold proposed, with arguments presented for both higher and lower percentages. Many commenters expressed the view that any threshold percentage applied would be an arbitrary figure. Those who were not supportive of the threshold approach conveyed concerns about both the impact on competition, as well as additional market complexities that would result from an environment where some visible marketplaces would display orders that

would be protected under OPR, while others would display orders that would not be protected.

We recognize the concerns expressed in some of the comment letters. However, after considering all of the comments received, we believe that at this time, the threshold approach is the most appropriate method of balancing the benefits of OPR with the costs associated with its application.

We remain supportive of marketplace competition, but believe that the benefits of competition should be achieved in combination with an allowance for users of marketplace services to exercise some element of discretion when determining whether to access marketplaces and pay for marketplace services. This is especially true in relation to the launch of new visible marketplaces in Canada, to which market participants are currently required to immediately connect or access in order to ensure compliance with OPR.

The market share threshold will be initially set in each jurisdiction by the regulator, or in Quebec, the securities regulatory authority, at 2.5% based on an average share of the adjusted¹ volume and value traded (equally weighted) over a one-year period,² and applied at the market or facility level where the marketplace is comprised of more than one visible market or facility.³ Excluded from the market share threshold calculation will be:

- trades involving dark passive orders,
- the non-interfered portion of intentional crosses,⁴
- trades from call markets or call facilities (including existing opening and closing call facilities)
- odd-lot trades,
- auto-executed trades in fulfillment of market maker obligations or participation rights, and
- trades involving special terms orders.

The displayed orders of a recognized exchange that does not meet the market share threshold will be protected, but only with respect to those securities listed by and traded on the exchange. In these circumstances, in a similar manner to the application of the market share threshold, protection for displayed orders for listed securities on a recognized exchange will be applied at the market or facility level where the recognized exchange is comprised of more than one market or facility.

¹ Volume and value traded will be adjusted to exclude certain trades.

² Volume and value will be calculated on a total market basis, rather than calculated separately on the basis of listing marketplace.

³ Certain marketplaces have distinct visible continuous auction order books, to which the market share threshold will be applied separately.

⁴ On some marketplaces, the execution of an intentional cross by a dealer can be broken up or “interfered” with by an existing order from same dealer, which has already been entered on the marketplace at the same price as the intentional cross. Because the interfering order would have been protected under OPR, it would be included in the market share calculation.

(i) Market Share Threshold Calculation

Once the threshold is set in each jurisdiction by the regulator, or in Quebec, the securities regulatory authority, the market share and the list of protected marketplaces will be made publicly available on the websites of both the CSA and the Investment Industry Regulatory Organization of Canada (IIROC). The initial calculation of protected marketplaces will be effective for a six month period and will be published during the first week of June 2016. It will come into effect on October 1, 2016 and will be based on trading data from June 1, 2015 to May 31, 2016.

After the initial period, on an ongoing basis, the application of OPR for displayed orders as it relates to the market share threshold, will be effective for a period of one year, and subject to annual renewal. Marketplace participants will be given approximately three months after each list is published to facilitate any required operational changes. The criteria for calculating the threshold and the process for communicating the list of protected marketplaces for the effective period will also be made publicly available, and any changes to the market share threshold will be set by the regulator, or in Quebec, the securities regulatory authority and will be communicated publicly via CSA Staff Notice.

For ease of reference, the following table outlines the initial 6 month timeframe and reference period, as well as the timing of the annual calculations thereafter.

	Calculation Period	Date of Publication of Protected Marketplace List	Effective Period
Initial Implementation	Trading data from June 1, 2015 to May 31, 2016	First week of June 2016	October 1, 2016 to March 31, 2017
First Full Implementation	Trading data from January 1, 2016 to December 31, 2016	By January 15, 2017	April 1, 2017
Ongoing Implementation	Trading data from the first through last day of the year annually	Annually by January 15 of each year	Annually on April 1

(ii) Ongoing Review of the Impact of the Threshold

We intend to monitor the impact of the threshold on an ongoing basis. We commit to conducting a review of the impact and cost savings associated with the market share threshold and the percentage at which it is set, once one year of data is available and can be analyzed.

(iii) Changes to Proposed Amendments in 2014 Notice

In the 2014 Notice we proposed to set the market share threshold at 5%. As noted above, the comments received in relation to the proposed threshold were mixed. As a result of both feedback received during the public comment process and CSA

discussions, we intend to set the market share threshold at 2.5% based on an equally weighted average of the share of adjusted volume and value traded.

This lower threshold will serve to address some of the concerns related to potential impacts on competition, but will still provide a base level of trading activity at or above which displayed orders will be protected. The lower market share threshold will still offer dealers an element of choice with respect to new marketplaces and those marketplaces below the threshold level.

2. Locked or Crossed Orders

The provisions in section 6.5 of the Regulation related to locked or crossed orders will be limited in application to “protected orders”. This change will not preclude participants from entering orders on protected marketplaces that would lock or cross an order on an unprotected marketplace.

3. Trading Fees

The Amendments will introduce a cap on active trading fees charged by marketplaces.⁵ As proposed in the 2014 Notice, the cap will apply to continuous auction trading in equity securities and exchange-traded funds (ETFs) and will be set at \$0.0030 per share or unit traded for securities priced at or above \$1.00, and \$0.0004 per share or unit traded for securities priced below \$1.00.

As was discussed in the 2014 Notice, the \$0.0030 per share cap for securities priced at or above \$1.00 is set at the same level as the cap set in the U.S. under Rule 610(c) of Regulation National Market System. We recognize that the trading fee cap is higher than the fees currently charged by most Canadian marketplaces and acknowledge feedback received as part of the public comment process that the cap is too high. We are finalizing the cap as proposed, in order to establish an interim ceiling on active trading fees while we consider additional steps to address the level of trading fees in Canada.

We recognize the views of some stakeholders that the fee cap should be lower. However, our market is highly integrated with the U.S., and there is significant trading activity in securities that are listed in both Canada and the U.S. (Inter-listed Securities). As a result, we are concerned about potential negative consequences for the Canadian market from establishing a trading fee cap for Inter-listed Securities that is significantly different than comparable regulatory requirements in the U.S. As liquidity providers are sensitive to rebates they receive for posting orders on certain marketplaces, a decrease in fees charged by those marketplaces would also result in a decrease in rebates available to liquidity providers. If the difference in rebates between Canada and the U.S.

⁵ In the context of the Amendments, active trading fees refer to fees charged by marketplaces for the execution of an order that was entered to execute against a displayed order on that marketplace in continuous auction trading.

for Inter-listed Securities is too large, a shift of liquidity to U.S marketplaces and widening spreads on Canadian marketplaces could result.

However, in addition to the fee caps approved as part of the Amendments, we have published today a separate notice requesting comment on a revised active trading fee cap applicable only to securities priced at or above \$1.00 that are listed on a Canadian exchange, but not also listed on a U.S. exchange (Non-Inter-listed Securities). The proposed cap on Non-Inter-listed Securities priced at or above \$1.00 would be \$0.0017 per share (further details can be found in that notice). Upon approval of this lower cap for Non-Inter-listed Securities, the active-trading fee cap of \$0.0030 per share for securities valued at \$1.00 or more would only apply to Inter-listed Securities.

4. Intentional Order Processing Delays

As previously noted, the 2015 Notice proposed amendments to Policy Statement 23-101 related to the implementation of marketplace ‘speed bumps’ that delay the entry of orders into a marketplace trading engine. We proposed to add OPR-related guidance to Policy Statement 23-101, such that where a marketplace has introduced an intentional order processing delay that results in the inability to provide for an immediate execution against displayed volume, orders displayed on that marketplace would not be “protected orders” as defined in the Regulation.

After considering the comments received, we are finalizing those proposals with certain non-material changes in response to requests by a number of commenters to clarify the language of the amendment. These changes are designed to provide greater clarity around how we interpret the definition of “automated trading functionality” in the Regulation and the types of factors considered in determining whether a marketplace offers the ability for an “immediate” execution.

5. Data Fees Methodology

To provide for a transparent process for regulatory oversight of real-time professional market data fees, we are finalizing and formally adopting the Data Fees Methodology proposed in the 2014 Notice, and currently being used informally in the review of professional market data fees in Ontario.

As discussed in the 2014 Notice, the Data Fees Methodology estimates a fee or fee range for top-of-book (Level 1) and depth-of-book (Level 2) market data for each marketplace based on their contribution to price discovery and trading activity.

The Data Fees Methodology has a three step approach that involves:

- the calculation of pre- and post-trade metrics;
- a ranking of marketplaces on a relative basis; and
- an estimation of a fee or fee range for the professional market data fees charged by each marketplace based on a reference amount.

Where relevant to the calculations, the pre-trade metrics will include quotes displayed across all Canadian marketplaces whether these orders are considered protected or unprotected for the purposes of OPR.

The Data Fees Methodology will be used to assess the relative value of real-time market data feeds provided by each marketplace to its professional data subscribers, and will be applied in the context of:

- (a) an annual review of professional market data fees charged by each marketplace for both Level 1 and Level 2 data feeds and reapproval where fees are determined to be unreasonably high; and
- (b) the review and approval of any changes to Level 1 and Level 2 professional market data fees proposed by marketplaces.

Subsection 3.2(5) of *Regulation 21-101 respecting Marketplace Operation* requires each recognized exchange and alternative trading system (ATS) to file an updated and consolidated Form 21-101F1 or Form 21-101F2 within 30 days after the end of each calendar year. In Ontario, the OSC will apply the Data Fees Methodology to the Level 1 and Level 2 professional market data fees submitted in that consolidation under Exhibit L – *Fees*, to determine if the marketplace's fees are higher than the range identified through the Data Fees Methodology.

The Data Fees Methodology will apply to all marketplaces regardless of their protected or unprotected status. This is because we believe it is appropriate to maintain a level of oversight and ensure a consistent balance across all marketplaces, between the value assessed using the Data Fees Methodology and the associated fees that are charged for data. This is particularly important in the context of compliance with applicable best execution requirements.

(i) Changes to the Proposed Data Fee Methodology

We note that although the general approach to market data fees has not changed relative to that proposed in the 2014 Notice, to reflect stakeholders' comments and our ongoing observations, the Data Fees Methodology has been adjusted as discussed below. For more detailed information, please refer to Appendix A-2 of the 2014 Notice, and Annex D to this notice.

(a) *Pre- and Post- trade Metrics*

Appendix A-2 to the 2014 Notice detailed a number of specific metrics, both pre- and post-trade which would be used to rank the relative contribution of each marketplace to price discovery and trading activity. One such metric, referred to as "\$Time(equal)", would measure a marketplace's contribution to the depth of liquidity quoted at the best bid and offer. Concerns have been expressed by stakeholders that the use of this

specific metric in a ranking model would inflate the ranking of marketplaces that display quotes in illiquid securities and could be subject to manipulation. Given these concerns, this specific pre-trade metric and the ranking model that uses it (discussed below) will no longer be included in the Data Fees Methodology.

One proposed post-trade metric, referred to as “Scope of Trading,” measured the number of symbols traded on each marketplace. In the 2014 Notice we identified certain disadvantages or downsides to the use of this metric in a ranking model, specifically that it might disproportionately advantage marketplaces with significant market share and disadvantage smaller competitors or new entrants. The use of the metric could also “double penalize” marketplaces that do not trade all securities, and could potentially be manipulated. Given further consideration, we have excluded the “Scope of Trading” metric from the ranking model in which it is used (discussed below). However, we will continue to use this metric independently of the ranking model to better understand the range of securities traded on each marketplace compared to all securities traded across all marketplaces.

(b) Ranking Models

Appendix A-2 to the 2014 Notice set out the proposed relative ranking models for marketplaces. Concerns were raised by commenters with respect to one ranking model, referred to as the “SIP(equal),⁶” that uses the “\$Time(equal)” metric discussed above. Specifically, commenters indicated that this ranking model would weigh the various pre-trade metrics it uses equally, rather than on the basis of value traded. Further, this ranking model would not distinguish between stocks that trade often and those that rarely trade, and as a result, would inflate the ranking of those marketplaces that trade in illiquid securities. Based on the concerns identified, we have excluded this ranking model from the Data Fees Methodology.

Further to the ranking models and as discussed above, in order to ensure that all marketplaces are treated fairly in the relative ranking process, we have adjusted the formula used for one specific ranking model, referred to as “Model 3,” to specifically exclude the “Scope of Trading” metric that we initially proposed to use in its calculation.

(c) Interim Reference Benchmark

In the 2014 Notice, we also highlighted two potential references (domestic and international) that could be used to allocate an estimated fee or fee range to a marketplace. We noted at that time that selecting the appropriate reference was a key element in ensuring the appropriate application of the Data Fee Methodology.

It is our intention to retain external assistance to determine the appropriate benchmark in the coming months. In the interim, we will apply the *domestic reference*, as described in the 2014 Notice, which aggregates the market data fees charged by all marketplaces

⁶ The SIP(equal) model is based on metrics used by the U.S. Securities Information Processor.

into a single “pool” and then redistributes the amount based on the ranking models obtained through the Data Fee Methodology.

We recognize the concerns raised that existing fees are too high and a domestic benchmark based on an aggregated amount may be unreasonable. Despite this, we are of the view that we need to formally implement the Data Fee Methodology in order to manage existing fee levels. While the methodology will be used to address fees that are determined to be unreasonably high, we will not apply the methodology or the benchmark to support fee increases until such time as the appropriate benchmark has been established.

(d) Non-professional Market Data User Fees

We indicated in the 2014 Notice that we were concerned about the level of real-time market data fees charged by marketplaces to non-professional data users in Canada. We also indicated that we were considering either a cap on non-professional data fees at a rate set as a percentage of that marketplace’s reviewed and/or approved professional data subscriber rate, or the development of a methodology similar to the one applied to professional data users.

We will continue to monitor any developments in relation to the market data fees charged to non-professional users and will consider whether any action is necessary in the future.

6. Best Execution Obligations and Disclosure

We are finalizing changes to Policy Statement 23-101 that will introduce guidance designed to provide greater clarity for dealers with respect to best execution and accessing marketplaces that a dealer is not required to access for purposes of regulatory compliance.

Further related to best execution, in the 2014 Notice we proposed amendments that would introduce new disclosure requirements for dealers regarding their best execution policies. This disclosure relates primarily to order handling / routing and potential conflicts of interest, and would ensure that clients are provided with a minimum level of information to assist in making informed decisions regarding the use of a dealer’s services.

We are not finalizing the proposed amendments in relation to dealer best execution disclosure at this time. On December 10, 2015, IIROC published for comment *Proposed Provisions Respecting Best Execution* and related guidance⁷. The proposed IIROC amendments would update and consolidate best execution requirements in both the Universal Market Integrity Rules (UMIR) and Dealer Member Rules (DMR) into a single Dealer Member Rule respecting best execution. The updates as proposed would serve to assist dealers in complying with best execution obligations in a multiple marketplace

⁷ Published at: http://www.iiroc.ca/Documents/2015/8df7a02c-4491-4fd0-b317-4c90bdc722a2_en.pdf

environment, and would reflect the amendments proposed in the 2014 Notice by the CSA.

We believe that delaying the finalization of the amendments proposed in the 2014 Notice related to dealer best execution disclosure will allow us to benefit from any comments received in relation to the proposed IROC amendments.

7. Pilot Study on Prohibition on Payment of Rebates by Marketplaces

In the 2014 Notice, we expressed our intention to move forward with a pilot study that would examine the impact of disallowing the payment of rebates by Canadian marketplaces. We stated our view that the payment of rebates by a marketplace, or any other entity, impacts behaviours of marketplace participants in ways which may be contributing to increased fragmentation and segmentation of order flow, distorting the rationale for investment or trading decisions, and creating unnecessary conflicts of interest for dealer routing decisions that may be difficult to manage.

Although we continue to believe that a pilot study would be useful to determine what, if any, impact would result from disallowing the payment of rebates by marketplaces, significant issues have been raised both in the context of the comment process as well as through follow-on meetings with both industry participants and academics. The primary issue relates to the inclusion of Inter-listed Securities in a pilot study, and the potential negative consequences if a similar pilot was not also implemented in the U.S. We share the concerns raised about the potential loss or migration of liquidity in Inter-listed Securities if we were to proceed absent similar regulatory requirements in the U.S. We considered operating a pilot study that would exclude Inter-listed Securities but given their significance in terms of volume and value of trading activity⁸, we are not certain that such a study would provide meaningful results. We will continue to monitor regulatory trends and liaise with our U.S. regulatory colleagues, and will consider the possibility of a joint pilot if and when such an opportunity arises.

⁸ Based on 2015 data, we estimate that trading in Inter-listed Securities in Canada represented approximately 28% of total volume and approximately 56% of total value (source: Bloomberg).

ANNEX B

List of Commenters

2014 Notice

Acumen Capital Finance Partners Limited
Aequitas Neo Exchange Inc.
BlackRock Asset Management Canada Limited
BMO Capital Markets
Canadian Advocacy Council for Canadian CFA Institute Societies
Canadian Securities Exchange
Canadian Securities Traders Association, Inc.
Chi-X Canada ATS Limited
CIBC World Markets Inc.
Investment Industry Association of Canada
ITG Canada Corp.
Katya Malinova and Andreas Park, Department of Economics, University of Toronto
Leede Financial
Liquidnet Canada
National Bank Financial Inc.
Omega Securities Inc.
RBC Capital Markets
RBC Dominion Securities Inc.
RBC Global Asset Management
Scotia Capital Inc.
Stikeman Elliot LLP
TD Asset Management
TD Securities
TMX Group Limited
Tradebot Systems Inc.
True North Vantage
W.D. Latimer Co. Limited

2015 Notice

Aequitas NEO Exchange Inc.
Canadian Securities Traders Association, Inc.
Chi-X Canada ATS Limited
CIBC World Markets Inc.
ITG Canada Corp.
KOR Group LLC
National Bank Financial Inc.
PI Financial Corp.
RBC Dominion Securities Inc.
RBC Global Asset Management Inc.
Scotia Capital Inc.
The Canadian Advocacy Council for Canadian CFA Institute Societies
The Investment Industry Association of Canada
TMX Group Limited

ANNEX C

Summary of Comments and CSA Responses to 2014 Notice

Topic	Summary of Comments	CSA Response
<p>Market Share Threshold</p> <p>Threshold Level</p>	<p>Most commenters expressed views on the threshold proposal, and the responses were mixed.</p> <p>A number of commenters supported the threshold as proposed, at 5%. These commenters indicated that, as proposed, the threshold strikes a reasonable balance and allows dealers flexibility in making marketplace connectivity decisions, while maintaining most of the benefits of OPR.</p> <p>However, some of those who were generally supportive of the market share threshold expressed concern with the proposed threshold level. Specific concerns were related to the ability of unprotected markets to meet and/or maintain a 5% threshold, and potential negative impacts on competition. Some suggested revising the threshold to a lower level.</p> <p>A number of commenters were not supportive of either the introduction of a market share threshold or the proposed level. They raised concerns related to the complexity that would be introduced by the threshold approach as well as the potential impact on competition. In addition, one commenter suggested that the threshold, as proposed, may exacerbate the problems that the CSA are looking to solve.</p>	<p>We acknowledge that the comments received in relation to the market share threshold were mixed, both with respect to the introduction of a threshold and the proposed level. However, we continue to be of the view that the threshold approach is the most appropriate method of balancing the benefits of OPR with some of the inefficiencies and costs associated with its implementation.</p> <p>In the 2014 Notice we proposed a 5% market share threshold. Based on the comments received and further discussions, we are adjusting the threshold from 5% to 2.5%. We are of the view that a lower threshold addresses some of the concerns raised regarding the potential impact on competition.</p> <p>With respect to the complexity introduced into the system by the threshold, we note that evolving marketplace trading models related to order processing</p>

<p>Effect of Threshold on Competition</p>	<p>With respect to the impact of the proposed threshold approach, comments were mixed. However, as noted above many commenters expressed concern that the proposed 5% threshold could have a negative impact on competition and could represent a barrier to entry for new competitors.</p>	<p>delays have already driven regulatory decisions that introduced many of the same complexities highlighted by commenters.</p> <p>As noted above, we are reducing the threshold from 5% to 2.5%. We believe the threshold is important to balance some of the inefficiencies and costs of OPR, but acknowledge the concerns that in the context of the current market environment in Canada, 5% may be a barrier to competition.</p>
<p>Criteria for Calculating the Threshold</p>	<p>With respect to the metrics used in relation to the threshold, comments were mixed. Comments were generally supportive of the trading activity to be included in the calculation, but there was less consensus on the equal weighting of volume and value.</p>	<p>We continue to believe that equally weighting volume and value traded is appropriate in order to provide a more balanced outcome and account for marketplaces that trade primarily low-value securities.</p>
<p>Market share Threshold - Treatment of Listing Exchanges</p>	<p>Some commenters supported the proposed approach with respect to the treatment of listing exchanges that do not otherwise meet the market share threshold. Others however, expressed concern about the potential incentive for exchanges to list securities for the purposes of gaining order protection.</p>	<p>We continue to be of the view that it is important to provide protection to a recognized exchange that does not meet the market share threshold, but only with respect to its own listings. As indicated in the 2014 Notice, we do not believe that it is appropriate that a listing exchange be disadvantaged with respect to its own listings, to the advantage of a marketplace that might trade very little</p>

		<p>volume in those listed securities, but that otherwise meets the threshold. Further, we are supportive of continued protection for exchanges that contribute to the capital raising process.</p> <p>We acknowledge the concerns raised by commenters related to an exchange seeking cross-listings simply for purposes of gaining OPR protection. We intend to monitor trends in this regard going forward.</p>
Time Frame for Market Share Calculation	<p>Comments were mixed, with some supportive of the annual calculation proposed in the 2014 Notice and the three month implementation window. Others however, were concerned that the annual calculation was too long, and that marketplaces meeting the threshold during the annual period would be required to wait too long for protected status. Some suggested either a more frequent review period or a decrease in the threshold level.</p>	<p>As noted above, we have reduced the threshold from 5% to 2.5%, and believe this will address some of the concerns raised. However, we remain supportive of an annual measurement in order to decrease the costs on industry that might arise from more frequent calculations and potential changes to the list of protected marketplaces.</p>
Locked and Crossed Orders	<p>Comments received were split between those supportive of limiting the provisions to protected orders only, and those who disagreed with the proposed approach. Concerns were expressed by some in relation to complexities and the potential for investor confusion. Some believed that a dealer should be prohibited from locking or crossing orders on marketplaces to which they have access.</p>	<p>We continue to believe that instances of locked and crossed orders will be short in duration and are a necessary trade-off to achieve the intended outcomes of the market share threshold (providing for choice to manage inefficiencies and costs). We considered the alternative suggested by some commenters, but are concerned about the</p>

		increased complexity and costs of compliance monitoring by regulators that would result from such an approach.
Best Execution Obligations and Disclosure	Most commenters were supportive of both the proposed best execution guidance in Policy Statement 23-101 as well as the proposed best execution disclosure requirements.	We acknowledge the comments received. As discussed, we have postponed finalization of the best execution proposals in order to align the timing with similar proposals by IIROC.
Trading Fee Caps	<p>Most commenters were supportive of the proposed trading fee caps but indicated that the cap proposed for securities priced at or above \$1.00 is too high. A number of commenters indicated that this cap should be lower to better reflect the lower average price of Canadian securities relative to the United States.</p> <p>Some commenters were not supportive of introducing trading fee caps on the basis that trading fees are already subject to competitive forces and are approved by regulators.</p>	<p>As was proposed in the 2014 Notice, we will introduce a \$0.0030 per share cap on active trading fees for securities priced at and above \$1.00, and \$0.0004 per share for securities priced below \$1.00.</p> <p>We acknowledge the concerns expressed by commenters regarding the cap proposed for securities priced at \$1.00 and above. However, our market is highly integrated with the U.S. and we are concerned about the potential negative consequences for the Canadian market if we implement a trading fee cap for U.S. inter-listed securities that is different than the cap in the U.S.</p> <p>However, we are proposing a lower active trading fee cap for securities priced at \$1.00 and above that are listed on a Canadian exchange, but not listed on</p>

		a U.S. exchange (Non-Inter-Listed Securities). This new cap is being published in a separate CSA notice and request for comment.
Prohibition on Payment of Rebates – Pilot Study	<p>A number of commenters were supportive of regulatory action with respect to the payment of rebates. Some however, suggested that the CSA consider whether rebates are appropriate for certain securities such as those that are less liquid.</p> <p>Many commenters were supportive of the proposed pilot study but cautioned that the study must be carefully designed and appropriate metrics utilized.</p> <p>Others were not supportive of either the pilot study or any action on rebates in general. Certain commenters expressed the view that rebates are an important incentive for liquidity, and that prohibiting rebates will not solve for the issues identified in the 2014 Notice.</p> <p>Some commenters were not supportive of the proposed pilot study and were concerned about the potential outcomes and impacts on the attractiveness of the Canadian market. One commenter questioned whether issuers would be permitted to decline to participate in the study, given the potential impact on liquidity.</p>	<p>As noted, we are not proceeding with any action on rebates at this time. Although we are still supportive of a pilot study, we do not believe that meaningful results can be obtained from a study that does not include Inter-Listed Securities. We will continue to liaise with our regulatory counterparts in the U.S. and will consider a joint pilot study in the future if an opportunity arises.</p>
Data Fees Methodology	<p>Some commenters were supportive of the proposed methodology, indicating that it is a critical component in addressing some of the issues related to the level of real-time market data fees charged by certain marketplaces.</p> <p>Others were not supportive of the use of</p>	<p>We acknowledge all the comments received regarding the methodology and its application. We continue to be of the view that the data fee methodology is the most appropriate tool to manage</p>

	<p>the data fee methodology because, in their view, it did not address all the concerns expressed by the users of data. Specifically, one commenter expressed the view that the use of the methodology fails to address the issue of access to a consolidated data feed for all users at a reasonable price. Another commenter indicated that current fees should not be considered as the base for calculating the domestic benchmark as they are too high.</p> <p>A number of commenters expressed mixed views regarding the methodology and its use. One of these commenters, while supportive of the use of the methodology, pointed out that we should be focusing more on whether the aggregate amount of data fees is fair and reasonable, and less on the redistribution of this amount between marketplaces. Another commenter suggested that the practice of charging for data multiple times for a single user should be eliminated. Another commenter indicated that smaller marketplaces should not be allowed to charge for data.</p> <p>Some commenters also provided their views regarding certain pre- and post-trade metrics. Specifically, concerns were raised with respect to a particular pre-trade metric that would inflate the ranking of a marketplace that displays illiquid securities.</p>	<p>some of the existing fee levels. We will continue to monitor the application of the methodology with respect to current and proposed fees and if necessary, will adjust it over time.</p> <p>Additionally, in response to the comments received, we have eliminated one pre-trade metric and the ranking model that used this metric.</p> <p>We also acknowledge the comments received in relation to the use of the domestic reference benchmark. It is our intention to engage external assistance in determining the appropriate benchmark. In the meantime, while we will use the domestic benchmark, we will not apply the methodology or the benchmark to support any fee increases by marketplaces until such time as the appropriate benchmark has been established.</p>
<p>Membership and connectivity fees</p>	<p>A number of commenters expressed views on the regulation of membership and connectivity fees. The responses were mixed.</p> <p>The majority of commenters that responded to this question believe that marketplace membership and connectivity fees should be regulated as</p>	<p>We will not make regulatory changes in relation to membership and connectivity issues at this time but will continue to monitor such fees to determine if future action is warranted</p>

	<p>market participants are required by regulation to connect to protected marketplaces. Several of these commenters explained that this is particularly important to ensure that marketplaces do not institute unwarranted increases of these fees; for example, to mitigate lost revenues due to forthcoming restrictions on other marketplace fees.</p> <p>Other commenters believe that additional regulation is unnecessary in this space because fees are reviewed by regulators currently and because market participants have the ability to connect indirectly to protected marketplaces. Several of these commenters believe that membership and connectivity fees should be monitored by regulators.</p>	
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Summary of Comments and CSA Responses to 2015 Notice

Topic	Summary of Comments	CSA Response
<p>General Comments</p>	<p>Many commenters provided their views specifically on the revised Alpha model and approval process that resulted in the implementation of an order processing delay.</p> <p>Many commenters expressed a preference for repealing OPR and moving to a best execution model.</p>	<p>The Alpha model was subject to a separate comment period, and the Ontario Securities Commission received and considered all feedback associated with this proposal during the review and approval process.</p> <p>Further, as it relates to a 'hybrid' OPR environment where some marketplaces display protected orders while others do not, we received feedback on the same complexities as part of the 2014 proposed OPR amendments (in the context of a market share threshold). The Ontario Securities Commission considered all of these comments in the context of the Alpha proposal and the CSA has considered them in the context of the Proposed Amendments.</p> <p>We continue to believe that the objectives of OPR are important, and we support maintaining the rule as part of the regulatory framework, in order to promote confidence and provide an incentive to contribute to the price discovery process. Best execution and OPR are complementary rules; one is an obligation to the market as a whole, and the</p>

	<p>Some commenters expressed the belief that regulators should provide enhanced best execution guidance in relation to a ‘hybrid’ OPR environment – specifically, how an unprotected marketplace should be considered from the perspective of best execution.</p>	<p>other a duty owed to individual clients. We have discussed the approach of moving solely to a best execution model at length, and are not yet satisfied that this approach would result in the best outcome for the entire market.</p> <p>Historically, the approach to best execution has been principles-based, rather than a ‘checklist’ of factors. A ‘hybrid’ OPR environment will require additional considerations by dealers when determining whether to access ‘unprotected’ marketplaces from the perspective of best execution. We also note that we have finalized elements of the 2014 OPR proposals that provide additional guidance for best execution. The CSA along with IROC, will consider whether further guidance is necessary.</p>
<p>Question 1: Should OPR apply to marketplaces that impose an order processing delay? If so, should it apply to some or all? What factors should be considered?</p>	<p>A number of commenters believed that OPR should not apply to displayed orders on marketplaces that impose an order processing delay, and that any marketplace that imposes a delay should be considered on similar terms. One commenter noted that protecting quotes on ‘speedbump’ markets would be contrary to the principles OPR was designed to uphold.</p> <p>One commenter was of the view that OPR should continue to apply to marketplaces that impose order processing delays.</p>	<p>Our view continues to be that where a marketplace does not provide for the ability for an immediate execution against displayed volume, that marketplace does not offer “automated trading functionality” as currently defined in Regulation 23-101. Therefore under the rules, such marketplaces are not displaying “protected orders”.</p>

	<p>Some commenters expressed the view that all order processing delays should not be treated equally.</p> <p>Some commenters expressed the view that greater consideration and clarity is required regarding what the CSA would consider to be an “intentional order processing delay”.</p> <p>A number of commenters indicated that a ‘hybrid’ OPR model was too complex.</p>	<p>We have revised the original proposed language in Policy Statement 23-101 to provide additional clarity.</p> <p>We recognize that additional complexity will result from an environment where some visible marketplaces are displaying protected orders, while others are not. However, complexity has been a trend experienced in many global markets, as participants seek solutions to various challenges and issues, and marketplaces utilize technology to innovate and provide solutions. We are supportive of innovation and believe that these complexities will continue to be managed. We will however, continue to ensure that the principles behind the regulatory framework are maintained, that rules are applied in a consistent manner, and that negative impacts are addressed appropriately.</p>
<p>Question 2: What are the outcomes and impacts of an</p>	<p>A number of commenters expressed concern regarding the National Best Bid and Offer (NBBO). Specifically, questions were raised about the formulation of the NBBO in terms of what</p>	<p>Amendments to IIROC’s Universal Market Integrity Rules (UMIR) were approved on September 18, 2015. These amendments</p>

<p>environment where not all displayed orders are protected under OPR?</p>	<p>data will be considered, whether separate feeds will exist, and which NBBO will be used to determine the required price improvement for trades with dark orders.</p> <p>Some participants expressed concern about the potential for complexity and confusion due to increased locked and crossed orders, while another commenter believed that occasional locked and crossed markets will not result in major impacts.</p>	<p>revised the definitions of “best bid price” and “best ask price” to limit their determination to orders displayed on a “protected marketplace” (as defined in Regulation 23-101).</p> <p>Additionally, the Information Processor now offers two different feeds: one which represents the NBBO only from marketplaces that display protected orders, and one representing information from all Canadian marketplaces that display orders (both ‘protected’ and ‘unprotected’). Participants can consume those marketplace feeds that are necessary for their requirements.</p> <p>Given the rapid nature of quoting and trading activity, we believe that instances where orders are locked or crossed will generally be short in duration. To provide for a ‘hybrid’ OPR environment we have finalized amendments to the locked and crossed provisions proposed in the 2014 Notice, that would limit the prohibition on intentional locking and crossing to protected orders only. Further, we note that the requirements will continue to restrict any further orders from being entered that would intentionally lock or cross with a protected</p>
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	<p>A number of commenters expressed concern regarding the treatment of ‘unprotected’ marketplaces from the perspective of best execution. Some questioned whether dealers will be able to meet their best execution obligations, absent clear regulatory guidance.</p>	<p>order.</p> <p>We have finalized proposed amendments to Regulation 23-101 and Policy Statement 23-101 that provide additional best execution guidance. We believe these changes will assist dealers in managing their obligations in an environment where not all displayed marketplaces are required to be accessed for purposes of OPR. A determination of whether a marketplace should be accessed for purposes of best execution should be made by an individual dealer as part of the broader process of establishing policies and procedures. These considerations are dependent on a variety of factors and we remain committed to a principles-based approach to best execution.</p>
<p>Question 3: What are the expected changes or outcomes for retail dealers and retail clients?</p>	<p>Commenters presented mixed views in relation to the impact on retail clients. Some believed that retail investors will have little ability to judge the quality of fills they will receive and that the Amendments will create a complex environment that will not be understood. Some were concerned that retail investors may experience a reduction in the ability to capture liquidity. Others felt that the existence of ‘unprotected’ marketplaces will have little impact on</p>	<p>We will continue to monitor the impacts of the Amendments in terms of outcomes to all market participants, including retail clients. Retail dealers will continue to have a best execution obligation to their clients, and should evaluate their best execution policies and procedures on an ongoing basis to ensure</p>

	<p>retail clients and that dealers will have greater flexibility in accessing various marketplaces in the context of best execution.</p>	<p>that any decisions to not access ‘unprotected’ marketplaces continue to be supportable. For retail clients seeking a better understanding of how their dealer manages their orders, the requirements for enhanced disclosure should assist in this process.</p>
<p>Question 4: Are there implications that have not been addressed that should be considered?</p>	<p>Commenters highlighted similar implications and issues noted in response to previous questions. These include concerns about the determination of the NBBO, impact on the ability to gauge accessible liquidity, impacts on best execution, and impact on market integrity.</p> <p>One commenter expressed the view that a marketplace could display both protected and unprotected orders and suggested that there are other “systematic delays” that should be treated similarly.</p>	<p>Please see responses above. We reiterate that we will continue to monitor the impacts of order processing delays on all market participants and if negative outcomes result, we will take appropriate action.</p> <p>We are of the view that where a marketplace imposes an order processing delay, that marketplace does not provide “automated trading functionality.” To meet the requirements of the definition, we believe that a marketplace must provide the ability for an immediate execution for all orders. As a result, we do not support the suggestion that where a delay is imposed, a marketplace could display both protected and unprotected orders.</p> <p>We have amended the original proposed language in Policy Statement 23-101 to provide greater clarity around the consideration and treatment of intentional order processing delays.</p>

ANNEX D

Data Fees Methodology

The Data Fee Methodology described below will be used to determine each marketplace's relative contribution to pre- and post-trade activities. The scope of the methodology is to determine whether the professional market data fees charged by the marketplaces in Canada reflect each marketplace's share of trading activity.

The methodology consists of three steps:

1. Calculation of pre- and post-trade metrics
2. Ranking of marketplaces based on the pre- and post-trade metrics calculated in step 1
3. Assigning an estimated fee range to each marketplace

The methodology uses the following notations for the pre- and post-trade metrics and the ranking methods:

Notation	Description
i	A transparent marketplace
m	Total number of transparent marketplaces
j	Securities traded on a transparent marketplace
J	Total securities traded on all transparent marketplaces
t	A Trade executed on a transparent marketplace
n	Total trades executed on a transparent marketplace
T	Total trades executed on all transparent marketplaces
d	A trading day
D	All trading days for the period under review

a. Pre-Trade Metrics

1. **Percent of Best Bid and Offer (BBO)**¹ - means the percent of the day for which a marketplace had a quote at the national best bid (BB) or best offer (BO) for security *j*. This metric is scaled to sum to one.

$$\%BBO_i = \frac{BBO_i}{\sum_{i=1}^m BBO_i}$$
$$BBO_i = \frac{1}{J} \sum_{j=1}^J \frac{\text{Seconds at } BB_j + \text{Seconds at } BO_j}{2 * (6.5 * 60 * 60)} * 100$$

¹ The time at BBO could be calculated in fractions of a second, given the rapidity of quoting.

This metric rewards marketplaces for being at the BBO for a longer period during the day. This metric is constructed from standard quote data. In order to ensure that the addition of each marketplace sums to one, the individual metrics for each marketplace are summed to come up with a market-wide daily percent at the BBO, and each individual marketplace's percentage is then divided by this total to scale the metric to one.

- 2. Percent of Best Spread** - means the percent of the day that a marketplace was quoting the narrowest spread for security j . This metric is scaled to sum to one.

$$\%Spread_i = \frac{Spread_i}{\sum_{i=1}^m Spread_i}$$

$$\%Spread_i = \frac{1}{J} \sum_{j=1}^J \frac{Seconds\ at\ tightest\ spread_j}{6.5 * 60 * 60} * 100$$

This metric tends to reward marketplaces for providing liquidity at both the BB and BO, by establishing the narrowest spread on the market. This metric is also constructed from quote level data. In order to ensure that the addition of each marketplace sums to one, the individual metrics for each marketplace are summed to come up with a market-wide daily percent at the narrowest spread, and each individual marketplace's percentage is then divided by this total to scale the metric to one.

- 3. \$Time(value)** - means the percent of quoted-time-dollar-volume for a marketplace, out of the total time-dollar-volume for the entire market for the period, when only the BB and BO are considered. Each stock is weighted by the value traded in the period of consideration, as described in the weighting "w" below.

$$\$Time(value)_i = \frac{Time(v)_i}{\sum_{i=1}^m Time(v)_i} Time(v)_i$$

$$= \frac{\sum_{j=1}^J [Price_j * Volume_j * seconds\ at\ BB + Price_j * Volume_j * seconds\ at\ BO] * w_j}{\sum_{j=1}^J \sum_{i=1}^m (Price_j * Volume_j * seconds\ at\ BB + Price_j * Volume_j * seconds\ at\ BO) * w_j} * 100$$

$$w_j = \frac{\$Volume_{t,j}}{\sum_{t=1}^T \sum_{i=1}^J \$Volume_{t,j}}$$

The use of the value weighting places more emphasis on those stocks that trade heavily and less emphasis on stocks that do not trade frequently. At the extreme, a stock that does not trade at all will not be allocated any weight under this metric.

b. Post-Trade Metrics

1. **Percent of each marketplace's volume** - means the volume traded on each marketplace divided by the total volume traded on all marketplaces in the period.

$$\%Volume_i = \frac{Volume_i}{\sum_{i=1}^m Volume_i} * 100$$

This metric rewards traded volume and tends to favour those marketplaces that trade in relatively low-priced shares, as it considers only the number of shares traded, not their value. In an extreme scenario, if a marketplace traded only low-priced stocks, this metric would inflate their overall share of the entire market.

2. **Percent of each marketplace's number of trades** - means the number of trades executed on each marketplace divided by the total number of trades on all marketplaces in the period.

$$\%Number_i = \frac{Number_i}{\sum_{i=1}^m Number_i} * 100$$

This metric rewards those marketplaces that have a larger number of trades. This metric could be manipulated by encouraging traders to break their orders up into smaller pieces. If this were done, neither the volume nor the dollar volume traded would change, but the number of trades would increase significantly.

3. **Percent of each marketplace's dollar volume (value)** - means the dollar volume traded on each marketplace divided by the total dollar volume traded on all marketplaces in the period. Dollar volume is the product of the price and volume of each trade.

$$\% \$Volume_i = \frac{\$Volume_i}{\sum_{i=1}^m \$Volume_i} * 100$$

$$\$Volume = Price * Volume$$

This metric takes the value of the transactions into account. This tends to avoid the biases that may be present in the volume metric. However, due to the requirement that crosses matched by a dealer be reported to a marketplace, it is possible that a marketplace being measured on this metric could provide incentives (such as trading rebates) to dealers to ensure that crosses are reported on their marketplace. In this way, the marketplace would have a much larger share of dollar volume without necessarily contributing to pre-trade price discovery.

4. **Percent of square-root dollar volume for each trade** - means the square-root of

the \$Volume of each trade t executed on each marketplace divided by the sum of the square-root of the \$Volume traded on all marketplaces in the period.

$$\% \sqrt{\$Volume_i} = \frac{\sqrt{\$Volume_{i,t}}}{\sum_{t=1}^n \sum_{i=1}^m \sqrt{\$Volume_i}} * 100$$

The square-root of dollar volume is individually constructed for each transaction. This metric is not widely published, but it is easily constructed from trade reports. This metric reduces the importance of larger trades in relation to smaller trades. This can help alleviate the problem of very large crosses inflating a marketplace's contribution to price discovery. This metric has the potential disadvantage that trades in low-priced stocks (on the order of \$1 to \$2) will not be reduced at all, and will consequently be disproportionately represented. If a marketplace were to trade very frequently at these very low dollar values, their contribution to price discovery would be inflated by this metric.

5. Scope of trading on each marketplace - means the average over the period of the number of symbols with greater than 1 traded on each marketplace on day d , divided by the number of symbols traded on all marketplaces for that day.

$$Scope_i = \frac{1}{D} \sum_{t=1}^T \frac{Number\ of\ symbols\ traded_{i,d}}{MAX[Number\ of\ symbols\ traded_{i,t}] \ i = [1 - m]}$$

Scope of trading provides a metric that measures the number of symbols a marketplace trades. This metric, when used in combination with other post-trade metrics, has the disadvantage of "double penalizing" marketplaces for not trading all securities. By construction, scope of trading will be very high for exchanges (such as the TSX) and will be lower for newer marketplaces that have yet to gain market share in less liquid stocks. While it does measure the "activity" of marketplaces, a marketplace that only trades in half of the total listed symbols is, by definition, penalized for not trading all of those symbols. Thus, if scope is used by itself, it can be a valuable indicator of the activity levels of marketplaces, but if it is applied in conjunction with other metrics, it may disproportionately favour existing exchanges and large ATSS.

The downside of this metric is that if a marketplace wanted to achieve a scope as close as possible to one (i.e. all listed securities would be trading on this marketplace), marketplace participants could be rewarded (through credits or discounts at market open) for becoming the "first" participant of the day in any given security. In this way, marketplaces could ensure at least one trade in every security without providing any meaningful liquidity or price discovery.

c. Ranking Models

In order to rank each marketplace's contribution to price discovery we constructed two models from the pre- and post-trade metrics. While each model is constructed placing equal importance on the pre- and post-trade metrics, this was an arbitrary decision.

1. **SIP Value** – is based on the revenue distribution model used by the U.S. SIP.

$$\left[\frac{\% \sqrt{\$Volume_i} + \% Number_i}{2} \right] * 0.5 + \$Time(value)_i * 0.5$$

This model incorporates the metrics used by the U.S. SIP to distribute revenue amongst participating marketplaces. The post-trade metrics used are equally weighted, and are composed of each marketplace's share of square-root dollar volume and number of trades. Both of these post-trade metrics together are assigned a weighting of 50% of the value of the model.

The pre-trade metric used is the value weighted percent of quoted dollar - time. This is also given a 50% weighting in the final model. The weighting of this model by the value traded in each security provides a greater emphasis on those stocks that are heavily traded, rewarding marketplaces more for providing liquidity where the majority is consumed.

2. **Model 3** - differs significantly from the previous model. For the post-trade element, this model considers each marketplace's share of traded volume, share of trades and share of dollar-volume. These three elements are given equal weighting in this index. The pre-trade metrics considered are the percent of the day spent at the best spread and the percent of the day spent at the BBO. Each of these two pre-trade elements is equally weighted. The resulting pre- and post- trade metrics are then equally weighted to come up with the final index.

$$\left[\frac{\%Volume_i + \%Number_i + \% \$Volume_i}{3} \right] * 0.5 + \left[\frac{\%Spread_i + \%BBO_i}{2} \right] * 0.5$$

d. Assigning an estimated fee or fee range

After calculating these ranking methods, we would use them to assess whether a marketplace's existing (or proposed) fee is related to its share of trading activity. We use the domestic reference that takes the data fees charged by each marketplace and aggregates them into a single "pool". The result is then considered to be the appropriate fee for the Canadian market, and this result is then re-distributed, based on the two ranking models, giving us four estimated fees for each marketplace.